

# The Effect of Shanghai-Hong Kong Stock Connect on Information Quality of Listed Company

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**Abstract:** *The Shanghai-Hong Kong stock connect policy is a milestone in the internationalization of China's capital markets. Based on the proportion of foreign investors under the Shanghai-Hong Kong stock connect policy, using the revised Jones model to measure information quality of listed company, the fixed effect model is constructed in order to explore the role of the Shanghai-Hong Kong stock connect in the disclosure process of listed companies. The results show that Foreign investors under the Shanghai-Hong Kong stock connect policy cannot directly improve the information quality of listed companies. Instead, it is to make a positive supervisory role in corporate governance by balancing the largest shareholder. This result Provides basis for policy-making and corporate governance.*

**Keywords:** Shanghai-Hong Kong stock connect policy; information quality of listed company; earnings management; corporate governance

## 1. Introduction

The Shanghai-Hong Kong stock connect has been officially launched on November 17, 2014, providing policy support for the capital linkage between the two cities. After Qualified Foreign Institutional Investors and Rmb Qualified Foreign Institutional Investors, The Shanghai-Hong Kong stock connect becomes another milestone in the internationalization of our capital markets. The one-way flow of capital flows into the Chinese stock market from a purely QFII institution has become a two-way flow of investment through the Shanghai-Hong Kong stock exchange. Singal from Shanghai port, The maximum amount of foreign funds entering the market through the Shanghai stock market will reach 13 billion yuan each day. Existing research shows that those capital have a certain influence on Shanghai stock market stability and co-movement between Shanghai port and HongKong port. The existing researches are always based on macroeconomic environment ,while there are less research on the micro-impact of the stock connect policy on the governance of public companies. Foreign investors may oversee the quality of accounting information of listed companies in China and promote the reform of China's regulatory policies. So in the case of capital markets internationalization, the research on the influence of foreign capital on the information quality of listed companies is of great theory significance of foreign capital on the domestic stock market stability, also has policy, investment, analysis of the practical significance.

Combining theoretical analysis with empirical testing, the study finds that foreign investors under the Shanghai-Hong Kong stock connect have actively monitored corporate governance through check the number one shareholder. Compared to the present study, the contribution of this paper is to explore the influence of the Shanghai-Hong Kong stock exchange policy on the information quality of the listed companies in Shanghai.

## 2. Literature Review and Hypothesis Derivation

### 2.1 Shanghai-Hong Kong stock connect policy research status

Shanghai-Hong Kong stock connect policy officially began on November 17, 2014 .It is of great significance in the internationalization of China's capital market. Because of it's great significance, at present, many scholars have begun the research of the Shanghai-Hong Kong stock connect, which can be divided into theoretical and empirical studies.

The research on the stock connect theory focuses on the advantages, risks and regulatory recommendations of the stock connect. In terms of advantages, the Shanghai-Hong Kong stock exchange has a significant effect on the internationalization of the RMB and the opening of the mainland capital account and Hong Kong port's perfect market mechanism provide the pricing closer to the reference and promote mainland financial market internationalization by Shanghai-Hong Kong stock connect policy(Ge Feng,2014<sup>[1]</sup>). However, the Shanghai-Hong Kong stock exchange is prone to cross-border violations(Dai Jing,2015<sup>[2]</sup>),The rise and fall system has disrupted the normal operation of the stock market.Also ,there are many other risks in Shanghai-Hong Kong stock connect, such as arbitrage.

The empirical study is more on the stock market fluctuation. For example, Wang Xianzong (2015)<sup>[3]</sup> ,using the revised GRACH model, confirmed the link's impact on China's stock market volatility. The empirical results show that the "Shanghai tong" launched after the a-share market volatility is amplified, also confirmed the market impact of internal conduction has strong persistence, market gains is lifted. People like Pu Yang (2015)<sup>[4]</sup> ,based on a comparison analysis of the AH premium index in different industries before and after the launch of the Shanghai-Hong Kong stock connect, found that investors' preference for investment was different. In particular, Hong Kong investors love a low valuation, a higher dividend yield, and a steady stream of shares. Most retail investors in mainland China are more focused on small and growing stocks.

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## 2.2 The institutional investors on the quality of the accounting information of listed companies

Institutional investor is the concept of relative to the general investor. It is a unique investment subject which is independent from the controlling shareholder and the small shareholders. With the professional analysis team, activity participating in incorporate governance through the resolution of shareholders, boards of directors resolution, Institutional investors have a positive monitoring effect on the external statements of enterprises (Chung,2002)<sup>[5]</sup>.Using data from India, Jayati Sarkar et al. 2008)<sup>[6]</sup> finds that long-term oriented institutional investors can help reduce the earnings management, thus improving the quality of accounting information of enterprises. Michael Hadani et al. (2011)<sup>[7]</sup>, after examining the relationship between the number of shareholder proposals received by the company, institutional investors and earnings management, found that the number of shareholder proposals received by the company was positively related to its subsequent earnings management. But the largest institutional investors they monitored are negatively related to earnings management. Nadia Lakhali (2015)<sup>[8]</sup> uses information from French listed companies to point out that institutional investor holdings can effectively curb earnings management, thereby improving the quality of corporate accounting information. With the increase in the proportion of holdings, institutional investors are more willing to participate in corporate governance. The direct result of active supervision is to improve the quality of listed companies accounting information.

However, some scholars have questioned the positive supervision of institutional investors, and they believe that not all institutional investors can improve the quality of accounting information of listed companies. Grace C.-M. (2005) and Ling Lin (2012)<sup>[9]</sup> have found that short-term institutional investor holdings are significantly positively correlated with earnings management due to the short-sighted investment phenomenon, which can not improve the quality of corporate accounting information.

In conclusion, there is no consensus on the impact of institutional investors on the quality of information disclosure. The main investors of Shanghai\_HongKong stock connect are institutional investors. These foreign institutional investors have a wealth of investment experience and advanced investment vehicles (Black and Coffee,1994<sup>[10]</sup>; Grinblatt and Keloharju,2000<sup>[11]</sup>; Aggrwal et al.,2011<sup>[12]</sup>), these advantages are conducive to promoting the active supervision of management and improving corporate governance by foreign investors. Therefore, this paper makes the following assumptions:

H1:The foreign investors under the policy of Shanghai\_Hong Kong stock connect can effectively monitor the information quality of listed companies and play a positive role in corporate governance.

As a listed company's shareholders, Shanghai\_Hong Kong stock connect investors will have an impact on the quality of

listed corporate information disclosure. This is also one of the purposes of the implementation of Shanghai\_Hong Kong stock connect. So, with the accumulation of time, the original intention of Shanghai\_Hong Kong stock connect policy achieve or not, the existing research can not answer. The purpose of this paper is to answer this question, which is of theoretical and practical significance for the subsequent development of Shanghai\_HongKong stock connect policy.

In order to further study the influence of Shanghai and Hong Kong on the information quality of listed companies, this paper presents the following assumptions 1.1 and 1.2 based on the above research status.

According to Hypothesis 1, the holdings of foreign investors under the policy of Shanghai\_HongKong stock connect can improve the information quality of listed companies, thus weakening the asymmetry of information in the stock market. When foreign investors have a higher stake, they are more likely to "vote by hand" than "vote with their feet", because they have greater motivation and willingness to oversee the accounting information of listed companies. Therefore, this paper assumes the following assumptions according to Hypothesis 1.

H1.1 The higher shareholding, the more willingness to monitor the accounting information for foreign investors in Shanghai\_HongKong stock connect policy.

The emptiness of big shareholders is the main reason that affects the quality of accounting information. Jobson et al. (2000) first proposed emptying behavior and classified them into three categories: operational emptying (including related party transactions and payment of executives high dividends and rewards), financial emptying. Research shows that the ability and motivation of large shareholders to empty the listed companies is significantly related to their shareholding ratio (Morck,1988).Based on the above considerations, this paper presents the following assumptions.

H1.2 The higher shareholder checks and balances of the foreign investors in Shanghai\_HongKong stock connect, the more obvious the investors' active supervision of information disclosure.

## 3.Variables and Model Selection

This article selected the Shanghai\_HongKong stock connect policy under the subject of the company for the study sample. Excluding the financial industry, the exact data, the remaining 298 companies, 298 companies are selected. All of the data is derived from Wind database.

### 3.1 Explained variable

This paper mainly explores the influence of foreign investors on the information quality of listed companies under the policy of Shanghai\_HongKong stock connect policy, so the explanatory variables should represent the quality of information disclosure of listed companies. In the current

study, mainly use earnings management (Incheol Kim et al., 2016), accounting level of conservatism (Dong Jianping, 2016) to measure the quality of Information Disclosure of Listed Companies. Taking into account the availability of data and the comprehensiveness of the measurement of indicators, this paper chooses the earnings management and real activity earnings management under the manipulative accrual profit model to measure the quality of information disclosure of listed companies.

**(1) Earnings Management (EM)**

Currently, the more common model of calculating earnings management is the Jones model. The model argues that non-manipulation should be influenced by two factors: changes in operating income and fixed asset levels. Later, Dechow, Sloan and Sweeney (1995) and others on the basis of the perfect, they believe that managers can use sales to manipulate accruals, it should be excluded from the impact of accounts receivable, which is modified Jones model. This paper selects the modified Jones model to calculate earnings management.

The modified Jones model is shown below:

$$NDA_t / A_{t-1} = \partial_1 (1 / A_{t-1}) + \partial_2 [\Delta REV_t - \Delta REC_t / A_{t-1}] + \partial_3 \frac{HBCF_{i,t} - PPE_{i,t} / A_{i,t-1}}{A_{i,t-1}} + \alpha_{0,i} + \alpha_{1,i} \left(\frac{1}{A_{i,t-1}}\right) + \alpha_{2,i} \left(\frac{REV_{i,t}}{A_{i,t-1}}\right) + \alpha_{3,i} \left(\frac{\Delta REV_{i,t}}{A_{i,t-1}}\right) + \varepsilon_{i,t} \quad (1)$$

In the formula,  $NDA_t$  indicates the non-manipulative accrual profit of the t-th period after the end of period t-1, and the earnings management EM in this paper.

$A_{t-1}$  represents the total assets of t-1.  $\Delta REV_t$  represents the difference between income from period t and income of period t-1.  $PPE_t$  represents the total value of fixed assets in period t.  $\Delta REC_t$  represents the difference between

accounts receivable at period t and t-1.  $\alpha_1, \partial_2, \partial_3$  is the company characteristic parameter. According to the above model, the company's earnings management can be calculated.

**(2) Real Activity Earnings Management**

In order to fully reflect the situation of enterprise earnings management, learn from the practice of Roy Chowdhury (2006), using three models to reflect the real earnings management activities of enterprises. The Roy Chowdhury (2006) argues that the company's cash flow and production costs can be reasonably expected through current sales and sales variances, and that the normal value of the discretionary costs can be expected through discretionary fees and previous sales revenue. According to the above ideas, we make the following regression model to calculate the residual, the residual is the corresponding real activity surplus management.

**a. Handing business cash flow (HBCF)**

$$\frac{HBCF_{i,t}}{A_{i,t-1}} = \alpha_{0,i} + \alpha_{1,i} \left(\frac{1}{A_{i,t-1}}\right) + \alpha_{2,i} \left(\frac{REV_{i,t}}{A_{i,t-1}}\right) + \alpha_{3,i} \left(\frac{\Delta REV_{i,t}}{A_{i,t-1}}\right) + \varepsilon_{i,t} \quad (2)$$

$HBCF_{i,t}$  represent operating cash flow of company i.

$A_{i,t-1}$  represents the total assets of Company i in the period t-1.  $REV_{i,t}$  represents income for company i in period t.  $\Delta REV_{i,t}$  indicates the difference between the income of period t and the income of period t-1 for company i.

**b. Handing the production cost (HPC)**

$$\frac{HPC_{i,t}}{A_{i,t-1}} = \alpha_{0,i} + \alpha_{1,i} \left(\frac{1}{A_{i,t-1}}\right) + \alpha_{2,i} \left(\frac{REV_{i,t}}{A_{i,t-1}}\right) + \alpha_{3,i} \left(\frac{\Delta REV_{i,t}}{A_{i,t-1}}\right) + \alpha_{4,i} \left(\frac{\Delta REV_{i,t-1}}{A_{i,t-1}}\right) + \varepsilon_{i,t} \quad (3)$$

Where HPC represents the cost of production, which is equal to the current sales cost and the current inventory changes and the sum.

**C. Handing fee (HF)**

$$\frac{HF_{i,t}}{A_{i,t-1}} = \alpha_{0,i} + \alpha_{1,i} \left(\frac{1}{A_{i,t-1}}\right) + \alpha_{2,i} \left(\frac{REV_{i,t-1}}{A_{i,t-1}}\right) + \varepsilon_{i,t} \quad (4)$$

HF represents a discretionary fee equal to the sum of the cost of sales and management.

**d. The real total earnings management (REM)**

$$REM_{i,t} = HPC_{i,t} - HBCF_{i,t} - HF_{i,t} \quad (5)$$

Taking into account the actual situation, combined with McNichols' (2000) opinion, In this paper, the sample data are analyzed quarter by quarter.

The selection of indicators in this paper is shown in the table below.

**Table 1:** Variable selection and description

classification	index	For short	description
Explained variable	Earnings Management	EM	Reflect the quality of information disclosure of listed companies
	Real Activity Earnings Management	HBCF	Reflecting the degree of control of cash flow by listed companies
		HPC	Reflecting the control of the production costs of listed companies
		HF	Reflecting the control of the cost of listed companies
	REM	Reflecting the total amount of earnings management of listed companies	
Explanatory variables	The shareholding ratio of Shanghai_HongKong stock connect investors	SH	The shareholding ratio of Shanghai_HongKong stock connect investors
	The balance of the largest shareholder of the ability	SHRP	Shanghai_HongKong stock connect investors on the listed company's largest shareholder checks and balances.
Control variable	Capitalization ratio	CR	Equal to the total value of the stock market divided by GDP, reflecting the degree of development of the market economy
	The size of company	SIZE	The total assets of the logarithm, reflecting the financial strength of listed companies
	Return on assets	ROA	Reflecting the business and profitability
	Assets and liabilities	LEV	Reflect the corporate debt structure

### 3.2 Model selection

The following regression model is chosen to validate the hypothesis.

$$EM_{i,t} = \alpha_0 + \alpha_1 SH_{i,t} + \alpha_2 SHRP_{i,t} + \alpha_3 CR_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 ROA_{i,t} + \alpha_6 LEV_{i,t} \quad (6)$$

## 4. Empirical Analysis

### 4.1 Descriptive Statistics

Based on the above samples and data, the descriptive statistics of variables are shown in table 2.

**Table 2:** The descriptive statistics of variables

	N	minimum	maximum	Mean value	standard deviation
SH	2384	0	0.1611	0.003238955	1.1966471
SHRP	2384	0	0.7804323	0.1162575	0.0501635
EM	2384	0.0000975	3.2649700	0.1978718	0.2564991
HBCF	2384	0.0000985	1.3179660	0.6768921	0.8413650
HPC	2384	0	0.5790550	0.4976536	0.0622371
HF	2384	0.0000575	0.4034413	0.0303537	0.0440220
REM	2384	0.0000474	1.5548090	0.0861481	0.1116932
CR	2384	0	0.0706370	0.0004242	0.0020750
SIZE	2384	12.296380	28.514170	23.0851369	2.3980802
ROA	2384	-9.5647000	37.392300	4.23465789	4.1774919
LEV	2384	3.2385000	89.669100	49.4937612	18.8262449

As is shown in table2,the maximum proportion of the shareholding ratio of Shanghai\_HongKong stock connect investors is 16.11%, the average is only about 0.3%.Indicating that the shareholding of the Shanghai\_HongKong stock connect investors the shareholding is still relatively low. This phenomenon may affect the extent of the description of the model, the smaller shareholding ratio may be listed on the quality of information disclosure of the positive role of monitoring is not so obvious. The maximum amount of checks and balances of large shareholders is 0.78, means the degree of checks and balances is large. From the perspective of earnings management, almost all companies have earnings management, in addition to HPC (manipulative production costs), and this phenomenon may be related to the company's industry.

### 4.2 Correlation analysis

The correlation analysis results are shown in Table 3.

**Table 3:** Correlation analysis

	SH	SHRP	EM	HBCF	HPC	HF	HEM	CR	SIZE	ROA	LEV
SH											
SHRP	0.789**										
EM	-0.16	-0.002									
HBCF	-0.27	-0.15	0.265**								
HPC	0.141**	0.205**	0.260**	0.364**							
HF	0.118**	0.225**	0.255**	0.225**	0.742**						
REM	0.094**	0.148**	0.123**	0.528**	0.569**	0.723**					
CR	0.051**	0.33	0.015	-0.035	0.012	-0.021	-0.012				
SIZE	0.065**	0.045*	-0.023	-0.0136**	-0.167**	-0.109**	-0.091**	0.192**			

ROA	0.215**	0.175**	0.213**	0.176**	0.378**	0.338**	0.298**	0.043**	0.013		
LEV	-0.137**	-0.085**	0.04	0.047*	-0.156**	-0.217**	-0.154**	0.007	0.256**	-0.346**	

Note: \* \* \* indicates that at 1 % confidence level, \* \* indicates a significant level of 3 % confidence level and \* indicates significant at 5 % confidence level. The following table is the same.

As is shown in table 3, the shareholding of Shanghai\_HongKong stock connect investors and accrual items earnings management, manipulative operating cash flow are negatively correlated, to some extent supported the H1.1. However, it is significant correlation with manipulative production costs, handling costs, and real activity earnings management. This phenomenon means the fact that, the higher the proportion of Shanghai\_HongKong stock connect investors' shareholding, the higher the degree of control of production costs and expenses, and the greater degree of information asymmetry. The influence of foreign institutional investors on the balance of the largest shareholder is similar to the above. The following is a more

in-depth verification of their relationship by selecting the appropriate regression model.

### 4.3 Regression analysis

By analyzing the short panel data involved in the article with the stata software, the sample data is balanced panel data and passed the stability check. It is proved that the fixed effect model is superior to the random effect model and the ordinary least squares regression analysis model, and the model does not include the time effect. The specific regression results are shown in Table 4 below.

**Table 4: Regression analysis results**

	(1)	(2)	(3)	(4)	(5)
	EM	HBCF	HPC	HF	REM
SH	0.0157203	0.0000975	0.0007306	0.0002372	0.0042126
SHRP	-0.5848044	0.0298416	-0.0401714	-0.0366601	-0.2359184
CR	1.450799	-0.2428629	0.174789	0.610451	0.072674
SIZE	-0.1096245	-0.0135643***	-0.0078625	-0.0085125	-0.0077821
ROA	0.0249332	0.0068627	0.0065859***	0.0044277***	0.910594***
LEV	0.0025054	0.0000816	0.0007977***	0.00045***	0.0010435***
-cons	2.497106	0.3474489	0.1641261	0.1861704*	0.1686665
R square	0.1716	0.1268	0.2048	0.2910	0.2205
F(6, 2080)	71.49	50.33	89.27	142.3	98.05
Prob>F	0.0000	0.0000	0.0000	0.0000	0.0000

Table 4 regression model was statistically significant. There are positive correlations between the shareholding of Shanghai\_HongKong stock connect investors and accrual projects, the operating cash flow, the controlled production cost, the manipulative discretion fee and the real event earnings management (The coefficients are 0.0157203, 0.0000975, 0.0007306, 0.0002372 and 0.0042126). That means the Shanghai\_HongKong stock connect investors do not play a role in monitoring the quality of information on listed companies, assumption H1.1 is overturned. Under the Shanghai\_HongKong stock connect policy, Offshore Institutional Investor 's Shareholding Ability to Large Shareholders (SHRP) has a certain inhibitory effect on earnings management, manipulative production costs, manipulative discretionary fees and real activity earnings management (the coefficients are -0.5848044, -0.0401714, -0.0366601, -0.2359184). Hypothesis H1.2 has been supported.

### 5. Conclusion

Based on the information disclosure of listed companies, this paper study the effect of Shanghai\_HongKong stock connect policy on the corporate governance. The results shows that, Shanghai\_HongKong stock connect investors can not be

affected the quality of information disclosure by shareholding behavior, but have a certain checks and balances on the company's largest shareholder. That is to say, they can balance the shareholders of listed companies to play a positive role in monitoring. Because of it's daily trading volume' maximum of 13 billion yuan daily trading volume and short opening time, the positive supervision effect of Shanghai\_HongKong stock connect investors on the governance of listed companies is not obvious. Shanghai\_HongKong stock connect investors are more in the capital market to play "speculators" rather than "investors" role.

The following test is proposed for the above conclusions. First, for the regulatory authorities, domestic and foreign institutional investors in the capital market information environment only a certain role in the supervision. Regulatory authorities should strengthen the corresponding policy oversight in order to male the information disclosure of listed companies more perfect and the capital market more orderly. Second, we should strengthen the implementation of the Shanghai-Hong Kong stock connect. Third, investors should invest rationally and not blindly follow institutional investors.

The innovation point of this paper is to study the effect of the stock connect policy on the information quality of the listed company, and make up the gap in that direction. The deficiency of this paper is that there are fewer samples (only 2384), and the data volume is too small, which may affect the research results.

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