

Institutional Ownership and Corporate Financialization: An Analysis Based on Fixed Effects Model

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Abstract. Financialization is the microcosmic manifestation of economy “moving from real to virtual”. Excessive financialization may lead to economic crisis. This paper takes China’s non-financial listed companies from 2008 to 2018 as research samples to empirically test whether institutional ownership accelerate or restrain the financialization of non-financial companies. This study employs fixed effects model and Stata as analytical tool to analyse the interaction between variables. The results show that institutional investors significantly inhibit the financialization of non-financial companies. Further research found that the inhibition effect was more pronounced in firms with better corporate governance, such as those audited by the Big Four accounting firms.

Keywords: financialization; institutional ownership; corporate governance.

1. Introduction

Under the global financial innovation and development trend, institutional investors have become one of the important choices for companies and the public to invest [1]. Institutional investors are specialized financial organizations that help manage long-term savings such as pension funds and trusts funds [2]. Considering the impact of institutional investors on the capital market, there are two opposite perspectives.

On the one hand, institutional investors are always considered to be professional in investment management and have particular departments in investment decision-making, information collection and analysis, and research on listed companies [2]. They are considered as arbitragers in the stock market and make reasonable expectations of the stock, as well as use financial announcements and other information disclosed by the company to correct the wrong valuation caused by the retail investors or noisy traders in the market [3]. Consequently, the investment behavior of institutional investors is more rational and the investment scale is relatively large. It might lead to a longer investment cycle and more structured investment portfolio. This is conducive to the healthy and stable development of the stock market [4].

On the other hand, although it is generally believed that institutional investors are rational investors, more and more empirical studies show that in the emerging capital market, institutional investors represent the characteristics of retail investors, such as chasing after the rise and killing the fall, speculative trading, quick buying and quick selling and other irrational behaviors [5]. Investors with aggressive betting performance show a strong risk bias, they are willing to buy stocks that are highly valued, and push them to the top of the bubble, then get rid of the bubble before it bursts. In addition, according to Jang and Kang [5], this behavior is not necessarily due to irrational investment preferences, it is a rational portfolio. This suggests these institutions are often able to accurately predict the time of bubbles peaking and bursting. Although these behaviors can bring huge short-term benefits to investment institutions, for the market, investment institutions not only fail to play a role in regulating the balance of the stock market, but also cause market fluctuations.

Different from the previous studies, this paper explores the impact of institutional investors from the view of corporate financial investments. Corporate financial investments, also named financialization, refer to a micro phenomenon that enterprises shift from real economy to financial industry. It is a phenomenon that enterprises allocate more of their assets to financial assets and reduce productive investment [6]. With the continuous improvement of the financialization level of Chinese

enterprises in recent years, the proportion of financial assets rose from 2.9% in 2007 to 5.2% in 2016 [7]. Government and scholars are beginning to worry about the hollowing out of the industry. Substantial economy has always been the foundation of China's development. The excessive development of money-generating financial activities might cause the excessive expansion of the virtual economy, which could finally cause the instability of the economic system and even cause an economic crisis. Besides, the allocation of a small number of resources to production activities will lead to the contraction of the real economy, and it will also make residents' wealth virtually, which will probably lead to the increasing gap between the rich and the poor [8].

Most of the previous studies have focused on the internal operating conditions of enterprises, such as operating risk, capital flow, liabilities and asset ratio. They analysed the motivation and influencing factors of enterprise financialization [8]. Due to the lack of consideration of external influences, this paper chooses the financialization of listed companies as the research object to explore the actual impact of institutional investors' behavior on the market.

Using the data of China's stock market, this study explores how institutional investors ownership influence financial investment. The reasons for choosing the Chinese stock market are as follows: first of all, China has become the second largest capital market and the largest emerging capital market in the world. The analysis of the role of institutional investors in emerging capital markets has become a key topic in recent years. The research using Chinese market can provide an effective reference for the above issues. Secondly, some literatures have pointed out that financialization has become more and more serious in China's capital market, and the overall macro-economy has also shown a trend of "moving from real to virtual". The analysis of China's market helps us to understand how to restrain excessive financialization of non-financial enterprises effectively. Thirdly, listed companies' internal and external governance mechanisms in China's capital market need to be improved. Against this background, discovering the role of institutional investors in financialization is conducive to an in-depth understanding of the necessary conditions for institutional investors to have a positive effect.

The empirical results show that institutional ownership can significantly inhibit the financialization behavior of listed companies. The above result is still valid after a series of robustness tests. Moreover, this paper also finds that the inhibiting effect of institutional ownership on corporate financialization is more significant in the samples with stable corporate formal governance mechanisms.

This study contributes to the extant literature in three ways. Firstly, this paper expands the relevant research on the market economic consequences of institutional investors. The findings indicate that even though in emerging markets, institutional investors are playing more and more positive effects. Secondly, this paper analyzes the influential factors of financialization from the perspective of institutional investors. This study provides new ideas of great significance for preventing and resolving systemic financial risks. Finally, the improvement of corporate, formal governance mechanism and system can help institutional investors play their role in maintaining market stability. For instance, the institutional investor effect is more pronounced for companies audited by Big 4 auditing firms.

The remainder of this study contains the introduction of data sources and methodology; empirical analysis and regression results after robustness check and conclusion of the whole paper.

2. Data and methodology

2.1 Data source and sample selection

In this paper, listed companies in the Shanghai Stock Exchange and the Shenzhen Stock Exchange are selected as the research samples. The sample period covers from 2008 to 2018. All data are from CSMAR and Wind databases. Samples of finance, insurance and real estate companies, as well as data missing and abnormal samples, are excluded.

2.2 Main variables

Corporate financialization measures – *Fin*. In fact, there are three measurements of enterprise financialization: the measurement based on asset accounts, the measurement based on profit sources and the identification based on the correlation between assets and liabilities [9]. In consideration of operability, this paper chooses the measurement method based on subjects, but the weakness is that some non-financial productive investments may be added into the selected reporting subjects. Enterprise financialization based on asset accounts can be expressed as the proportion of corporate financial investment to total assets.

Institutional ownership – *Inst*. A measure of the percentage of stocks bought and held by institutional investors in the total number of shares. The higher the proportion, the higher the control of the company in which the stock is issued.

Control variables. Following Deng [8] and Peng [9], some control variables are also added in the regression model, including book market value ratio (*BM*, the ratio between the book value of a company and the market value of its stock. Stocks with a low book-to-market ratio are generally called growth stocks, while stocks with a high book-to-market ratio are generally called value stocks), return of assets (*ROA*, the ratio of net income to total assets), whether the CEO and the chairman are the same person (*Duality*, a dummy variable equals to one if the CEO and the chairman in the firm are occupied by the same person, and zero otherwise), management shareholding (*Mgshare*), firm size (*Size*, which is measured as natural logarithm of the market value of listed companies).

2.3 Regression model

In order to verify the influence of institutional investors on financialization, this paper adopts the year and industry two-fixed effects model as follow:

$$Fin_{i,t} = \beta_1 Inst_{i,t} + \beta_n X_{i,t} + \varepsilon_{i,t} \quad (1)$$

The subscript *i* and *t* respectively represent the enterprise and the year, the explained variable *Fin* is the financialization of the enterprise, the core explanatory variable *Inst* is the proportion of institutional investors, and *X* is a set of control variables. This paper also winsorize all continuous variables at both of the 1% tails to exclude the impact of outliers.

3. Empirical results

3.1 Summary statistics

Descriptive statistical results of the main variables in this paper are shown in Table I. It can be seen that the average value of the financialization index of non-financial companies is 0.06. This suggests that non-financial companies invest 6% of their assets in financial investment on average. And the standard deviation is 0.1, suggesting that there are large differences in the financialization of non-financial companies.

Table 1. Descriptive Statistics

Variable	N	mean	sd	min	p50	max
Fin_ratio	25467	0.06	0.1	0	0.02	0.5
Fin_ratio_pre	22287	0.06	0.1	0	0.02	0.5
Inst	25284	0.36	0.24	0	0.35	0.88
Size	25481	15.05	1.1	12.72	15.01	18.06
BM	24837	0.6	0.23	0.11	0.6	1.1
ROA	25555	0.05	0.06	-0.2	0.04	0.24
Growth	23850	0.21	0.44	-0.33	0.1	3.15
Duality	25195	0.26	0.44	0	0	1s
Mgshare	24598	0.06	0.13	0	0	0.79

Interestingly the maximum financialization value of a non-financial company reaches 0.5, indicating that 50% of the company's resource allocation is reserved for financial assets. It is obviously a very dangerous resource allocation ratio. The mean value of institutional investors' shareholding ratio is 0.36, showing that the average shareholding ratio is 36%. The standard deviation of 0.24 indicates that the shareholding ratio of institutional investors among companies is significantly different.

3.2 Correlation analysis

The untabulated results of cross-correlation between the financialization of the company and the influencing factors preliminarily indicate the positive and negative effects of each influencing factor on corporate financialization. The coefficient of financialization and institutional investors' shareholding ratio is significantly negative, indicating that a larger the institutional investors' shareholding ratio is more likely to restrain the financialization development of the company. Meanwhile, it is easy to find that besides institutional investors' shareholding, book-to-market ratio and growth rate of main business are all negatively correlated with financialization, representing that these three independent variables may inhibit corporate financialization to a certain extent.

3.3 Baseline results

Table II reports the empirical results of the relationship between institutional ownership and financialization. Obviously, the shareholding ratio of institutional investors, book-to-market ratio and the growth rate of main business revenue have significant negative effects on financialization. And the increase of asset profit will promote the process of enterprise financialization, which is consistent with the research results of other literatures on the internal factors of enterprise financialization mentioned in the introduction. The conclusion preliminarily shows that institutional investors can restrain the financialization of enterprises to some extent.

Table 2. Baseline Results

Dependent variable =	Fin_ratio (1)	Fin_ratio (2)
Inst	-0.014*** (-5.62)	-0.016*** (-4.91)
Size		-0.000 (-0.43)
BM		-0.027*** (-8.81)
ROA		0.114*** (10.01)
Growth		-0.008*** (-5.36)
Duality		0.003* (1.82)
Mgshare		-0.007 (-1.15)
Constant	0.036*** (6.47)	0.055*** (4.28)
Observations	25,196	21,752
R-squared	0.129	0.131
Industry FE	Yes	Yes
Year FE	Yes	Yes

3.4 Robustness check

In order to ensure the robustness of the results, the following robustness tests are carried out in this section.

Firm fixed effects: Some unknown factors that may affect the experimental results of the company are controlled and the results are shown in Table III. Although the correlation coefficient of institutional investors has become smaller, the result of inhibiting financialization has not changed and the result is still significant.

Table 3. Robustness Check: firm fixed effects

Dependent variable =	Fin_ratio (1)	Fin_ratio (2)
Inst	-0.005* (-1.69)	-0.014*** (-3.85)
Size		0.000 (0.32)
BM		-0.027*** (-6.42)
ROA		-0.025** (-2.55)
Growth		0.002 (1.42)
Duality		0.001 (0.67)
Mgshare		-0.043*** (-5.92)
Constant	0.038*** (19.87)	0.052*** (2.67)
Observations	25,196	21,752
R-squared	0.156	0.160
Firm FE	Yes	Yes
Year FE	Yes	Yes

Excluding the impact of other control variables: The proportion of cash holdings and the independence of the board of directors will all have an impact on financialization [10]. Therefore, in the robustness test, the results in Columns (1) to (3) in Table IV, respectively showing the results of controlling the above three factors. In addition, in Column (4), the above three variables are also simultaneously controlled, and the estimated results indicate that the conclusions still remained.

Table 4. Robustness Check: controlling for other variables

Dependent variable =	Fin_ratio (1)	Fin_ratio (2)	Fin_ratio (3)	Fin_ratio (4)
Inst	-0.011*** (-3.26)	-0.016*** (-4.91)	-0.016*** (-4.70)	-0.010*** (-3.06)
Size	-0.000 (-0.42)	-0.000 (-0.38)	-0.001 (-0.69)	-0.001 (-0.82)
BM	-0.015*** (-4.92)	-0.027*** (-8.74)	-0.027*** (-8.76)	-0.015*** (-5.01)
ROA	0.084*** (7.52)	0.113*** (9.90)	0.115*** (10.07)	0.087*** (7.71)
Growth	-0.013*** (-8.87)	-0.008*** (-5.36)	-0.008*** (-5.53)	-0.013*** (-9.09)

Duality	0.002 (1.15)	0.003* (1.80)	0.002 (1.58)	0.001 (1.01)
Mgshare	-0.018*** (-3.10)	-0.007 (-1.20)	-0.007 (-1.18)	-0.017*** (-2.93)
Fixed	-0.121*** (-28.86)			-0.122*** (-28.82)
Cash		0.000 (0.69)		-0.000** (-2.20)
Board indep			0.032*** (2.78)	0.025** (2.27)
Constant	0.089*** (7.04)	0.054*** (4.20)	0.046*** (3.45)	0.085*** (6.42)
Observations	21,752	21,752	21,672	21,672
R-squared	0.163	0.131	0.132	0.164
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Additional analysis- the role of external auditor quality: Big Four auditors refer to the biggest four international auditors, including Deloitte (Deloitte Touche Tohmatsu), PwC (PricewaterhouseCoopers), EY (Ernst & Young), and KPMG. Extant studies indicate that the Big 4 auditors provide higher-quality auditing services than non-Big 4 auditors [11], reduce the cost of capital [12], and limit earnings management [13]. Concerning the impact of formal corporate governance mechanisms on the effect of institutional investors, there are two views. From one perspective, when the formal system is relatively complete, it can provide effective support for institutional investors to play their role. From other perspective, when the formal system is not stable, it is more helpful to highlight the role of institutional investors. Therefore, it is of great significance to explore the impact of formal corporate governance on the relationship between institutional investors ownership and financialization.

This paper divides the full example into Big Four and Non-Big Four samples according to whether the above Big Four auditors audit a given firm-year observation. As shown in Table V, the inhibiting effect was even more pronounced in firms audited by the Big 4 accounting firms, suggesting that formal institutions can help institutional investors play their supervisory roles.

Table 5. Additional Analysis: the impact of Big Four

Dependent variable =	Fin_ratio	Fin_ratio
	(1) Big 4	(2) Non-Big 4
Inst	-0.042*** (-3.91)	-0.014*** (-4.11)
Size	0.010*** (4.47)	-0.001 (-1.55)
BM	-0.016 (-1.44)	-0.029*** (-8.83)
ROA	0.032 (0.73)	0.118*** (10.09)
Growth	0.002 (0.41)	-0.008*** (-5.35)
Duality	0.026*** (4.19)	0.002 (1.19)
Mgshare	0.015 (0.62)	-0.008 (-1.30)
Constant	-0.167***	0.069***

	(-2.92)	(4.98)
Observations	1,141	20,611
R-squared	0.176	0.134
Firm FE	Yes	Yes
Year FE	Yes	Yes

4. Conclusion

Financialization is a trend in economic development, but allowing capital to pursue profit might lead to a new crisis. Studies have shown that institutional investors' investment behavior is similar to that of individual investors to some extent, which will increase the instability of the financial market. This paper finds that even though institutional ownership shows a series of retail characteristics, they still have a significant inhibiting effect on the financialization of companies, and the inhibiting effect is more obvious in more stable companies.

Therefore, this study suggests that in order to restrain corporate financialization, the proportion of institutional investment can be increased and the conservatism of corporate governance can be increased through the audit of the Big Four accounting firms to enhance the inhibiting effect of institutional investment.

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