

國立政治大學財務管理學系

碩士論文

指導教授：周冠男 博士

The Effect of Corporate Governance on the  
Trading of Different Trader Types



研究生：賴可容

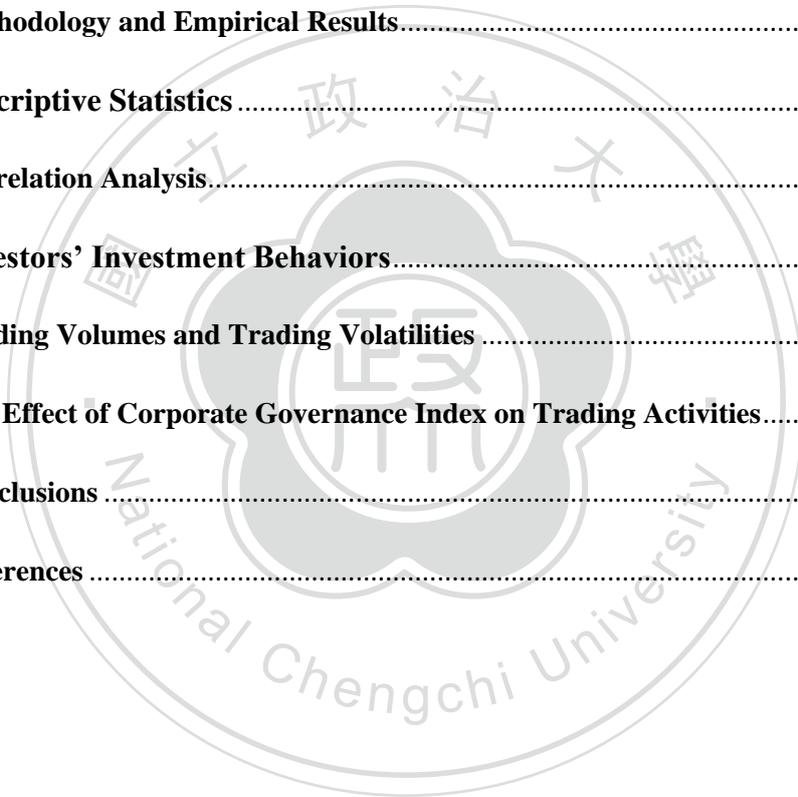
中華民國一〇一年十月

# Abstract

This paper discuss the issue of how corporate governance variables affect the cognitions of groups of investors to lead they separate their investment strategies in 1997-2011 sample period, the results indicate that firms with higher management stockholdings, lower blockholders' shareholdings, smaller board size, more outside independent supervisors, CEO duality, and one of ultimate controllers served as chairman would be appealing to individual investors; the robust test from 2007 to 2011 only positively affects the investment strategies for foreign institutional investors. Moreover, we explore that lower blockholders' stockings and smaller board size are favorable characteristics for investors to increase firms' trading volumes but also the trading volatilities. Finally, we compute the corporate governance score for every sample company called CG-Index, and discover a perfect corporate governance mechanism would inspire investing motivations of domestic individuals and foreign institutions, after considering the information disclosure ranking in 5 years sample period, the stockholding of whole individual investors is indicated positive related to the corporate governance degree.

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## **I. Introduction**

There are innumerable literatures getting research on Corporate governance mechanisms, prior research examines how internal corporate governance as board structure, managerial compensation, and charter provisions; external corporate governance as legal or regulatory environments and markets for corporate control affect firm value, cost of capital, and stock returns. We can see Shleifer and Vishny (1997), La Porta et al. (2000), Gompers et al. (2003), Bebchuk et al. (2005), Ashbaugh et al. (2006), and Masulis et al. (2008), and Gillan (2006) is a clear recent survey of corporate governance literature.

Much of the contemporary interest in corporate governance is concerned with mitigation of the conflicts of interests between stakeholders, the impact of stock returns and market liquidities, or the quality of audit so far, with no doubt, that an important theme of corporate governance is the nature and extent of accountability of people in the business. But there are few of researches to explore the relationship between investors' beliefs or behaviors and corporate governance, not to mention that separating the behaviors of individual investors and institutional investors, therefore, in this article, we wish to discuss the issue of how corporate governance affects investors' cognition to lead they have different investment behaviors, moreover, we want to explore that whether corporate governance is an effective index to affect trading volumes even trading volatilities, in another word, whether corporates' trading activities would be more stable by a series of better corporate governance variables.

Most of the researches about corporate governance focused on internal corporate governance, because of several hot issues and problems are all derived from it, for example, in large firms where there is a separation of ownership and management

with no controlling shareholder, the principal-agent issue arises between upper-management (the agent) and shareholders (the principals), which may have very different interests, and the management considerably know more information than shareholders, then the danger arises that rather than overseeing management on behalf of shareholders, the board of directors may become insulated from shareholders and beholden to management, this aspect is particularly present in contemporary public debates especially after the famous ENRON, WorldCom Group events, and other related scandals happened sequentially. Besides, another important issue obtained from internal corporate governance is a company's financial and operational transparency, as described by the Organization for Economic Co-operation and Development (OECD) Principles of Corporate Governance, involves the timely disclosure of adequate information concerning a company's financial performance, as well as commercial objectives, ownership structures, remuneration, related party transactions, governance structures, and internal controls.

As we know, the principle-agent issue and transparency problem are probably the most significant concerns while investors putting themselves into the investment activities. Therefore, we choose to explore the impact of internal corporate governance on investors' behaviors in our article, also, we are interested in discuss the individual investors' investment choices, because a number of literatures prove that individual investors are irrational and impulsive, which is incorporating several of behavioral biases such as investors' overconfidence, one of the simplest and commonest bias, Barber and Odean (2000) is a classic article in attributed investors' behavioral bias to overconfidence, they verify the high costs associated with the average household turns over approximately 75 percent of its common stock portfolio annually for the six years ending in January 1997, which is caused the poor

performance of household portfolio, they believe people are overconfident so as to too much trading.

There is a problem due to exploring the relationship between investor's behavior and corporate governance extent investors' perceptions of corporate governance effectiveness, especially individual investors. Because we are not sure about how well investors understand the corporate governance and board mechanism, we also can not sure how much investors make decisions depend on these mechanisms and variables, or how much the bias occur under their consideration of investment behaviors, so their judgments on companies' investment risk, investment holding period, and investment amount are maybe invalid indicators to discussing corporate governance problem. But the objective of this article is straightly forward to discuss the relationship between investors' behaviors and corporate governance mechanisms, so we will review some literatures in next part, and then construct some assumptions based on them.

Few researches explore the relationship between types of investors' behaviors and corporate governance variables, so we are interested in discuss how corporate governance lead investors to allocating their stockholdings, especially individual investors, because individual investors are generally seemed irrational and impulsive by kinds of behavioral biases. Moreover, we want to explore that whether corporate governance is an effective index to affect trading volumes even trading volatilities through a corporate governance index.

## II. Literatures and Hypotheses

The capital market situation has been more disordered after the Asia monetary crush in 1997, the financial crisis events of Taiwan listed companies in last-half 1998 to market investors, and American large enterprise fraud cases in the end of 2001, these events not only make the investors lose their confidence in plunging their money into investment activities but also let the official authorities and investors realize that the sound corporate governance mechanism is one of the key factors to stabilize the capital market and appeal international funds. According to the report by McKinsey & Company in 2002, it indicates that many institutional investors have recognized that corporate governance is an important indicator for investment decisions. Following the huge damage caused by loosely internal corporate governance, people intend on discuss the related issues, the problem seems more serious in emerging markets. Klapper and Love (2003) explore the determinants of firm level governance and find that governance is correlated with the extent of the asymmetric information and contracting imperfections that firms face. They also find that firm-level corporate governance provisions matter more in countries with weak legal environments. Finally, they provide evidence that better corporate governance is highly correlated with better operating performance and market valuation.

One of the classic firm level governance issues is discussing the relationship of firm level governance and equity prices, such as Gompers, Ishii and Metrick (2003), they use 24 distinct corporate-governance provisions for a sample of about 1500 firms per year during the 1990s to build a Governance Index, and find that corporate governance is strongly correlated with stock returns, and the weak shareholder rights caused poor performance in the 1990s. They summarize that firms with stronger

shareholder rights had higher firm value, higher profits, higher sales growth, lower capital expenditures, and made fewer corporate acquisitions. Griffin, Nardari and Stulz (2007) is also a hot issue research by exploring whether investors trade more when stocks have performed well in the past, they get the evidence from 46 Countries to investigating the dynamic relation between market-wide trading activity and returns in 46 markets, and find many stock markets exhibit a strong positive relation between turnover and past returns. Finally, Chung, Elder, and Kim (2010) touch the important issue of corporate Governance and liquidity, they show that companies with better corporate governance generally have greater stock market liquidity as measured by narrower quoted and effective spreads, higher market quality index, smaller price impact of trades, and lower probability of information based trading. They also find that changes in their liquidity measures are significantly related to changes in governance index over time, suggesting that firms can improve stock market liquidity by adopting better governance standards.

**Hypothesis 1.** The better corporate governance performance would lead to higher trading volume level and lower trading volatility.

We then take a look of some other corporate governance issues which are more concerned in our article, Ting (2009) try to identify whether the corporate governance mechanism is a major determinant for IPO firms which intend to attract the institutional investors, the result indicates that firms with higher blockholder shareholdings, more control shareholders on the board, and better information disclosure attract institutional shareholdings despite of the poor performance, because more control shareholders on the board could loosen expropriation and draw more institutional shareholdings. And after the rule's requiring setting the independent

directors, the influence of corporate governance on institutional investors does change, however, the effect of the independent directors on the institutional investors exists only when the interaction term of control shareholders on the board and independent directors is concerned in the model. In this article, we consider shareholders on the board and independent directors as two corporate governance variables to observe the investors' behaviors.

We think exploring the corporate governance issue by investors' view is interested, as shown by Hsiao (2008), it indicate that among previous studies regarding the issue of board of directors, the majority of researchers focused their studies on the board's operations from firm's perspective, however, the relationship between board effectiveness and investor's behavior is relatively unexplored. Therefore, they examine whether the investment behavior of the investors will be influenced by the effectiveness of the board of directors and whether the relationship between effectiveness of the board and investment behavior will be moderated by the type of investors through survey questionnaires. They separate their researched objectives into two groups, which are professional and non-professional, and the result indicate the investors' perceptions of board effectiveness significantly influence their evaluation, when investors perceive strong-form of the effectiveness of the board, the investors tend to believe the investment risk of the company is lower, they would like to invest larger amount of money and to hold the investment longer. Then, investors' perceptions of board effectiveness affect the amount of assets they are willing to invest according to different types of the investors, professional investors are willing to invest larger amount than non-professional.

Yang (2008) investigate general and institutional investors' satisfaction on

corporate governance for Taiwan listed companies and find the institutional investor's satisfaction is much lower than the general investor's satisfaction. Besides, both general investors (74.8%) and institutional investors (87.1%) are willing to pay a premium for well-governed companies, while the institutional investors pay double percentage than the general investors. Lin, and Lin (2008) investigate investors' perceptions on corporate governance for Taiwan listed common stock through out questionnaires, and find almost all the investors keep negative views of listed companies' corporate governance, they also find the relationship between investors' views and functions of the board, information transparency, and the reliability of controlling shareholders are positive.

**Hypothesis 2.** The governance variables in ownership structures, firm structures, board structures, audit structures, information transparency, and management style make an impact on investors, especially individual investors.

Behind the satisfactions of different parties and the investors' views of companies' corporate governance, we should think about the investors' perception and conviction to corporate governance mechanism, even if professional fund managers making investment decisions, the bias exist sometimes, not to mention people could put the money in or out the markets depend on complicated factors, the investors' cognition deficit with corporate governance mechanism is apodeictic, and we could not be sure if investors take the superficial or even wrong perceptions with corporate governance mechanism into consideration while engaged in investment activities, if so, then our estimation based on investors care about corporate governance extent would be null, therefore we assume that people have at least correct cognition with

corporate governance mechanism here.

There is a study focused on investigating the relationship between corporate governance characteristics and corporate cash holdings of Taiwanese listed companies, and further explores how corporate governance characteristics impact a firm's value through the value of its cash holdings, Li (2007) shows that board size and insider dominance of the board are important determinants of cash holdings, in addition, the duality of chairman and CEO, insider dominance of the board, percentage of equity ownership held by directors, the ratio of institution stockholdings, family-control of a firm, the divergence between control rights and cash-flow rights all affect the value of a firm's cash holdings, these findings are consistent with the agency view of cash holdings. That is, managers in the firms with poor corporate governance have more incentive to influence corporate cash policies for their own benefits, and the core agency problem between controlling shareholder and minority shareholders affect the value of cash holdings negatively.

Some others believe corporate governance is the most important factor in affecting companies' value that executive should pay attentions, Lin (2003) approves the positive effects of corporate governance to firm performance, and firm performance to institutional behavior as well, the paper addresses the importance of corporate governance under poorer economic conditions, higher agency costs, and a more complicated company structure. They believe corporate governance could work effectively when the executives of companies realize the importance of the corporate governance.

**Hypothesis 3.** The corporate governance mechanism (CG-Index) does affect the investors' stockholdings.

### **III. Data and Variables**

In this section, we discuss our data sources and variable measurement procedures in order to make empirical tests after.

#### **A. Data**

We set Taiwan stock market as our researching scope and choose Taiwanese stock-listed companies as our researching sample, because our purpose here is to examine the effect of corporate governance on different types' investors, especially individual investors, as we know, the information disclosure is necessary when a private company transform itself to public company, companies also make the stock ownership dispersion throughout the process, hence promoting the importance of corporate governance, so we use the listed companies from 1997 to 2011 in Taiwan as our researching sample, eliminating the companies of delisted stock, Taiwan full delivery stock and incomplete financial information within our sample period, the financial industry is out of our sample range too.

Our sample data acquired from the Corporate Governance database, Company database and Equity database of Taiwan Economic Journal (TEJ), also we pick the adequate sample companies by referring to Taiwan Stock Exchange Corporation (TWSE)-Securities Trading Monthly Statistics, we choose the companies from 18 different industries and get 274 sample companies, the number and percentage of each industry are showed in Table 1.

**Table 1. The Industrial Percentage of Sample Companies**

INDUSTRY	Number	Percentage
Cement	7	3
Food	17	6
Plastic	18	7
Textile	33	12
Electric Machinery	14	5
Electrical and Cable	10	4
Chemical, Biotechnology and Medical Care	16	6
Glass and Ceramic Industry	4	1
Paper and Pulp Industry	7	3
Iron and Steel Industry	23	8
Rubber Industry	8	3
Automobile Industry	4	1
Electronic Industry	55	20
Building Material and Construction Industry	20	7
Shipping and Transportation Industry	13	5
Tourism Industry	5	2
Oil, Gas and Electricity Industry	3	1
Others	17	6
Total	274	100

The sample period comes over 15 years from 1997 to 2011, we find the corporate governance variables update by monthly frequency, so we separate the data into monthly frequency and yearly frequency to observe, besides, we notice some regulations about corporate governance mechanism are announced and revised following the governance much more attention in recent years, like the announcement of *Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies* in 2006 and the amendment of *Criteria for Review of*

*Securities Listings* in 2002, and these regulations make a strict rule setting independent directors and supervisors for IPO companies, therefore, we examine the sample period only from 2007 to 2011 (5 years) also, expecting to find if governance policies affect investors' strategy or the changes of investors' views on corporate governance latest years.

## **B. Variables**

### **i. Independent Variables**

The board of directors is the core mechanism for corporate governance, the board supervises the corporate management and its operation on behalf of all shareholders and asks the management to maximize the firm's profit, even though there exist arguments on whether separating the CEO and chairman of the board early days, Brickley, Coles, and Jarrell (1997) argue the separation has potential costs, as well as potential benefits, in contrast to most of the previous empirical work, their evidence suggests that the costs of separation are larger than the benefits for most large firms, but the state of separating the CEO and chairman of the board has been deep-rooted in global enterprise culture latest years, so we select our corporate governance variables surrounded by the related variables to board of directors.

The measure of the corporate governance is referring to prior literatures and governance standards of Institutional Shareholder Service (ISS), we sort those governance standards in different categories that are most closely related to our theme, select one to two variables from each category, and conduct six aspects of corporate governance variables including ownership structures, board structures, audit structures,

firm structures, information transparency, and management style. These variables are showed below, also, for the goal of easily observe, we substitute simpler codes for corporate governance variables in after tables:

#### 1. Ownership structures

- Management stockholdings (%) - The management do affect corporate policy tremendously, we define management stockholdings as the percentage of corporate management stockholdings to outstanding shares.
- Blockholders' stockholdings (%) – According to TEJ's definition, it is defined as the percentage of corporate blockholders' stockholdings to outstanding shares without the shares held by blockholders who serve as management or supervisors. Blockholder is defined to the top ten or more than 5% shares holding shareholders in companies, but it is possible that some shareholders holding more than 5% stock are included to the institutional investors, this is a flaw we can't avoid.

#### 2. Board structures

- Board size – The number of board of directors.

#### 3. Audit structures

- Independent outside directors – The number of independent outside supervisors in audit committee.

#### 4. Firm structures

- Investments in asset (%) – We define it as the ratio of the sum of long run and short run investments to asset.

#### 5. Information Transparency

- Information transparency and disclosure ranking – According to the appraisal made by Securities and Futures Institute from 2003, the information disclosures extent is judged in seven levels which is A++, A+, A, A-, B, C, and C-, we make the digital proxies of these levels to change them into continuous variables, 7 grade substitutes for A++, 6 grade substitutes for A+, ..., 1 grade substitutes for C-.

#### 6. Management style

- CEO Duality – The CEO serves in the chairman's position concurrently, we measure it by using a dummy variable, if there is a positional duality, it is represented by 1; if not, 0.
- Inside dominance of chairman of the board - The controlling shareholder serves in the chairman's position concurrently, we measure it by using a dummy variable, if there is a part management, it is represented by 1; if not, 0.
- Inside dominance of CEO - The controlling shareholder serves in the CEO's position concurrently, we measure it by using a dummy variable, if there is a part management, it is represented by 1; if not, 0.

## **ii. Dependent Variables**

1. Investors' stockholdings (%) – To explore the investors' investment strategies, we measure the investors' ratio of shares holding to a company's outstanding shares. We separate investors into five types, which are individual, domestic individual, foreign individual, institutional, and foreign institutional investors. Based on TWSE – Sources of Capital of Listed Companies (by year), the sources of capital of listed companies including government agency, domestic financial institution, domestic corporation, domestic individual etc. are classified into ten types, we define the institutional investors consist of all investors except for domestic individuals and foreign individuals.
2. Trading volumes – To explore whether corporate governance mechanism impacting the trading activities of companies, we pick trading proxies as trading value (million dollars), return (%), turnover ratio (%) to examine the effect; also, we wish to discuss whether corporate governance mechanism mitigating the volatility occurred by the trading activities, so we examine the standard deviation of these variables too.

## **iii. Controlling Variables**

There are some other variables we need to add to our models, as shown by Fama and French (1993), the corporate size is a primary factor to affecting the stock returns, so we take it into account by using corporate asset as proxy when computing the extent of trading behaviors' impacts; the factor of leverage ratio is under

consideration too, leverage is quite a decisive factor to affect the firm structure of a company, and firm structure always directly affect the strategies taking by management, shareholders, or investors, we use the ratio of long run and short run debt to asset as proxy.

The past returns probably affecting the investors' views of a corporation or the liquidity level, as shown by Griffin et al. (2007), market turnover (a liquidity proxy) is strongly and positively related to past returns in many markets, so we bring the returns of past one period and past two periods respectively into the models.

#### **IV. Methodology and Empirical Results**

In this section, first we take analyses of descriptive statistics to our researched objectives by illustrating the mean and standard deviation of whole research samples. Second, in order to diagnose the co-linearity problem among the independent variables, we adopt Pearson correlation test to measure the correlated extent among each variable, and use simple Hausman-Taylor estimator to control for the potentially endogenous explanatory variable.

After examining the relationships among variables, third, we verify Hypothesis 1 by setting an OLS Linear Regression Model between corporate governance variables and investors' shares holding, and we pay attention to whether there is a difference between 15 and 5 years' data due to the implement of Information transparency and disclosure ranking. Fourth, we verify Hypothesis 2 by measuring trading volume proxies imported OLS Regression Model again, and then compare the difference between 15 and 5 years' data. Finally, we utilize the corporate governance variables

used before to compute the corporate governance score for every sample company called CG-Index here, hereby we examine Hypothesis 3 by adding CG-Index into the model, the results of this test would be sufficient to let us discuss whether a company's corporate governance extent affect all its investors investment strategies and trading activities.

### **A. Descriptive Statistics**

In order to examine the connections existed among corporate governance, investors' behavior, and companies' trading volume, we use the listed companies' stocks from 1997 to 2011 in Taiwan as research sample, total is 274 firms.

Here we replace all of variables with clearer codes in our models and tables for the convenience of observing, the codes as showed below:

MGT: Management stockholdings (%)

MGT2: The square of Management stockholdings

BLOCK: Blockholders' stockholdings (%)

BOARD: Board size

BOARD2: The square of Board Size

OUTDTR: Independent outside directors

INV: Investments in asset (%)

ABC: Information transparency and disclosures level

CEOCHR: CEO duality

PARTCHR: Inside dominance of chairman of the board

PARTCEO: Inside dominance of CEO

MGTPARTCEO: The cross item of management stockholdings and inside dominance of CEO

CG-Index: Corporate governance scores

SIZE: Ln of asset

LVG: Leverage ratio

RTN (t-x)<sub>i</sub>: The Return of (t-x) period, where x=1, 2

INDIV: Individuals Stockholdings

DOINDIV: Domestic Individuals Stockholdings

FOINDIV: Foreign Individuals Stockholdings

INSTI: Institutions Stockholdings

FOINSTI: Foreign Institutions Stockholdings

LnValue: Ln of Trading Value

LnSDValue: Ln of Standard Deviation of Trading Value

Ratio: Turnover Ratio

SDRatio: Standard Deviation of Turnover Ratio

Rtn: Returns

SDRtn: Standard Deviation of Returns

**Table 2. Descriptive Statistics- Results for 15 years, yearly frequency**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<b>Corporate Governance</b>				
MGT (%)	0.917	1.937	0	19.99
BLOCK (%)	16.295	11.271	0	73.40
BOARD	7.691	3.583	3	27.00
OUTDTR	0.616	0.782	0	4
INV (%)	29.074	20.397	0	95.06
dNoCEOCHR	0.770	0.421	0	1
dCEOCHR	0.230	0.421	0	1
dNoPARTCHR	0.185	0.388	0	1
dPARTCHR	0.815	0.388	0	1
dNoPARTCEO	0.559	0.497	0	1
dPARTCEO	0.441	0.497	0	1
CG-Index	3.8897	1.6226	0	8
<b>Dependent Variable</b>				
INDIV (%)	62.383	20.974	7.39	100.00
DOINDIV (%)	61.513	21.083	0.03	100.00
FOINDIV (%)	0.870	2.775	0	92.70
INSTI (%)	37.617	20.974	0	92.61
FOINSTI (%)	8.503	13.028	0	75.67
LnValue	9.244	1.942	1.61	14.38
LnSDValue	6.481	1.799	-1.24	11.40
Ratio (%)	220.998	207.566	1.51	1532.21
SDRatio	2.888	6.124	0.01	68.46
Rtn (%)	13.852	67.221	-91.95	675.86
SDRtn	5.009	6.179	0.41	83.28
<b>Controlling Variable</b>				
SIZE	16.230	1.313	11.70	21.27
LVG (%)	39.049	16.923	0.18	95.26
Observations	4037			

CG-Index denotes the governance index, we obtain CG-Index for each firm by awarding one point for each governance standard that is met, the standard would be explained later. The dependent variable evaluated is separated into two parts, which are investors' shares holding ratio and companies' trading volume, besides, we measure the variability of trading volume for 15 years, yearly frequency.

The results of descriptive statistics for 15 years data are showed in Table 2 and Table 3. The extreme values of blockholders' stockholdings (BLOCK) are very large (73.40, 77.16), and the mean of independent outside directors (OUTDTR) are below 1 (0.616, 0.616), somehow it indicate corporations centralizing the ownership rights at a few shareholders, and this reflect the enterprise culture in Taiwan even other Asia countries, like Claessens and Fan (2002) address, the lack of protection of minority rights has been the major corporate governance issue in Asia. The extreme values of investment in asset (INV) are quite large (95.06, 95.42), indicating some firms may need to manage their firm structures as well to avoid occurring financial crisis. CG-Index denotes the governance index, we obtain CG-Index for each firm by awarding one point for each governance standard that is met, the standard would be explained later.

The individuals Stockholdings is almost concentrated at domestic investors, however, there is about twenty percent shares holding by foreign institutional investors of all the institutional stockholdings. It shows the trading volume related variables here, we use trading value, trading turnover ratio, and stocks return as factors to measure the impact of corporate governance extents to firms' trading activity, we adopt yearly frequency data to test firms' trading persistence especially.

Two clear firm characterized variables - firm size and leverage level are included to our models, also for monthly frequency data, we add past one and two month returns to the models in order to increasing the credibility of the results.

**Table 3. Descriptive Statistics- Results for 15 years, monthly frequency**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<b>Corporate Governance</b>				
MGT	0.925	1.960	0	22.07
BLOCK	16.147	11.321	0	77.16
BOARD	7.728	3.620	3	27.00
OUTDTR	0.616	0.784	0	4.00
INV	28.663	20.178	0	95.42
dNoCEOCHR	0.772	0.420	0	1.00
dCEOCHR	0.228	0.420	0	1.00
dNoPARTCHR	0.556	0.497	0	1.00
dPARTCHR	0.444	0.497	0	1.00
dNoPARTCEO	0.182	0.386	0	1.00
dPARTCEO	0.818	0.386	0	1.00
CG-Index	4.037	1.601	0	8.00
<b>Dependent Variable</b>				
INDIV	62.433	20.937	7.39	100.00
DOINDIV	61.565	21.043	0.03	100.00
FOINDIV	0.869	2.775	0	92.70
INSTI	37.567	20.937	0	92.61
FOINSTI	8.479	13.026	0	75.67
LnValue	6.429	2.204	0	12.68
Ratio (%)	19.184	24.482	0.04	265.68
Rtn (%)	1.022	15.432	-77.62	277.45
<b>Controlling Variable</b>				
SIZE	16.212	1.304	11.70	21.29
LVG	44.302	16.244	0.99	99.83
Rtn (t-1) (%)	1.041	15.499	-77.62	277.45
Rtn (t-2) (%)	1.162	15.592	-76.82	277.45
<b>Observations</b>	48154			

CG-Index denotes the governance index, we obtain CG-Index for each firm by awarding one point for each governance standard that is met, the standard would be explained later. The dependent variable evaluated is separated into two parts, which are investors' shares holding ratio and companies' trading volume. The controlling variables include past returns for 15 years, monthly frequency.

To reinforce the research results, we test the corporate governance impact for shorter sample period from 2007 to 2011, as we know, the regime of information transparency and disclosure ranking (ABC) is carried out for only nine years from 2003, so we add this variable in shorter period model. The information transparency and disclosure ranking is classified into seven levels, but the mean of it is below 4 (3.556) in Table 4, indicating many firms got the level below “A-”. CG-Index included the new variable (ABC) sum up the grades of nine corporate governance variables resulting in higher statistic values in mean, standard deviation, and maximum value.

The t-statistics showed in the second column of Table 4 denote that the mean value of the variable for 5 years data is significantly different from the corresponding value for 15 years data in Table 3 except for two incomparable variables - ABC and CG-Index. We find several values existing differences between two sample periods, the values indicate block shareholders' stockholdings and investments in asset increased, board size down, the phenomenon of CEO duality grew up and part management decreased recent years. There's a tendency of declining individual stockholdings and raising institutional stockholdings close years, furthermore the trading value has been risen up, and so as the firm size, but leverage level cut down.

**Table 4. Descriptive Statistics- Results for 5 years, monthly frequency**

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
<b>Corporate Governance</b>				
MGT	0.817	1.842	0	19.93
BLOCK	20.503***	10.396	0	73.40
BOARD	7.485***	2.960	3	21.00
OUTDTR	0.646	0.754	0	3.00
INV	34.550***	22.882	0	95.42
ABC	3.556	1.239	1	7.00
dNoCEOCHR	0.757	0.429	0	1.00
dCEOCHR	0.243***	0.429	0	1.00
dNoPARTCHR	0.577	0.494	0	1.00
dPARTCHR	0.423***	0.494	0	1.00
dNoPARTCEO	0.228	0.420	0	1.00
dPARTCEO	0.772***	0.420	0	1.00
CG-Index	4.259	1.703	0	9
<b>Dependent Variable</b>				
INDIV	58.356***	21.551	7.52	97.88
DOINDIV	57.627***	21.652	7.51	97.86
FOINDIV	0.729***	2.120	0	27.25
INSTI	41.644***	21.551	2.12	92.48
FOINSTI	11.681***	15.187	0	75.67
LnValue	6.598***	1.967	0	11.83
Ratio (%)	15.427	17.426	0.04	189.89
Rtn (%)	0.918	13.429	-51.51	182.48
<b>Controlling Variable</b>				
SIZE	16.467***	1.428	11.93	21.29
LVG	43.559***	16.637	0.99	98.05
Rtn (t-1) (%)	1.092	13.673	-51.51	182.48
Rtn (t-2) (%)	1.535***	13.833	-51.51	182.48
<b>Observations</b>	15420			

CG-Index denotes the governance index, we obtain CG-Index for each firm by awarding one point for each governance standard that is met, the standard would be explained later. The dependent variable to be evaluated is separated into two parts, which are investors' shares holding ratio and companies' trading volume. The controlling variables include past returns for 5 years, monthly frequency. \*\*\* denotes that the mean value of the variable for 5 years data is significantly (at the 1% level) different from the corresponding value for 15 years data.

## **B. Correlation Analysis**

There is a possibility of high correlation existed among research variables affecting the research result, therefore we employ Pearson correlation test to measure the correlated extent and co-linearity problem among the independent variables, the results are showed respectively in Table 5, Table 6, and Table 7.

In generally, there is an interaction effect in a manner among corporate governance related variables, we can see a most obvious example in all three tables, blockholders' stockholdings (BLOCK) is always negative at the 1% level related to the board size (BOARD) in either long or short sample period, indicating that blockholders' hold fewer shares as board size expanded. Management stockholdings (MGT) is negative related to blockholders' stockholdings (BLOCK) and part management of CEO (PARTCEO) in either long or short sample period, indicating that management hold fewer shares as blockholders' more shares holding or the situation of inside dominance of CEO.

There is a common status that independent outside directors (OUTDTR) is positive related to the board size (BOARD), which is mean that larger is the board, more the independent outside directors would be employed; independent outside directors is positive related to inside dominance of chairman (PARTCHR) too, indicating that if firms have a state of inside dominance of chairman, then numbers of independent outside directors would be more. CEO duality (CEOCHR) is positive related to both inside dominance of chairman (PARTCHR) and inside dominance of CEO (PARTCEO), it shows that firm with CEO duality would hire the ultimate owners of company as chairman or CEO.

The controlling variables - firm size and leverage extent do not have fixed

relationship with corporate governance variables in either long or short sample period, despite two variables are significantly related to some governance variables. The returns were conscious of make interactive effects within different periods, so we put one period past return into the model at one time. Finally, in Table 7, we can find the information transparency and disclosure ranking (ABC) is significantly related to every governance variables, as we know, the ranking is measured by a series of governance factors even if not as same as variables we concern, so there exist an avoidless relationship between information disclosure ranking and governance variable.

For the particular character of governance variables, we examine the potential endogeneity among explanatory variables by Hausman-Taylor test, and find that no explanatory variables we picked are endogenous to each other. Finally, we check the exogenous relationships between dependent and independent variables by Hausman-Taylor test again, the results are clear for our following tests.

**Table 5. Correlation Analysis - Results for 15 years, yearly frequency**

<b>Variable</b>	<b>MGT</b>	<b>BLOCK</b>	<b>BOARD</b>	<b>OUTDTR</b>	<b>INV</b>	<b>CEOCHR</b>	<b>PARTCHR</b>	<b>PARTCEO</b>	<b>SIZE</b>	<b>LVG</b>
<b>MGT</b>	1.000									
<b>BLOCK</b>	-0.057**	1.000								
<b>BOARD</b>	-0.064	-0.125***	1.000							
<b>OUTDTR</b>	0.123*	-0.021	0.067***	1.000						
<b>INV</b>	-0.082*	0.071*	0.004	-0.114	1.000					
<b>CEOCHR</b>	-0.093*	0.005	-0.199*	0.019	-0.023	1.000				
<b>PARTCHR</b>	-0.010	-0.003	-0.022	0.109***	0.034*	0.046**	1.000			
<b>PARTCEO</b>	-0.135***	-0.014	-0.117**	0.078*	-0.071***	0.449***	0.330***	1.000		
<b>SIZE</b>	-0.069***	-0.058***	0.324**	-0.099***	0.367*	-0.112**	-0.019	-0.148***	1.000	
<b>LVG</b>	-0.001	-0.028	-0.086***	-0.019	-0.007	0.016	0.051**	-0.030	0.236***	1.000

The measurement of correlated extent among each independent variable (Corporate Governance related variable) and Controlling Variable by Pearson correlation test, five different dimensions of corporate governance variables included ownership, board, audit, firm, information transparency, and management style are adopted, also two controlling variables are took into account. The value is significant at \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Table 6. Correlation Analysis - Results for 15 years, monthly frequency**

Variable	MGT	BLOCK	BOARD	OUTDTR	INV	CEOCHR	PARTCHR	PARTCEO	SIZE	LVG	Rtn(t-1)
<b>MGT</b>	1.000										
<b>BLOCK</b>	-0.052*	1.000									
<b>BOARD</b>	-0.064	-0.133***	1.000								
<b>OUTDTR</b>	0.127**	-0.023*	0.075***	1.000							
<b>INV</b>	-0.080	0.083	-0.005	-0.114*	1.000						
<b>CEOCHR</b>	-0.094***	0.011	-0.197*	0.023	-0.019**	1.000					
<b>PARTCHR</b>	-0.134*	-0.022**	-0.117*	0.074**	-0.069*	0.449*	1.000				
<b>PARTCEO</b>	-0.010*	-0.009	-0.021	0.109*	0.033***	0.050**	0.323*	1.000			
<b>SIZE</b>	-0.064**	-0.046*	0.323***	-0.092***	0.359***	-0.107***	-0.141*	-0.013**	1.000		
<b>LVG</b>	-0.067***	0.008	-0.014**	-0.057**	-0.011*	0.003	-0.021***	0.065***	0.230***	1.000	
<b>Rtn (t-1)</b>	0.006	0.013**	-0.009	-0.000	0.003	0.004	0.001	0.001	-0.001	-0.007	1.000
<b>Rtn (t-2)</b>	0.007	0.014**	-0.009*	0.001	0.002	0.005	-0.000	-0.001	-0.001	-0.008	0.047***

The measurement of correlated extent among each independent variable (Corporate Governance related variable) and Controlling Variable by Pearson correlation test, five different dimensions of corporate governance variables included ownership, board, audit, firm, information transparency, and management style are adopted, also two controlling variables are took into account. The value is significant at \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 7. Correlation Analysis - Results for 5 years, monthly frequency**

Variable	MGT	BLOCK	BOARD	OUTDTR	INV	ABC	CEOCHR	PARTCHR	PARTCEO	SIZE	LVG	Rtn(t-1)
<b>MGT</b>	1.000											
<b>BLOCK</b>	-0.040**	1.000										
<b>BOARD</b>	-0.073*	-0.139***	1.000									
<b>OUTDTR</b>	0.062*	-0.057	0.041**	1.000								
<b>INV</b>	-0.083	0.043*	0.034*	-0.119*	1.000							
<b>ABC</b>	0.027**	-0.077*	0.163***	-0.085*	0.065***	1.000						
<b>CEOCHR</b>	-0.142*	0.023**	-0.148**	0.074	-0.050**	-0.085**	1.000					
<b>PARTCHR</b>	-0.135**	-0.014	-0.092*	0.123**	-0.097***	-0.162**	0.463***	1.000				
<b>PARTCEO</b>	-0.018*	-0.039*	-0.089	0.124***	0.020*	-0.134***	0.074**	0.386*	1.000			
<b>SIZE</b>	-0.052	-0.116***	0.350***	-0.119***	0.400*	0.318*	-0.076	-0.157**	-0.056***	1.000		
<b>LVG</b>	-0.050**	-0.068***	0.004	-0.017*	0.029**	-0.060***	-0.053***	-0.009	0.130***	0.345***	1.000	
<b>Rtn (t-1)</b>	0.008	0.015	-0.005	0.001	-0.004	-0.010	0.002	0.012	0.011	-0.024**	-0.004	1.000
<b>Rtn (t-2)</b>	0.008	0.012	-0.007	0.001	-0.008	-0.026**	0.002	0.010	0.011	-0.027***	0.001	0.067***

The measurement of correlated extent among each independent variable (Corporate Governance related variable) and Controlling Variable by Pearson correlation test, five different dimensions of corporate governance variables included ownership, board, audit, firm, information transparency, and management style are adopted, also two controlling variables are took into account. The value is significant at \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

### C. Investors' Investment Behaviors

We verify Hypothesis 1 by setting an OLS Linear Regression Model between corporate governance variables and investors' shares holding after examining the relationships among variables, than we pay attention to whether there is a difference between 15 and 5 years' data due to the probability of investors' advanced realization in investing activity and implement of Information transparency and disclosure ranking.

To examine Hypothesis 1, we conduct model (1-1) to test the 15 years data in yearly frequency, model (1-1) is showed below:

$$\begin{aligned} Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\ & + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 CEOCHR_{i,t} \\ & + \beta_9 PARTCHR_{i,t} + \beta_{10} PARTCEO_{i,t} + \beta_{11} MGTPARTCEO_{i,t} \\ & + \beta_{12} SIZE_{i,t} + \beta_{13} LVG_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (1-1)$$

Where  $Y_{i,t}$ : The investors' stockholdings ;

- (1) INDIV: individuals Stockholdings,
- (2) DOINDIV: domestic Individuals Stockholdings,
- (3) FOINDIV: foreign Individuals Stockholdings,
- (4) INSTI: institutions Stockholdings,
- (5) FOINSTI: foreign Institutions Stockholdings

In model (1-1), we consider about there may exist non-linear relationship between investors' stockholdings and management stockholdings (MGT) or board sizes

(BOARD), therefore, adding the square items of management stockholdings and board sizes to the model respectively. In fact, the class of corporate governance is depend on the cognition of management, so we think of the inside dominance of CEO (PARTCEO) may reduce the effect of management stockholdings (MGT) to our dependent variable, therefore adding the cross item of inside dominance of CEO and management stockholdings, and anticipating the coefficient is negative.



**Table 8. Regression Results for the Percentage of Investors Stockholdings - 15 years, yearly frequency**

Variable	(1) INDIV	(2) DOINDIV	(3) FOINDIV	(4) INSTI	(5) FOINSTI
<b>MGT</b>	2.139*** (6.75)	2.157*** (6.77)	-0.0178 (-0.35)	-2.139*** (-6.75)	0.367* (1.77)
<b>MGT2</b>	-0.0407 (-1.60)	-0.0398 (-1.56)	-0.000959 (-0.24)	0.0407 (1.60)	-0.0464*** (-2.79)
<b>BLOCK</b>	-0.427*** (-17.58)	-0.432*** (-17.68)	0.00498 (1.28)	0.427*** (17.58)	0.0969*** (6.09)
<b>BOARD</b>	-1.238*** (-4.19)	-1.234*** (-4.15)	-0.00428 (-0.09)	1.238*** (4.19)	0.676*** (3.49)
<b>BOARD2</b>	0.0327** (2.51)	0.0317** (2.42)	0.00104 (0.50)	-0.0327** (-2.51)	-0.0368*** (-4.32)
<b>OUTDTR</b>	3.670*** (10.24)	3.812*** (10.57)	-0.143** (-2.48)	-3.670*** (-10.24)	1.029*** (4.38)
<b>INV</b>	-0.0107 (-0.73)	-0.0170 (-1.15)	0.00627*** (2.67)	0.0107 (0.73)	0.00807 (0.84)
<b>CEOCHR</b>	-1.238* (-1.68)	-1.316* (-1.78)	0.0780 (0.66)	1.238* (1.68)	1.540*** (3.19)
<b>PARTCHR</b>	4.143*** (5.51)	3.772*** (4.99)	0.371*** (3.07)	-4.143*** (-5.51)	-0.255 (-0.52)
<b>PARTCEO</b>	9.529*** (13.23)	9.639*** (13.31)	-0.111 (-0.96)	-9.529*** (-13.23)	-1.661*** (-3.52)
<b>MGTPARTCEO</b>	-0.494 (-1.47)	-0.554 (-1.64)	0.0607 (1.13)	0.494 (1.47)	-0.238 (-1.08)
<b>SIZE</b>	-5.266*** (-20.77)	-5.181*** (-20.32)	-0.0847** (-2.08)	5.266*** (20.77)	4.922*** (29.61)
<b>LVG</b>	0.139*** (8.26)	0.154*** (9.10)	-0.0151*** (-5.58)	-0.139*** (-8.26)	-0.111*** (-10.06)
<b>Constant</b>	145.7*** (38.50)	143.3*** (37.66)	2.349*** (3.87)	-45.68*** (-12.07)	-71.51*** (-28.83)
<b>Adjusted R<sup>2</sup></b>	0.330	0.330	0.014	0.330	0.253

*t* -statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

In next part, we are going to forecast that the direction corporate governance variables affect investors' shares holding and trading volume, and conduct a CG-Index by grading the variables, but before that, we analyse the effect of each variable to investors' stockholdings first.

The results of model (1-1) are showed in Table 8, whole individual investors' stockholdings (INDIV) and domestic individual investors' stockholdings (DOINDIV) are positive related to several governance variables we picked, such as management stockholdings, independent outside directors, and inside dominance of chairman or CEO, indicating that management stockholdings increasing, more outside supervisors, or part management of ultimate owners would raise individual investors' faith in firms; besides, leverage is positive related to domestic individual investors' stockholdings too, but negative related to foreign individual investors' stockholdings, representing that domestic investors prefer investing firms with higher leverage ratio, and foreign opposite. Domestic individual investors' stockholdings is negative related to blockholders' stockholdings, board size (but with non-linear relation), CEO duality, and firm size, indicating that individual investors would lose their interests in investment with blockholders' stockholdings increasing, larger board sizes (but only a limit valid), CEO serves as the chairman, and larger firm sizes.

We find that despite for whole institutional investors' stockholdings (INSTI) or foreign institutional investors' stockholdings (FOINSTI), the results of governance variables are being opposite at all, illustrating that institutional investors prefer blockholders holding more shares, larger board sizes (but only a limit valid), and larger firm size, but not management holding more shares, more outside supervisors, part management of ultimate owners, or higher leverage ratio, nevertheless, management stockholdings and board sizes are in a non-linear relation with foreign

institutional investors' holdings.

We conduct model (1-2) to test the 15 years data in monthly frequency to examine Hypothesis 1 again, model (1-2) is showed below:

$$\begin{aligned}
 Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\
 & + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 CEOCHR_{i,t} \\
 & + \beta_9 PARTCHR_{i,t} + \beta_{10} PARTCEO_{i,t} + \beta_{11} MGTPARTCEO_{i,t} \\
 & + \beta_{12} SIZE_{i,t} + \beta_{13} LVG_{i,t} + \beta_{14} RTN(t-x)_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{1-2}$$

Where  $Y_{i,t}$ : The investors' stockholdings ;

- (1) INDIV: individuals Stockholdings,
- (2) DOINDIV: domestic Individuals Stockholdings,
- (3) FOINDIV: foreign Individuals Stockholdings,
- (4) INSTI: institutions Stockholdings,
- (5) FOINSTI: foreign Institutions Stockholdings

$RTN(t-x)_{i,t}$ : The Return of (t-x) period, where  $x=1, 2$

As last model, we consider about there may exist non-linear relationship between investors' stockholdings and management stockholdings or board sizes, so adding the square items of management stockholdings and board sizes to model (1-2) respectively; furthermore, thinking of the inside dominance of CEO may reduce the effect of management stockholdings to our dependent variable, therefore adding the cross item of inside dominance of CEO and management stockholdings, and anticipating the coefficient is negative. The returns of past periods are took into account, we adopt the returns of one and two months earlier than other variables respectively.

**Table 9. Regression Results for the Percentage of Investors Stockholdings – 15 years, monthly frequency**

**Panel a. Return of Past One Period**

Variable	(1)	(2)	(3)	(4)	(5)
	INDIV	DOINDIV	FOINDIV	INSTI	FOINSTI
<b>MGT</b>	2.417*** (21.38)	2.427*** (21.33)	-0.00971 (-0.53)	-2.417*** (-21.38)	0.0383 (0.52)
<b>MGT2</b>	-0.0473** (-6.69)	-0.0460** (-6.46)	-0.00138 (-1.21)	0.0473*** (6.69)	-0.0316** (-6.83)
<b>BLOCK</b>	-0.421** (-60.19)	-0.426*** (-60.50)	0.00487*** (4.32)	0.421*** (60.19)	0.100** (21.90)
<b>BOARD</b>	-1.207*** (-14.12)	-1.215* (-14.13)	0.00838 (0.61)	1.207* (14.12)	0.644*** (11.54)
<b>BOARD2</b>	0.0296*** (7.87)	0.0286*** (7.54)	0.00104* (1.72)	-0.0296** (-7.87)	-0.0337*** (-13.68)
<b>OUTDTR</b>	3.846*** (37.22)	4.018*** (38.63)	-0.172*** (-10.32)	-3.846*** (-37.22)	0.872*** (12.91)
<b>INV</b>	-0.0126* (-2.95)	-0.0189** (-4.40)	0.00631*** (9.17)	0.0126** (2.95)	0.00754** (2.70)
<b>CEOCHR</b>	-1.032*** (-4.85)	-1.118*** (-5.22)	0.0860** (2.51)	1.032** (4.85)	1.457*** (10.47)
<b>PARTCHR</b>	8.974*** (47.03)	9.010* (46.92)	-0.0361 (-1.17)	-8.974*** (-47.03)	-1.840*** (-14.76)
<b>PARTCEO</b>	4.658* (19.51)	4.349*** (18.10)	0.309*** (8.03)	-4.658*** (-19.51)	-0.125 (-0.80)
<b>MGTPARTCEO</b>	-0.342*** (-3.58)	-0.358*** (-3.72)	0.0159 (1.03)	0.342*** (3.58)	0.0714 (1.14)
<b>SIZE</b>	-5.235* (-71.74)	-5.118** (-69.69)	-0.117* (-9.95)	5.235** (71.74)	4.976*** (104.35)
<b>LVG</b>	0.168** (33.47)	0.177*** (35.14)	-0.0095** (-11.72)	-0.168*** (-33.47)	-0.141*** (-43.03)
<b>Rtn (t-1)</b>	-0.00748 (-1.50)	-0.00654 (-1.30)	-0.000946 (-1.17)	0.00748 (1.50)	0.000939 (0.29)
<b>Constant</b>	142.5*** (129.96)	139.9*** (126.73)	2.639*** (14.93)	-42.52*** (-38.77)	-70.18*** (-97.94)
<b>Adjusted R<sup>2</sup></b>	0.332	0.330	0.012	0.333	0.264

*t*- statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

**Panel b. Return of Past Two Periods**

Variable	(1)	(2)	(3)	(4)	(5)
	INDIV	DOINDIV	FOINDIV	INSTI	FOINSTI
<b>MGT</b>	2.416** (21.36)	2.426*** (21.31)	-0.00974 (-0.53)	-2.416** (-21.36)	0.0397 (0.54)
<b>MGT2</b>	-0.0471*** (-6.65)	-0.0457** (-6.41)	-0.00138 (-1.21)	0.0471** (6.65)	-0.0319*** (-6.89)
<b>BLOCK</b>	-0.421*** (-60.19)	-0.426*** (-60.50)	0.00487*** (4.32)	0.421*** (60.19)	0.100*** (21.89)
<b>BOARD</b>	-1.205*** (-14.10)	-1.213** (-14.11)	0.00863 (0.63)	1.205*** (14.10)	0.643* (11.52)
<b>BOARD2</b>	0.0296* (7.84)	0.0285** (7.52)	0.00103* (1.69)	-0.0296*** (-7.84)	-0.0336*** (-13.67)
<b>OUTDTR</b>	3.849*** (37.24)	4.021*** (38.65)	-0.172*** (-10.29)	-3.849*** (-37.24)	0.869*** (12.87)
<b>INV</b>	-0.0127* (-2.97)	-0.0190*** (-4.41)	0.00630*** (9.15)	0.0127** (2.97)	0.00762* (2.73)
<b>CEOCHR</b>	-1.038*** (-4.87)	-1.124* (-5.25)	0.0863** (2.52)	1.038*** (4.87)	1.459*** (10.49)
<b>PARTCHR</b>	8.974*** (47.02)	9.011*** (46.91)	-0.0362 (-1.18)	-8.974*** (-47.02)	-1.840*** (-14.75)
<b>PARTCEO</b>	4.651*** (19.47)	4.342*** (18.06)	0.309** (8.02)	-4.651*** (-19.47)	-0.118 (-0.76)
<b>MGTPARTCEO</b>	-0.344*** (-3.59)	-0.360*** (-3.73)	0.0160 (1.03)	0.344*** (3.59)	0.0736 (1.17)
<b>SIZE</b>	-5.236*** (-71.75)	-5.119* (-69.69)	-0.117** (-9.96)	5.236*** (71.75)	4.977*** (104.37)
<b>LVG</b>	0.168*** (33.47)	0.177** (35.13)	-0.0095** (-11.73)	-0.168*** (-33.47)	-0.141*** (-43.02)
<b>Rtn (t-2)</b>	-0.00910* (-1.82)	-0.00803 (-1.60)	-0.00107 (-1.32)	0.00910* (1.82)	0.00181 (0.55)
<b>Constant</b>	142.5*** (129.96)	139.9*** (126.74)	2.642*** (14.94)	-42.54*** (-38.78)	-70.21*** (-97.98)
<b>Adjusted R<sup>2</sup></b>	0.333	0.330	0.012	0.333	0.264

*t*- statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

The results of model (1-2) are showed in Table 9, Panel a is inputted the returns of past one period; Panel b is past two periods. The results show correspondences to several variables with yearly frequency data in Table 8, the domestic individual investors prefer firms with more outside independent directors, ultimate owners acting as management, blockholders holding a few shares, small board size, no CEO duality as well. However, there are some differences with yearly frequency data, management stockholdings is showed a non-linear relation with individual investors, but still positive related; investment in asset is negative related to domestic individual investors but positive related to foreign individuals and institutions, representing domestic individuals like to put their funds in firms with higher ratio of investment in asset, and foreign individuals and institutions opposite.

Outside independent directors is a variable have reverse effect on domestic and foreign institutional investors, it's negative related to domestic institutional investors' stockholdings but positive to foreign in either Panel a or Panel b, showing that foreign investors think highly of major outside independent directors. By observing the variables return (t-1) and return (t-2) in two panels, we find that only the return of past two periods is significant at 10% level on entirely individual and institutional investors market but with reverse directional impacts, individuals is negative related to the past returns, however, institutions is positive related to the past returns.

While examining whether the investors' behaviors changed follow by the implement of governance mechanism, finally we use model (1-3) to test the 5 years data in monthly frequency to recheck our results before. In five years data, the variable of information transparency and disclosure ranking (ABC) is added into the model, because a series of corporate governance scandals happened after 2000, resulted in governance pay much attention to this area and proceeded establishing the

ranking. The model (1-3) is showed below:

$$\begin{aligned}
 Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\
 & + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 ABC_{i,t} + \beta_9 CEOCHR_{i,t} \\
 & + \beta_{10} PARTCHR_{i,t} + \beta_{11} PARTCEO_{i,t} + \beta_{12} MGPARTCEO_{i,t} \\
 & + \beta_{13} SIZE_{i,t} + \beta_{14} LVG_{i,t} + \beta_{15} RTN(t-x)_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{1-3}$$

Where  $Y_{i,t}$  : The investors' stockholdings ;

- (1) INDIV: individuals Stockholdings,
- (2) DOINDIV: domestic Individuals Stockholdings,
- (3) FOINDIV: foreign Individuals Stockholdings,
- (4) INSTI: institutions Stockholdings,
- (5) FOINSTI: foreign Institutions Stockholdings

$RTN(t-x)_{i,t}$ : The Return of (t-x) period, where  $x=1, 2$

**Table 10. Regression Results for the Percentage of Investors Stockholdings – 5 years, monthly frequency**

<b>Panel a. Return of Past One Period</b>					
<b>Variable</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
	<b>INDIV</b>	<b>DOINDIV</b>	<b>FOINDIV</b>	<b>INSTI</b>	<b>FOINSTI</b>
<b>MGT</b>	2.241*** (11.56)	2.282*** (11.70)	-0.0404* (-1.66)	-2.241*** (-11.56)	1.458*** (10.44)
<b>MGT2</b>	-0.0218 (-1.51)	-0.0231 (-1.59)	0.00133 (0.74)	0.0218 (1.51)	-0.154*** (-14.74)
<b>BLOCK</b>	-0.485*** (-36.61)	-0.508*** (-38.08)	0.0223** (13.43)	0.485*** (36.61)	0.112*** (11.75)
<b>BOARD</b>	-1.192** (-5.59)	-1.284*** (-5.99)	0.0922* (3.46)	1.192** (5.59)	1.422*** (9.26)
<b>BOARD2</b>	0.00922 (0.90)	0.0112 (1.08)	-0.00201 (-1.56)	-0.00922 (-0.90)	-0.0604*** (-8.14)
<b>OUTDTR</b>	3.984*** (21.58)	4.051*** (21.81)	-0.0667** (-2.89)	-3.984*** (-21.58)	0.574*** (4.31)
<b>INV</b>	-0.0433*** (-6.50)	-0.0499*** (-7.44)	0.00658*** (7.89)	0.0433*** (6.50)	-0.0195*** (-4.07)
<b>ABC</b>	0.117 (0.99)	0.125 (1.04)	-0.00760 (-0.51)	-0.117 (-0.99)	1.063*** (12.43)
<b>CEOCHR</b>	-2.276*** (-6.21)	-2.373*** (-6.44)	0.0970* (2.12)	2.276*** (6.21)	3.144*** (11.91)
<b>PARTCHR</b>	10.29*** (29.80)	10.23*** (29.48)	0.0513 (1.19)	-10.29*** (-29.80)	-0.977** (-3.93)
<b>PARTCEO</b>	0.131 (0.33)	0.0248 (0.06)	0.106** (2.13)	-0.131 (-0.33)	1.395*** (4.85)
<b>MGTPARTCEO</b>	-0.397** (-2.21)	-0.415** (-2.29)	0.0182 (0.81)	0.397** (2.21)	0.140 (1.08)
<b>SIZE</b>	-6.052*** (-46.37)	-5.886*** (-44.85)	-0.165*** (-10.12)	6.052*** (46.37)	6.358*** (67.62)
<b>LVG</b>	0.235*** (25.76)	0.239*** (26.09)	-0.00439** (-3.86)	-0.235*** (-25.76)	-0.184*** (-27.95)
<b>Rtn (t-1)</b>	-0.00617 (-0.63)	-0.00757 (-0.77)	0.00140 (1.14)	0.00617 (0.63)	-0.00531 (-0.75)
<b>Constant</b>	159.2*** (81.59)	156.8*** (79.93)	2.354* (9.65)	-59.18*** (-30.33)	-99.60*** (-70.87)
<b>Adjusted R<sup>2</sup></b>	0.399	0.398	0.029	0.399	0.372

*t* -statistics in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Panel b. Return of Past Two Periods**

Variable	(1)	(2)	(3)	(4)	(5)
	INDIV	DOINDIV	FOINDIV	INSTI	FOINSTI
<b>MGT</b>	2.241*** (11.56)	2.282*** (11.70)	-0.0404* (-1.66)	-2.241*** (-11.56)	1.458*** (10.44)
<b>MGT2</b>	-0.0218 (-1.51)	-0.0231 (-1.59)	0.00134 (0.74)	0.0218 (1.51)	-0.154*** (-14.74)
<b>BLOCK</b>	-0.485*** (-36.62)	-0.508*** (-38.08)	0.0223*** (13.44)	0.485*** (36.62)	0.112*** (11.74)
<b>BOARD</b>	-1.191*** (-5.59)	-1.284*** (-5.99)	0.0922*** (3.46)	1.191*** (5.59)	1.422*** (9.26)
<b>BOARD2</b>	0.00921 (0.89)	0.0112 (1.08)	-0.00201 (-1.56)	-0.00921 (-0.89)	-0.0604*** (-8.14)
<b>OUTDTR</b>	3.984*** (21.58)	4.051*** (21.81)	-0.0667*** (-2.89)	-3.984*** (-21.58)	0.574*** (4.31)
<b>INV</b>	-0.0433*** (-6.50)	-0.0499*** (-7.45)	0.00658*** (7.89)	0.0433*** (6.50)	-0.0196*** (-4.07)
<b>ABC</b>	0.116 (0.98)	0.123 (1.03)	-0.00737 (-0.50)	-0.116 (-0.98)	1.062*** (12.42)
<b>CEOCHR</b>	-2.275** (-6.21)	-2.372** (-6.44)	0.0970** (2.12)	2.275*** (6.21)	3.144*** (11.91)
<b>PARTCHR</b>	10.29*** (29.79)	10.23*** (29.48)	0.0516 (1.19)	-10.29*** (-29.79)	-0.978* (-3.93)
<b>PARTCEO</b>	0.130 (0.33)	0.0239 (0.06)	0.106** (2.13)	-0.130 (-0.33)	1.395*** (4.85)
<b>MGTPARTCEO</b>	-0.397** (-2.20)	-0.415** (-2.29)	0.0182 (0.81)	0.397** (2.20)	0.140 (1.08)
<b>SIZE</b>	-6.051*** (-46.36)	-5.886*** (-44.84)	-0.165*** (-10.13)	6.051*** (46.36)	6.358*** (67.63)
<b>LVG</b>	0.235*** (25.76)	0.239*** (26.09)	-0.00440** (-3.86)	-0.235*** (-25.76)	-0.184*** (-27.95)
<b>Rtn (t-2)</b>	-0.00414 (-0.43)	-0.00531 (-0.54)	0.00117 (0.96)	0.00414 (0.43)	-0.00445 (-0.64)
<b>Constant</b>	159.2*** (81.58)	156.8*** (79.92)	2.354*** (9.65)	-59.17*** (-30.33)	-99.60*** (-70.86)
<b>Adjusted R<sup>2</sup></b>	0.399	0.398	0.029	0.399	0.372

*t* -statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

The results showed in Table 10 are similar with Table 9, several governance variables like management stockholdings, and blockholders' stockholdings take opposite influence between individual and institutional investors. In addition, to judge whether the variable of information disclosure be took account of investment behaviors, we find that the grade of information disclosure only affect foreign institutional investors' stockholdings, it shows a positive relation in Table 10.

The variable MGTPARTCEO is negative related to individual investors' shares holding, illustrating that inside dominance of CEO may reduce the effect of management stockholdings to dependent variables, and vice versa. Finally, we discover individual investors always prefer to invest in small firms, and larger firms do institutional investors so far.

#### **D. Trading Volumes and Trading Volatilities**

In this part, we examine Hypothesis 2 by measuring trading volume proxies with OLS Regression Model, separating data as yearly frequency of 15 years, monthly frequency of 15 years, and monthly frequency of 5 years to discuss how the impact on trading volume or volatility caused by governance variables, then comparing the difference between 15 and 5 years' data. We refer trading volume to trading value (in million) and turnover rate in individual stocks, besides, trading returns (in percentage) is fitted into the analysis as well.

We aim at discussing whether the trading volatilities varied follows by degrees of corporate governance in yearly frequency data of 15 years, therefore we build the model (2-1) to examine, which is showed below:

$$\begin{aligned}
Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\
& + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 CEOCHR_{i,t} \\
& + \beta_9 PARTCHR_{i,t} + \beta_{10} PARTCEO_{i,t} + \beta_{11} MGTPARTCEO_{i,t} \\
& + \beta_{12} SIZE_{i,t} + \beta_{13} LVG_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{2-1}$$

Where  $Y_{i,t}$ : Trading volumes and trading volatilities ;

- (1) LnValue: Ln of Trading Value,
- (2) LnSDValue: Ln of Standard Deviation of Trading Value,
- (3) Ratio: Turnover Ratio,
- (4) SDRatio: Standard Deviation of Turnover Ratio,
- (5) Rtn: Returns,
- (6) SDRtn: Standard Deviation of Returns

**Table 11. Regression Results for the Trading Volume and Trading Stability – 15 years, yearly frequency**

Variable	(1) LnValue	(2) LnSDValue	(3) Ratio	(4) SDRatio	(5) Rtn	(6) SDRtn
<b>MGT</b>	0.120*** (4.84)	0.0958*** (3.94)	16.90*** (4.60)	-0.196* (-1.77)	1.651 (1.34)	-0.420*** (-3.83)
<b>MGT2</b>	-0.00734*** (-3.69)	-0.00582*** (-2.99)	-1.218*** (-4.14)	0.00712 (0.80)	-0.0643 (-0.65)	0.0213** (2.42)
<b>BLOCK</b>	-0.0299*** (-15.72)	-0.0289*** (-15.47)	-4.280*** (-15.19)	-0.0331*** (-3.89)	0.351*** (3.71)	-0.0115 (-1.37)
<b>BOARD</b>	-0.0415* (-1.80)	-0.0448** (-1.98)	-5.923* (-1.73)	-0.602*** (-5.82)	-0.789 (-0.69)	-0.585*** (-5.72)
<b>BOARD2</b>	-0.000934 (-0.92)	-0.000482 (-0.48)	-0.118 (-0.78)	0.0253*** (5.55)	0.00321 (0.06)	0.0260*** (5.77)
<b>OUTDTR</b>	0.0633** (2.26)	0.0270 (0.98)	-5.856 (-1.41)	-0.145 (-1.15)	1.128 (0.81)	-0.371*** (-3.00)
<b>INV</b>	-0.000848 (-0.74)	-0.00171 (-1.52)	-0.200 (-1.18)	-0.0113** (-2.19)	0.0583 (1.02)	-0.0197*** (-3.89)
<b>CEOCHR</b>	0.109* (1.89)	0.0985* (1.74)	7.419 (0.87)	-0.528** (-2.05)	1.182 (0.41)	0.109 (0.43)
<b>PARTCHR</b>	0.124** (2.10)	0.0934 (1.62)	10.67 (1.22)	-0.438* (-1.66)	-0.182 (-0.06)	-1.236*** (-4.75)
<b>PARTCEO</b>	-0.165*** (-2.93)	-0.128** (-2.31)	-11.99 (-1.44)	-0.423* (-1.68)	-0.539 (-0.19)	-0.875*** (-3.52)
<b>MGTPARTCEO</b>	-0.0137 (-0.52)	-0.0195 (-0.76)	-6.181 (-1.59)	-0.0923 (-0.79)	-0.302 (-0.23)	-0.0772 (-0.67)
<b>SIZE</b>	1.129*** (57.03)	0.967*** (49.69)	1.733 (0.59)	-0.281*** (-3.16)	2.274** (2.31)	-0.570*** (-6.51)
<b>LVG</b>	-0.0177*** (-13.41)	-0.0139*** (-10.68)	0.310 (1.59)	0.0254*** (4.30)	-0.0903 (-1.38)	0.0630*** (10.79)
<b>Constant</b>	-7.669*** (-25.96)	-7.890*** (-27.19)	299.2*** (6.84)	11.03*** (8.34)	-23.01 (-1.57)	17.09*** (13.08)
<b>Adjusted R<sup>2</sup></b>	0.533	0.464	0.075	0.027	0.005	0.072

*t* - statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

The results of model (2-3) shown in Table 11 included six dependent variables, we discuss the effect of corporate governance factors to trading volume related variables first. After checking the ownership structured factors, we find that management stockholdings, blockholders' stockholding, and board size are significantly affecting trading value and turnover ratio, where larger management stockholdings (although in a non-linear relation) would lead to larger trading value and turnover ratio, but larger blockholders' stockholdings and board size would make them down; in general, we always deem the trading turnover ratio as a proxy of trading liquidity, so we can see from Table 11 that management stockholdings is maybe an only factor to promote the liquidity of trading. It display the trading value is changed by outside independent directors, inside dominance of chairman and CEO, firm size, and leverage ratio in Table 11, however, only more outside directors, one of the ultimate controllers serves as chairman of the board, and larger firm size can raise the trading value.

We choose the standard deviation of trading value and turnover ratio as the proxies of trading stability, the standard deviation is computed by the monthly data of trading value and turnover ratio, and we anticipate that better corporate governance mechanism will lead the trading activities tending to be more stable, that is to say the coefficients of them are expected to be negative.

Both the increases of management stockholdings and CEO duality lead the turnover ratio more stable, yet fluctuate the trading value. Nevertheless, there are three factors show completely help with stabilities of trading value and turnover rate – blockholders' stockholdings, board sizes, and the inside dominance of CEO, which are indicating more part of shares kept by blockholders, larger board size, or one of the ultimate controllers acting as CEO would be ways to lower the trading volatilities.

Next, we examine the changes of trading volume resulted by degrees of corporate

governance in monthly frequency data of 15 years, the model (2-2) built to examine the effect is showed below:

$$\begin{aligned}
 Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\
 & + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 CEOCHR_{i,t} \\
 & + \beta_9 PARTCHR_{i,t} + \beta_{10} PARTCEO_{i,t} + \beta_{11} MGT PARTCEO_{i,t} \\
 & + \beta_{12} SIZE_{i,t} + \beta_{13} LVG_{i,t} + \beta_{14} RTN(t-x)_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{2-2}$$

Where  $Y_{i,t}$ : Factors of trading volume;

- (1) LnValue: Ln of Trading Value,
- (2) Ratio: Turnover Ratio,
- (3) Rtn: Returns

Table 12 shows the impacts on trading values, turnover ratios, and trading returns with model (2-2), by illustrated in table, we notice almost all the governance variables are significant to the trading volume proxies except the duality of CEO, meaning that corporate governance variable do affect the trading volume of firms, in addition, the past returns either one period or two periods are positive related to trading value and turnover ratio, exhibiting past returns would make trading activities vigorous.

We make a rough estimate of whether the governance factors generate impacts on stock returns also, however we find only blockholders' stockholding is positive related to the returns, meaning that if block shareholders expand their stockholdings then the stock returns would increase.

**Table 12. Regression Results for the Trading Volume and Trading Stability – 15 years, monthly frequency**

Variable	(1)		(2)		(3)	
	LnValue		Ratio		Rtn	
<b>MGT</b>	0.0375*** (3.74)	0.0371*** (3.63)	0.817*** (5.38)	0.812*** (5.22)	-0.0185 (-0.18)	-0.0337 (-0.33)
<b>MGT2</b>	-0.00566*** (-9.01)	-0.00569*** (-8.89)	-0.107*** (-11.28)	-0.108*** (-11.05)	-0.000800 (-0.13)	-0.000953 (-0.15)
<b>BLOCK</b>	-0.0282*** (-45.34)	-0.0281*** (-44.47)	-0.382*** (-40.68)	-0.379*** (-39.39)	0.0174*** (2.76)	0.0186*** (2.95)
<b>BOARD</b>	-0.0435*** (-5.73)	-0.0437*** (-5.66)	-0.419*** (-3.66)	-0.426*** (-3.62)	-0.00107 (-0.01)	-0.00793 (-0.10)
<b>BOARD2</b>	-0.000791** (-2.36)	-0.000792** (-2.33)	-0.0162*** (-3.21)	-0.0162*** (-3.12)	-0.00115 (-0.34)	-0.000916 (-0.27)
<b>OUTDTR</b>	0.0622*** (6.79)	0.0611*** (6.56)	-0.232* (-1.68)	-0.242* (-1.71)	0.0000726 (0.00)	0.00227 (0.02)
<b>INV</b>	-0.00185*** (-4.88)	-0.00182*** (-4.72)	-0.0394*** (-6.88)	-0.0393*** (-6.69)	0.00142 (0.37)	0.00162 (0.42)
<b>CEOCHR</b>	0.0765*** (4.05)	0.0770*** (4.02)	0.290 (1.02)	0.313 (1.07)	0.144 (0.75)	0.100 (0.52)
<b>PARTCHR</b>	-0.163*** (-9.64)	-0.163*** (-9.45)	-1.292*** (-5.05)	-1.279*** (-4.87)	-0.0251 (-0.15)	-0.0260 (-0.15)
<b>PARTCEO</b>	0.114*** (5.39)	0.113*** (5.25)	0.732** (2.28)	0.720** (2.19)	-0.0571 (-0.27)	-0.0894 (-0.41)
<b>MGTPARTCEO</b>	0.0667*** (7.83)	0.0678*** (7.81)	0.826*** (6.41)	0.849*** (6.42)	0.101 (1.17)	0.123 (1.42)
<b>SIZE</b>	1.229*** (189.86)	1.229*** (186.69)	0.504*** (5.16)	0.500*** (4.98)	0.0261 (0.40)	0.0222 (0.34)
<b>LVG</b>	-0.0283*** (-63.38)	-0.0283*** (-62.38)	-0.0293*** (-4.34)	-0.0302*** (-4.37)	-0.00417 (-0.92)	-0.00444 (-0.98)
<b>Rtn (t-1) (%)</b>	0.0244*** (54.92)		0.405*** (60.37)		0.0466*** (10.33)	
<b>Rtn (t-2) (%)</b>		0.0165*** (36.52)		0.227*** (32.96)		0.0109** (2.42)
<b>Constant</b>	-11.50*** (-118.28)	-11.49*** (-116.22)	22.69*** (15.44)	22.96*** (15.23)	0.467 (0.47)	0.623 (0.63)
<b>Adjusted R<sup>2</sup></b>	0.523	0.507	0.112	0.067	0.002	0.001

t- statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

In order to compare with results of model (2-2), we examine the changes of trading volume resulted by degrees of corporate governance in monthly frequency data of 5 years and build the model (2-3) by adding the factor of information disclosure, the model (2-3) is presented below and results are showed in Table 13:

$$\begin{aligned}
 Y_{i,t} = & \beta_0 + \beta_1 MGT_{i,t} + \beta_2 MGT2_{i,t} + \beta_3 BLOCK_{i,t} + \beta_4 BOARD_{i,t} \\
 & + \beta_5 BOARD2_{i,t} + \beta_6 OUTDTR_{i,t} + \beta_7 INV_{i,t} + \beta_8 ABC_{i,t} + \beta_9 CEOCHR_{i,t} \\
 & + \beta_{10} PARTCHR_{i,t} + \beta_{11} PARTCEO_{i,t} + \beta_{12} MGT PARTCEO_{i,t} \\
 & + \beta_{13} SIZE_{i,t} + \beta_{14} LVG_{i,t} + \beta_{15} RTN(t-x)_{i,t} + \varepsilon_{i,t}
 \end{aligned} \tag{2-3}$$

Where  $Y_{i,t}$ : Factors of trading volume

- (1) LnValue: Ln of Trading Value
- (2) Ratio: Turnover Ratio
- (3) Rtn: Returns

**Table 13. Regression Results for the Trading Volume and Trading Stability – 5 years, monthly frequency**

Variable	(1) LnValue		(2) Ratio		(3) Rtn	
<b>MGT</b>	-0.0208 (-1.43)	-0.0207 (-1.38)	0.299 (1.61)	0.300 (1.55)	0.0143 (0.09)	0.0145 (0.09)
<b>MGT2</b>	-0.00215** (-1.98)	-0.00200* (-1.79)	-0.0442*** (-3.19)	-0.0415*** (-2.86)	0.0111 (0.95)	0.0110 (0.95)
<b>BLOCK</b>	-0.0188*** (-18.91)	-0.0186*** (-18.08)	-0.253*** (-19.93)	-0.248*** (-18.69)	0.0166 (1.56)	0.0168 (1.57)
<b>BOARD</b>	0.00129 (0.08)	0.000358 (0.02)	-0.598*** (-2.93)	-0.618*** (-2.89)	-0.0651 (-0.38)	-0.0632 (-0.37)
<b>BOARD2</b>	-0.00334*** (-4.31)	-0.00326*** (-4.09)	-0.0104 (-1.06)	-0.00893 (-0.87)	0.00503 (0.61)	0.00493 (0.60)
<b>OUTDTR</b>	0.0537*** (3.87)	0.0533*** (3.73)	0.134 (0.76)	0.125 (0.68)	0.0201 (0.14)	0.0208 (0.14)
<b>INV</b>	0.000420 (0.84)	0.000503 (0.97)	-0.000104 (-0.02)	0.00119 (0.18)	0.00355 (0.66)	0.00363 (0.68)
<b>ABC</b>	0.0864*** (9.68)	0.0902*** (9.81)	0.767*** (6.75)	0.811*** (6.82)	0.113 (1.18)	0.123 (1.29)
<b>CEOCHR</b>	0.161*** (5.83)	0.159*** (5.61)	1.406*** (4.01)	1.383*** (3.77)	-0.0411 (-0.14)	-0.0423 (-0.14)
<b>PARTCHR</b>	-0.125*** (-4.80)	-0.120*** (-4.48)	-0.197 (-0.60)	-0.123 (-0.36)	0.111 (0.40)	0.117 (0.42)
<b>PARTCEO</b>	-0.125*** (-4.17)	-0.121*** (-3.92)	-1.221*** (-3.20)	-1.152*** (-2.88)	0.266 (0.83)	0.266 (0.83)
<b>MGTPARTCEO</b>	0.0592*** (4.38)	0.0582*** (4.17)	0.248 (1.44)	0.229 (1.27)	-0.0918 (-0.64)	-0.0918 (-0.64)
<b>SIZE</b>	1.049*** (106.96)	1.046*** (103.50)	-0.726*** (-5.81)	-0.785*** (-6.00)	-0.210** (-2.00)	-0.209** (-2.00)
<b>LVG</b>	-0.0142*** (-20.67)	-0.0142*** (-20.06)	0.0724*** (8.30)	0.0727*** (7.97)	-0.00158 (-0.22)	-0.00176 (-0.24)
<b>Rtn (t-1)</b>	0.0301*** (40.66)		0.426*** (45.20)		0.0456*** (5.76)	
<b>Rtn (t-2)</b>		0.0195*** (25.85)		0.225*** (23.04)		0.0534*** (6.84)
<b>Constant</b>	-9.764*** (-66.58)	-9.732*** (-64.40)	31.76*** (17.00)	32.52*** (16.63)	3.439** (2.19)	3.348** (2.14)
<b>Adjusted R<sup>2</sup></b>	0.593	0.568	0.158	0.078	0.002	0.003

*t*- statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

In Table 13, It is evident to observe that few of governance factors make negative impact on trading value such as block shareholders' stockholdings and part management of ultimate controllers, representing these factors are unfavorable to the traders. There are some factors negative related to turnover ratio too, block shareholders' stockholdings and board sizes is going to be causes to make the turnover ratio decreasing. In addition to the original factors we consider, the information transparency and disclosure ranking is positively significant to trading value and turnover ratio, indicating the better ranking make traders be more confident to the firms and push ahead the accomplishment of the trading.

It is alike to the common sense that the firm size is positive related to trading value but negative related to turnover ratio, larger firms in a way represent a more guaranteed image than smaller firms do; the results of leverage ratio are also quite regular, it is negative related to trading value yet positive related to turnover ratio. Comparing the influence caused by governance factors between long-run and short-run periods, we notice the results of five years periods are not looked as strong as the long-run, this may because the trading market and mechanism tend to be mature as time goes on, so that more elements in market could grasp traders' attentions to affect they making decisions on their trades.

#### **E. The Effect of Corporate Governance Index on Trading Activities**

We wish to discuss how well the entirely corporate governance mechanism interfere with trading activities in this final part. For the propose of further analyses, we utilize the corporate governance variables used before to compute corporate governance scores of sample companies, the scores we acquire by grading every factor is symbolized CG-Index, hereby we examine Hypothesis 3 by conducting the

model inputted CG-Index, then discuss whether a company's corporate governance extent take an effect on its investors' investment strategies and trading activities.

Firms with higher corporate governance degrees representing the inside governance mechanism is more perfect than others, and thus be expected to have positive impacts on trading activities in this article. Here we explain CG-Index first and then proceed to our discussion, the index is measured by the unique standard- median of research variable of objective company, if the value of variable is relatively in a high level comparing with the median, then it is represented by 1; if relatively in a low level, represented by 0, finally we add up the grade of each variable in one datum to obtain a CG-Index. Continuously, we have to anticipate the relationship between each governance variable and trading variable, there are nine governance variables we select in this article.

In the early days for researching firms' ownership structure, Jensen and Meckling (1976) propose that alignment effect could be realized between management and shareholders through the management stockholdings, and it would raise the operation performance and firm value, so we here grade the value of management stockholdings higher than median as one point, although McConnell and Servaes (1990) find that if the level of management stockholdings goes beyond a level, it will drop the firm value. Thomsen et al. (2006) find a negative association between blockholder ownership and firm value or accounting returns in the next period even though that association is significant only for companies with high initial levels of blockholder ownership (> 10%), so we suppose the more blockholders' stockholdings would hurt the trading activities, and set the value of stockholdings lower than median to one.

There is a monitoring effect if the numbers of board of directors arriving in a level related to firm size, Pearce and Zahra (1992) point that larger board size would be

available for monitoring and instructing firms' operation, therefore we represent the value of board size higher than median to one. Outside independent supervisors are an important role to monitoring the management and shareholders, we represent the value of outside independent directors higher than median to one.

One of the important terms for good corporate governance is to limit the investment in asset of firms, according to the firm structures, the less investment in asset would make the firm structure clearer, so the value of investment in asset higher than median would be represented to zero. Higher the information transparency and disclosure level would be granted to have a better governance mechanism, and the ranking is graded from A++ to C-, we substitute one point for A class, zero point for B and C classes. However, the ranking regime is carried out only for nine years, so the scores of it would be added into the model only for measuring the 5 years data.

Yermack (1996) think the firms with CEO duality would have more serious agency problem; Silanes et al. (1999) suggest that the central agency problem in large corporations around the world is that of restricting expropriation of minority shareholders by the controlling shareholders, and ultimate controlling shareholders interfere in management frequently, therefore we judge that the variables CEO duality, inside dominance of chairman or CEO would make harmful influences to trading activities, and grant one point if those conditions are absent in firms.

By adding the CG-Index into the OLS regression model, we build the model (3-1) to test 15 years data in yearly frequency, we wish to explain whether a company's corporate governance extent take an effect on its investors' investment strategies and trading activities to verify Hypothesis 3, model (3-1) is showed below:

$$Y_{i,t} = \beta_0 + \beta_1 CGIndex_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LVG_{i,t} + \varepsilon_{i,t} \quad (3-1)$$

Where  $Y_{i,t}$  : The investors' stockholdings, trading volumes, and trading volatilities ;

- (1) INDIV: individuals Stockholdings,
- (2) DOINDIV: domestic Individuals Stockholdings,
- (3) FOINDIV: foreign Individuals Stockholdings,
- (4) INSTI: institutions Stockholdings,
- (5) FOINSTI: foreign Institutions Stockholdings,
- (6) LnValue: Ln of Trading Value,
- (7) LnSDValue: Ln of Standard Deviation of Trading Value,
- (8) Ratio: Turnover Ratio,
- (9) SDRatio: Standard Deviation of Turnover Ratio,
- (10) Rtn: Returns,
- (11) SDRtn: Standard Deviation of Returns

**Table 14. Regression Results for the Corporate Governance Score - 15 years, yearly frequency**

<b>Variable</b>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	<b>INDIV</b>	<b>DOINDIV</b>	<b>FOINDIV</b>	<b>INSTI</b>	<b>FOINSTI</b>	<b>LnValue</b>	<b>LnSDValue</b>	<b>Ratio</b>	<b>SDRatio</b>	<b>Rtn</b>	<b>SDRtn</b>
<b>CG-Index</b>	-0.460**	-0.371**	-0.0894***	0.460**	0.255**	0.0761***	0.0625***	7.429***	0.124**	-0.743	0.0709
	(-2.46)	(-1.97)	(-3.31)	(2.46)	(2.29)	(5.61)	(4.72)	(3.70)	(2.09)	(-1.14)	(1.20)
<b>SIZE</b>	-6.655***	-6.641***	-0.0140	6.655***	4.887***	1.052***	0.891***	-7.399***	-0.415***	1.509*	-0.689***
	(-27.97)	(-27.74)	(-0.41)	(27.97)	(34.42)	(61.07)	(52.88)	(-2.90)	(-5.52)	(1.82)	(-9.18)
<b>LVG</b>	0.181***	0.197***	-0.0164**	-0.181***	-0.108***	-0.0133***	-0.00962***	0.845*	0.0294**	-0.0617	0.0647***
	(9.82)	(10.65)	(-6.16)	(-9.82)	(-9.83)	(-9.95)	(-7.35)	(4.26)	(5.05)	(-0.96)	(11.13)
<b>Constant</b>	165.2***	163.1***	2.085***	-65.17***	-67.60***	-7.615***	-7.847***	278.5***	7.975***	-5.399	13.38***
	(43.99)	(43.15)	(3.84)	(-17.35)	(-30.16)	(-28.01)	(-29.53)	(6.91)	(6.73)	(-0.41)	(11.31)
<b>Adjusted R<sup>2</sup></b>	0.169	0.167	0.012	0.169	0.233	0.491	0.420	0.007	0.011	0.001	0.039

The CG-Index here doesn't include the grade of information disclosure ranking, because the ranking is carried out only for nine years from 2003, t-statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

The results of model (3-1) are showed in Table 14, we find CG-Index is significantly related to both individual and institutional investors' stockholdings, but the funny thing is, that CG-Index is negative related to either domestic or foreign individual investors' stockholdings, meaning firms with better governance mechanism would decrease individual investors' willing of trading. By referring the results to the previous part examined, we notice that some variables leading individual investors transfer their shareholding ratio is opposite to we anticipate, such as the negative relation between board size and individuals shareholdings, and the positive relation between part management of ultimate controllers and individuals shareholdings, these may because the individual investors keep peculiarly investing views of themselves.

The CG-Index is positive related to trading values and turnover ratio, but not in a significant relation with returns, indicating the better corporate governance would increase trading volumes but not trading returns. However, better corporate governance mechanism is illustrated with enlarging the volatilities of trading volume by positive related to standard deviation of trading value and turnover ratio.

To take a robust examination of CG-Index to trading activities, we test the effect by regression with 15 and 5 years data in monthly frequency again, the model (3-2) is showed below:

$$Y_{i,t} = \beta_0 + \beta_1 CGIndex_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 LVG_{i,t} + \beta_4 RTN(t - x)_{i,t} + \varepsilon_{i,t} \quad (3-2)$$

Where  $Y_{i,t}$ : The investors' stockholdings and trading volumes;

- (1) INDIV: individuals Stockholdings,
- (2) DOINDIV: domestic Individuals Stockholdings,
- (3) FOINDIV: foreign Individuals Stockholdings,

- (4) INSTI: institutions Stockholdings,
- (5) FOINSTI: foreign Institutions Stockholdings,
- (6) LnValue: Ln of Trading Value,
- (7) Ratio: Turnover Ratio,
- (8) Rtn: Returns

The results of model (3-2) are showed in Table 15 and Table 16, Panel a display the statistic about investors' shareholding and Panel b about the trading volumes, the results apply a diverse outcome to prior test. In Panel a of both table, the CG-Index exhibit its positive effects to domestic individual stockholdings, but negative effects to institutional investors' stockholdings although foreign institutions remain the positive relation with the index comparing to the prior results. To give a summary, the excellent corporate governance mechanism is helpful to the investing motivations of domestic individuals or foreign institutions no matter adopting 15 or 5 years sample period, moreover, after considering the information disclosure ranking in 5 years sample period, the stockholding of whole individual investors is indicated positive related to the corporate governance degree.

Panel b of Table 15 and T able 16 show the corresponding outcomes to prior test, the CG-Index is positive related to trading values and turnover ratio, but not in a significant relation with returns, indicating the better corporate governance would increase trading volumes but not trading returns. Firm size and leverage level are both significant factors to affect the trading volumes.

**Table 15. Regression Results for the Corporate Governance Score - 15 years, monthly frequency**

**Panel a. Investors' Stockholdings**

Variable	(1)		(2)		(3)		(4)		(5)	
	INDIV		DOINDIV		FOINDIV		INSTI		FOINSTI	
<b>CG-Index</b>	0.0375	0.0397	0.131**	0.133**	-0.0935***	-0.0934***	-0.0375	-0.0397	0.106***	0.105***
	(0.69)	(0.73)	(2.38)	(2.42)	(-11.85)	(-11.84)	(-0.69)	(-0.73)	(3.29)	(3.24)
<b>SIZE</b>	-6.616***	-6.615***	-6.575***	-6.574***	-0.0406***	-0.0410***	6.616***	6.615***	5.012***	5.014***
	(-96.15)	(-96.11)	(-94.89)	(-94.85)	(-4.10)	(-4.12)	(96.15)	(96.11)	(123.42)	(123.44)
<b>LVG</b>	0.167***	0.167***	0.178***	0.178***	-0.0104***	-0.0105***	-0.167***	-0.167***	-0.140***	-0.140***
	(30.28)	(30.30)	(31.95)	(31.96)	(-13.11)	(-13.12)	(-30.28)	(-30.30)	(-42.88)	(-42.86)
<b>Rtn (t-1)</b>	-0.00844		-0.00741		-0.00103		0.00844		0.00186	
	(-1.51)		(-1.32)		(-1.28)		(1.51)		(0.56)	
<b>Rtn (t-2)</b>		-0.0103*		-0.00910		-0.00118		0.0103*		0.00296
		(-1.84)		(-1.62)		(-1.46)		(1.84)		(0.90)
<b>Constant</b>	162.1***	162.1***	159.7***	159.7***	2.373***	2.379***	-62.11***	-62.08***	-67.02***	-67.04***
	(147.33)	(147.27)	(144.17)	(144.10)	(14.95)	(14.98)	(-56.45)	(-56.41)	(-103.20)	(-103.22)
<b>Adjusted R<sup>2</sup></b>	0.162	0.162	0.159	0.158	0.007	0.007	0.162	0.162	0.243	0.243

The CG-Index here doesn't include the grade of information disclosure ranking, because the ranking is carried out only for nine years from 2003, t -statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

**Panel b. Trading Volume**

Variable	(1)		(2)		(3)	
	LnValue		Ratio		Rtn	
<b>CG-Index</b>	0.0629*** (14.43)	0.0622*** (14.05)	0.649*** (9.88)	0.638*** (9.47)	-0.0394 (-0.92)	-0.0403 (-0.94)
<b>SIZE</b>	1.158*** (205.35)	1.158*** (202.06)	-0.374*** (-4.40)	-0.387*** (-4.44)	-0.0106 (-0.19)	-0.0134 (-0.24)
<b>LVG</b>	-0.0260*** (-57.19)	-0.0260*** (-56.32)	-0.00333 (-0.49)	-0.00382 (-0.55)	-0.00287 (-0.64)	-0.00317 (-0.71)
<b>Rtn (t-1)</b>	0.0243*** (53.14)		0.404*** (58.76)		0.0470*** (10.43)	
<b>Rtn (t-2)</b>		0.0164*** (35.39)		0.226*** (32.15)		0.0113** (2.50)
<b>Constant</b>	-11.49*** (-129.21)	-11.47*** (-127.03)	22.20*** (16.58)	22.65*** (16.51)	1.439 (1.64)	1.538* (1.75)
<b>Adjusted R<sup>2</sup></b>	0.494	0.478	0.070	0.025	0.002	0.001

The CG-Index here doesn't include the grade of information disclosure ranking, because the ranking is carried out only for nine years from 2003, *t*-statistics in parentheses \* p<0.1, \*\* p<0.05,

\*\*\* p<0.01

The domestic investors stockholdings showed in Table 14 is negative related to CG-Index, which is opposite to Table 15, the distinction of sample period and frequency make results varied, and we are inclined to believing the results in Table 15, because the prediction of variable conducting CG-Index coincide with the results in Table 9 rather than Table 8, besides, through the robust test, we find the domestic investors stockholdings is positive related to CG-Index, so better corporate governance would motivate individual investors to invest.

Based on hypothesis of efficiency monitoring proposed by Pound (1988), there is a positive relation between financial institution stockholdings and firm performance, and we know better corporate governance would lead to a greater firm performance by Klapper and Love (2003) and Ting (2004), so we derive a potential outcome from these connection-corporate governance degree is positive to institution stockholdings, moreover, institution stockholdings is normally positive to turnover ratio, which is corresponding to the results in Table 14, 15, and 16, but we find in Table 16, the entirely institutional stockholdings have a negative relation to CG-Index even though foreign institutional stockholdings keep its positive relation to CG-Index, this may cause by part of variables we anticipated to build a CG-Index are inconsistent with the results in Table 10, like ownership structures or independent directors, besides, the hypotheses of tests are tricky where we may ignore the probably view change of domestic institutional investors in recent years.

**Table 16. Regression Results for the Corporate Governance Score - 5 years, monthly frequency**

**Panel a. Investors' Stockholdings**

Variable	(1)		(2)		(3)		(4)		(5)	
	INDIV		DOINDIV		FOINDIV		INSTI		FOINSTI	
<b>CG-Index</b>	0.197**	0.198**	0.281***	0.281***	-0.0832***	-0.0831***	-0.197**	-0.198**	0.246***	0.246***
	(2.20)	(2.21)	(3.11)	(3.11)	(-8.55)	(-8.55)	(-2.20)	(-2.21)	(4.31)	(4.31)
<b>SIZE</b>	-7.122***	-7.121***	-7.072***	-7.071***	-0.0499***	-0.0499***	7.122***	7.121***	6.216***	6.215***
	(-65.52)	(-65.52)	(-64.55)	(-64.54)	(-4.23)	(-4.24)	(65.52)	(65.52)	(89.68)	(89.68)
<b>LVG</b>	0.243***	0.243***	0.252***	0.252***	-0.00883***	-0.00884***	-0.243***	-0.243***	-0.167***	-0.167***
	(26.96)	(26.96)	(27.72)	(27.72)	(-9.02)	(-9.03)	(-26.96)	(-26.96)	(-28.96)	(-28.96)
<b>Rtn (t-1)</b>	-0.00611		-0.00763		0.00153		0.00611		-0.00546	
	(-0.57)		(-0.71)		(1.32)		(0.57)		(-0.80)	
<b>Rtn (t-2)</b>		-0.00265		-0.00395		0.00129		0.00265		-0.00665
		(-0.25)		(-0.37)		(1.13)		(0.25)		(-0.99)
<b>Constant</b>	163.8***	163.8***	161.6***	161.6***	2.269***	2.269***	-63.84***	-63.83***	-84.36***	-84.35***
	(96.30)	(96.28)	(94.21)	(94.19)	(12.29)	(12.29)	(-37.52)	(-37.51)	(-77.75)	(-77.73)
<b>Adjusted R<sup>2</sup></b>	0.217	0.217	0.212	0.212	0.013	0.013	0.217	0.217	0.345	0.345

*t* -statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

**Panel b. Trading Volume**

Variable	(1)		(2)		(3)	
	LnValue		Ratio		Rtn	
<b>CG-Index</b>	0.0470*** (7.41)	0.0466*** (7.17)	0.161** (2.08)	0.150* (1.87)	-0.0475 (-0.73)	-0.0445 (-0.69)
<b>SIZE</b>	1.125*** (146.18)	1.124*** (142.63)	-0.379*** (-4.03)	-0.413*** (-4.23)	-0.114 (-1.46)	-0.103 (-1.32)
<b>LVG</b>	-0.0223*** (-34.89)	-0.0224*** (-34.15)	0.0246*** (3.16)	0.0245*** (3.02)	-0.00464 (-0.71)	-0.00579 (-0.89)
<b>Rtn (t-1)</b>	0.0278*** (36.67)		0.390*** (42.18)		0.0415*** (5.38)	
<b>Rtn (t-2)</b>		0.0181*** (23.58)		0.206*** (21.76)		0.0469*** (6.15)
<b>Constant</b>	-11.25*** (-93.33)	-11.21*** (-90.92)	19.13*** (13.01)	19.86*** (13.00)	3.156** (2.57)	2.986** (2.43)
<b>Adjusted R<sup>2</sup></b>	0.595	0.576	0.101	0.030	0.002	0.002

*t*- statistics in parentheses \* p<0.1, \*\* p<0.05, \*\*\* p<0.01

## V. Conclusions

In this article, we discuss the issue of how internal corporate governance mechanism making impacts on investment strategies of investors and firms' trading activities, we first examine the exist of relations between governance variables we select and investors' stockholding ratio by OLS linear regression model, then examine whether governance variables affect trading volume proxies and trading returns. Finally, we build a CG-Index by grading the variables of corporate governance, then explore that whether the corporate governance degree is an effective index to influence investors' stockholdings, trading volumes, and even trading volatilities.

Because of the low shareholding ratio of foreign investors, the domestic individual investors have stood for entirely individuals' investing sentiments by observing the results, the results indicate that firms with higher management stockholdings, lower blockholders' shareholdings, smaller board size, more outside independent supervisors, CEO duality, and ultimate controller serve as chairman would be appealing to individual investors either adopting 15 or 5 years sample period; however, for institutional investors, the results are completely opposite in long run period, but the institutions (foreign institutions also) change their preferences into smaller board size as individuals do in 5 years sample period. In the sample period of 2007 to 2011, we add the variable of information transparency and disclosure ranking into the model, and find that it only positively affects the investment strategies for foreign institutional investors. Besides, smaller firm size and higher leverage ratio are typical features for domestic individual investors but pointless factors for no matter domestic or foreign institutional investors.

We select trading value and turnover ratio as proxies of trading volume, and notice

that lower blockholders' stockings, smaller board size, and CEO duality are favorable characteristics for investors to increase firms' trading volumes no matter long-term or short-term period. Although management stockholding is positive related to trading volume in long run period, but it turns to nonsense for investors in recent years; after considering the variable of information transparency and disclosure ranking into the model, we find it has a positive effect to trading volumes of firms.

We choose the standard deviation of trading value and turnover ratio (that may be a dangerous signal with over high turnover ratio) as the proxies of trading stability, there are three factors show completely help with stabilities of trading value and turnover rate – blockholders' stockholdings, board sizes, and the inside dominance of CEO, which are indicating more shares kept by blockholders, larger board size, or one of the ultimate controllers acting as CEO would be ways to lower the trading volatilities. We also make a rough estimate of whether the governance factors generate impacts on stock returns, however we find only blockholders' stockholding ratio is a significant factor to the returns by positive relation.

The CG-Index exhibit its positive effects to domestic individual stockholdings, but negative effects to entirely institutional investors' stockholdings, that is to say, a perfect corporate governance mechanism is helpful to the investing motivations of domestic individuals or foreign institutions no matter measured by 15 or 5 years sample period, moreover, after considering the information disclosure ranking in 5 years sample period, the stockholding of whole individual investors is indicated positive related to the corporate governance degree. The CG-Index is positive related to trading values and turnover ratio, but not in a significant relation with returns, indicating the better corporate governance would increase trading volumes but not

trading returns. However, better corporate governance mechanism is illustrated with enlarging the volatilities of trading volume by positive related to standard deviation of trading value and turnover ratio. Firm size and leverage level are both significant factors to affect the trading volumes.

Of course, there are many literatures making efforts on the issues about corporate governance, and several results among them are conflicting to others, we make assumptions only based on some of them, and only control for a few rough firm features without considering the business cycle, therefore we apply ordinary results of corporate governance mechanism on trading activities of firms in this article. In fact, we don't completely understand how investors comprehend or perceive the corporate governance index, especially individual investors, maybe they just trade follow by sensations and their feelings, or even just attention-grabbing buying, but we figure out a frame of impacts between corporate governance degree and trading volumes of firms.

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