A Study on the Effect of Quality of Accounting Information on Entity Over-Financialization

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Abstract: Accounting information provides the clues for investment decisions. Improvement of quality of accounting information could help reduce the enterprise's information asymmetry. Accounting information plays an important role in enterprise's resource allocation. According to the data from China A-share listed company among 2008- 2019, our studies use the empirical method to analyze the effect of quality of accounting information on entity over-financialization. The results show that the worse the quality of accounting information is, the higher the level of entity over-financialization is. Improvement of quality of accounting information could effectively inhibit entity over-financialization. In addition, high quality of accounting information could inhibit the entity over-financialization by alleviating financing constraints and agency conflict between shareholders and managers. Our studies explore a new path of optimizing resource allocations for enterprises, and expand the research field of relationship between quality of accounting information and economic development.

Keywords: Quality of Accounting Information; Entity Financialization; Financing Constraint; Principal-Agent Problem

1. Introduction

Learned from the classical finance studies, development of finance industry positively drives growth of national economy (Rajan & Zingales, 1998). However, the global financial crisis caused by the US subprime mortgage crisis in 2008 exposes the detriments of over-financialization. Along the development trend of over-financialization, the resource which belongs to the real economy is continuing to flow into the financial investment, which lead to fragility of the economic and financial system, the rate of economic growth is declining sharply (Zheng et al., 2017). The more financial assets are, the better it is not for enterprise according to the studies after the financial crisis in 2008(Cecchetti & Kharroubi, 2012). The scale effect of development of finance does not only increase economic growth, but also could blow up the fluctuant risks of economic growth (Beck et al., 2014). There is a threshold value of the development of finance. Finance will have a negative effect on economic growth once the threshold value is exceeded (Arcand et al., 2015). The enterprise is the basic unit of the economy, The form of over-financialization of the macro-economy is revealed as entity over-financialization. Entity financialization is a "double-edged sword". Configuration of financial and profitable assets could increase the enterprise's short-term profitability, promote the enterprise's profit growth in short term. But the excess configuration of financial assets will squeeze out productive and R&D investment, which will change the enterprise from "real assets" to "virtual assets". Then, the fluctuation of enterprise's profit will be magnified, and the sustainability of profitability will be declined, all of which will damage the enterprise's core competitiveness and long-term development. Aiming to enterprise's long-term and stable development, inhibition of entity over-financialization is important both for theoretical studies and practice.

Entity financialization is that physical enterprises configure resource in financial assets, then, the ratio of financial assets keeps increasing, as well as the ratio of profit of financial assets or real estate, i.e., profits from financial assets or real estate is divided by total profit. Development of enterprises gradually deviates from the main business, i.e., productive investment (Song & Lu, 2015). Furtherly, Entity over-financialization is that the enterprises excessively invest resources in financial assets.

The level of financial assets exceeds the optimal level of enterprise's development and utilization. Entity over-financialization will jeopardize productive and R&D investment that could maximize shareholders' profits in long term (Wang et al., 2021). Asymmetrical information is the most important factor that affects the optimization of enterprise's investment decision-making of enterprise configurate resources (Stein, 2003). Financial investment is an important part of enterprise's investment. Asymmetrical information problem is hidden in the entity over-financialization. Therefore, improvement of the asymmetrical information problem is first step to inhibit entity over-financialization.

Accounting information disclosure is an important way to exhibit enterprise's financial conditions for shareholders, such as balance sheet, profit sheet, and cash flow statement and so on (Bhattacharya et al., 2013), all of which above are the main source of public information in the capital market. Accounting information disclosure is also a good way to improve the information asymmetry problem between managers and shareholders. Accounting information, which is take as the private internal information, is reliably disclosed to external investors and switched to be the external information. Then, stakeholders and external investors will prevent the managers' adverse selection and moral hazard because of disclosed information. Enterprise's valuation from the investors will be misled by the accounting information of low quality, while the manager's selfish management by using private information will be constrained by accounting information of high quality (Aboody et al., 2005). Accounting information of high quality could improve efficiency of investment by alleviating asymmetrical information (Biddle & Hilary, 2006). Therefore, the quality of accounting information plays an important role in decisions of enterprise's investment. Accounting information of high quality is not only the basic requirement of corporate governance, but also the guarantee of high efficiency of social resource allocation. Thus, there are two meaningful theoretical issues which are worth to study.

RQ 1: Could the improvement of quality of accounting information inhibit entity over-financialization?

RQ 2: What is the mechanism of the effect of quality of accounting information on entity over-financialization?

According to the analysis above, we use the empirical method to analyze the relationship between quality of accounting information and entity over-financialization, the effect path and the mechanisms are furtherly explored. There are four innovations and contributions in our studies. Firstly, the effect of the governance of entity over-financialization is studied from the perspective of accounting information. Most of the scholars take financialization as homogeneous to study the motivation and economic effects of entity financialization. We distinguish the different levels of entity financialization, and study the governance mechanism of entity over-financialization from the perspective of accounting information. Secondly, we enrich the studies on the economic consequences of quality improvement of accounting information from the perspective of the entity over-financialization. Though the current researchers have studied the effect of quality of accounting information on efficiency of enterprise's investment, effect of quality of accounting information on enterprise's over-investment in financial assets has not been involved. Our studies explore how accounting information affect the over-investment in financial assets, and expand the studies on the economic consequences of quality of accounting information. Thirdly, we do not only study the governance effect of quality of accounting information on entity over-financialization, but we also disclose path and mechanism between quality of accounting information and entity over-financialization. According to the information asymmetry theory, we analyze governance effect of quality of accounting information on entity over-financialization by alleviating the financing constraints and the agency conflict. Fourthly, according to the characteristics of property rights and the characteristics of the external environment of the different levels of marketization, our studies enrich the heterogeneity of relationship between entity over-financialization and quality of accounting information.

2. Logical Analysis and Hypothesizes

Myers and Majluf (1984) is the first researchers to introduce the information asymmetrical problem into the studies on capital market. Because information in the capital market is

asymmetrical between the company and the external investor. The company has the advantage of internal information; he will seek private benefits from this advantage. The external investor, who has the disadvantage of internal information, she will increase the financing cost to make up for the risk premium which is derived from the company's adverse selection. There are significant the differences between costs of the interior finance and costs of the external finance, the internal financing cost is generally lower than the external financing cost, it will result in the enterprise's financing constraints (Fazzari et al., 1988; Zhang et al., 2017). Because of financing constraints, the external financing cost is higher, enough financial assets should be reserved and keep financial flexibility in order to adapt the financing risk from the uncertainty of external environment. Financial assets have strong liquidity; it is easy to be switched to be cash and alleviate corporate financing constraints when the enterprise needs financing. Duchin et al. (2017) find that companies often keep some financial assets in order to avoid risk because of shocks of enterprise's cash flows in the future. Preventive saving could lead to the enterprise excessively investment in financial assets. The improvement of quality of accounting information could alleviate information asymmetry, which help external investors to capture more enterprise's real internal information, reduce the uncertainty of external investor's investment and investor's risk premium, help enterprise's financing with low cost from external investors (Jiang et al., 2017). Some researchers also find that high-quality accounting information could help company be more convenient to attain external debt financing and opportunities of equity financing, reduce enterprise's financing costs (Goh et al., 2017; Göx & Wagenhofer, 2010; Kim & Yasuda, 2019). Therefore, high-quality accounting information could help physical enterprises obtain low-cost financing from the capital market. Once the company's financing constraints are alleviated, the motivation of enterprise's preventive savings of financial assets will be reduced, entity over-financialization will be reduced.

Because separation of ownership and management, the enterprise's agency problem is getting serious, it will result in the manager's adverse selection and moral hazard, which are both manifested as manager's self-interest (Jensen & Meckling, 1976). Over-investment in financial assets is a way of manager's self-interest. If manager's compensation which is referred to enterprise's performance, manager's currency compensation will be increased by the increase of enterprise's performance. In recent years, the profits from productive assets are low in China, while profit from the financial assets is high. In order to avoid the decrease of the enterprise's performance, managers will increase investment in financial asset (Hu et al., 2017). At the same time, the extra cashes kept by the enterprise increase the opportunity to obtain personal interest and abuse cash for managers. The more the enterprise keeps the free cash flows, the more the manager is likely inclined to over-investment (Chen et al., 2016). Financial assets have both the characters of fluidity and profitability. financial assets are a better substitution of cash assets, the enterprise provides opportunities for manager to obtain personal interests by over-investment in financial assets. Over-financialization cause the physical enterprises to change their main business, squeeze-out the investment in fixed asset and R&D (Orhangazi, 2008; Seo et al., 2012), which is not conducive to long-term development for physical enterprises. Accounting information is an important reference to set out manager's compensation contract. The information asymmetry problem between shareholders and managers will be decreased by the improvement of quality of accounting information. High-quality accounting information provides a guarantee for shareholders and managers to successfully negotiate the scientific and reasonable salary contracts (Jensen, 1986; Ozkan et al., 2012). The accounting information will demonstrate the manager's efforts and the enterprise's business situation after the contract is signed by the manager (Bushman & Smith, 2001). Accounting information also could optimize manager's compensation incentives, increase the power of shareholder's supervision on manager. Thus, the over-investment in financial assets, from which manager seeks their maximal self-interest, will be restricted. Based on the analyses above, the following hypothesis is proposed.

Hypothesis: The higher the quality of accounting information is, the lower the level of entity over-financialization will be.

3. Methodology

3.1 Data

We select the samples from the China A-stock listed companies. Taking the availability of data and the impact of the subprime crisis on China's capital markets in 2008 into account, in order to make sure the effectiveness of the data, we cut out a sample interval, i.e., 2008-2019. Additionally, in order to obtain accurate sample, we did five items on the samples, which are as following, firstly, we deleted the data of the ST and *ST listed companies since the financial data of such companies were marked as abnormal by China Securities Regulatory Commission. Secondly, we delete the data of companies whose leverage ratios are greater than one. Thirdly, the data of the sample of the incomplete and extreme values were excluded. Fourthly, the financial and real estate listed companies were excluded. Fifthly, the data of the company's IPO years. Consequently, 9051 samples from 2829 listed companies were collected. Stata15.0 was used for data processing and analysis.

3.2 Variables

3.2.1 Dependent Variable

The dependent variable is entity financialization. According to the measurement method of financial asset by Duchin et al. (2017), Entity financialization = (trading financial assets + derivative financial assets + net loans and advances + net available-for-sale financial assets + net held-to-maturity investment + other current assets and financial asset items in long-term equity investment + net investment real estate) / total assets.

According to the inefficient investment model of Richardson (2006), as well as the method of Xianhuan et al. (2019), the following model is constructed to measure the degree of entity financialization.

$$Fin_{i,t} = c_0 + \alpha_1 Fin_{i,t-1} + \alpha_2 Growth_{i,t-1} + \alpha_3 Lev_{i,t-1} + \alpha_4 Cf_{i,t-1} + \alpha_5 Size_{i,t-1} + \alpha_6 Age_{i,t-1} + \alpha_7 ROA_{i,t-1} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (1)$$

In the equation, $Fin_{i,t}$ is the degree of entity financialization in the current period, and $Fin_{i,t-1}$ is the degree of entity financialization in the last period. $Growth_{i,t-1}$ is the growth of the entity enterprise, which denotes the growth rate of total assets in the last period. $Lev_{i,t-1}$ is the financial leverage of the entity enterprise, and measured by the asset-liability ratio in the last period. $Cf_{i,t-1}$ is the cash flow status of the entity enterprise, which is measured by the ratio between operational net cash flow and total assets in the period. $Size_{i,t-1}$ is the size of the company, which is measured by natural logarithms of the total assets in the last period. $Age_{i,t-1}$ is the experience curve of the entity company, which is measured by the listing period of the company. $ROA_{i,t-1}$ is the profitability of the enterprises, which is measured by the net interest rate of total assets in last period. *Industry* and *Year* express the industry and year, both of which are dummy variables respectively.

In order to measure the enterprise's over-financialization, we do the linear regression on Model (1) and find the residuals. If the residual is greater than 0, the enterprise is over-financialization, and the residual is denoted by *Overfin*. If the residual is smaller than 0, the enterprise is not over-financialization. Our study mainly focuses on the enterprise's over-financialization, so we will exclude non-over-financialization samples.

3.2.2 Independent Variables

The independent variable is quality of accounting information. The method of measurement refers to the model in Dechow et al. (1995) who improve the Jones model.

$$TA_{i,t} = NP_{i,t} - CFO_{i,t} \quad (2)$$

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1(1/A_{i,t-1}) + \alpha_2\left(\frac{\Delta REV_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}}\right) + \alpha_3\left(\frac{PPE_{i,t}}{A_{i,t-1}}\right) + \varepsilon_{i,t} \quad (3)$$

In the equation (2) and (3), $TA_{i,t}$ denotes total accrual, $NP_{i,t}$ denotes net profit, $CFO_{i,t}$ denotes the amount of total net cash flow, $A_{i,t-1}$ denotes the total assets in the beginning of first year, $\Delta REV_{i,t}$ denotes the difference of revenue of company i in between the t year and t-1 year, $\Delta AR_{i,t}$ denotes the difference of net trade debt of company i in between the t year and t-1 year, $PPE_{i,t}$ denote sum of the fixed assets and balance outstanding of the constructing project at end of the construction period, $\varepsilon_{i,t}$ denotes the linear-regression residual. We use absolute value of the residual, i.e., $\varepsilon_{i,t}$ to measure the degree of manipulation of listed companies' surplus, and the absolute value of residual $\varepsilon_{i,t}$

is denoted by *EM*. The larger the *EM* value is, the higher degree of manipulation of listed companies' surplus is, the lower the quality of accounting information in listed companies is.

3.2.3 Controlled Variables

The entity financialization will also be affected by some other factors, such as the factors of the enterprise's financial conditions and corporate governance, etc., they may affect research conclusions. In order to deal with these issues, we introduce nine other variables, i.e., Company growth is measured by the rate that the enterprise's total assets are divided by the total assets end of the year, which is denoted by *Growth*. Financial leverage is measured by the ratio that total debt is divided by the total assets at the end of the year, which is denoted by *Lev*. The size of the company is measured by the value of the natural logarithm of company's total assets, which is denoted by *Size*. Capital expenditure is measured by ratio that net fixed assets is divided by total assets at the end of the period, which is denoted by *Fix*. Independent directorship system is measured by the ratio that the number of independent directors is divided by number of board of Directors, which is denoted by *Board*. Manager's compensation incentive is measured by the value of the natural logarithm of managers money salary, which is denoted by *MCI*. Manager's equity incentive is measured by the ratio that the shares of managers hold is divided by the total shares, which is denoted by *MEI*. Governance of Large shareholder is measured by the ratio that the shares of the largest Shareholder is divided by the total shares, which is denoted by *Lar*. At the same time, effects of the industry and year are also taken as the controlled variables, which is denoted by *Industry* and *Year* respectively.

3. 3 Models

In order to verify the hypothesis above, the following model is constructed:

$$Overfin_{i,t} = c_0 + \beta_1 EM_{i,t} + \beta_i Control_{i,t} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (4)$$

We mainly use model (4) to study the impact of quality of accounting information on over-financialization. When the regression coefficient of the model (4) is significant, the greater the regression coefficient is, the higher degree of manipulation of listed companies' surplus is, i.e., the lower the quality of accounting information is, the higher the level of entity over-financialization is, all of which indicate that low quality of accounting information will exacerbate over-financialization, adversely, increase of the quality of accounting information could reduce the degree over-financialization.

4. Results and Discussion

4.1 Descriptive Statistical Analysis

Table 1 is the descriptive statistical results of the main variable. The mean value of *Overfin* is 0.0569, the median is 0.0290, the standard deviation is 0.0747, they indicate that the over-financialization of China's entity listed company is relatively serious, and the levels of over-financialization among physical enterprises are very different. The mean value of *EM* is 0.0583, the median is 0.039, the standard deviation is 0.0691, they indicate the degrees of manipulation of listed companies' surplus are very different, and degrees of manipulation of some listed companies' surplus are high. The mean value of *Growth* is 0.1370, the median is 0.0823, the standard deviation is 0.4174, they indicate that the levels of growths of the listed company are small, and there are large differences among them. The mean value of *Lev* is 0.4292, the median is 0.4224, the standard deviation is 0.2031, they indicate that the financial leverage of the entity listed company is generally high. The mean number of *Size* is 22.1158, the median is 21.9270, the standard deviation is 1.3001, they indicating that the size of the listed company is generally large. The man value of Fix is 0.2270, the median is 0.1946, the standard deviation is 0.1602, they indicate that entity listed companies generally pay attention to fixed asset investment. The mean value of Board is 0.3727, the median is 0.3333, the standard deviation is 0.0545, they indicate that the independent directors of the entity listed companies generally meet the stipulations of low. The mean value of *MCI* is 15.1726, the median is 15.1706, the standard deviation is 0.7756, they indicate that entity listed companies generally employ the manager's currency compensation. The mean of *MEI* is 0.1179, the median is 0.0009, the standard deviation is 0.1923, they indicate that only a few physical listed companies employ manager's equity incentives, and the equity incentives in entity listed companies are not popular. The mean value of *Lar* is 0.3468, the median is 0.3266, the standard deviation is 0.1519, they indicate that the

shareholding ratio of the largest shareholder is generally high.

Table 1. Descriptive Statistics

Variables	Mean	Median	Max	Min	SD	SS
Overfin	0.0569	0.0290	0.8632	0.00001	0.0747	9051
EM	0.0583	0.039	0.9955	0	0.0691	9051
Growth	0.1370	0.0823	19.0954	-0.7708	0.4174	9051
Lev	0.4292	0.4224	0.9952	0.0098	0.2031	9051
Size	22.1158	21.9270	28.6365	18.1603	1.3001	9051
Fix	0.2270	0.1946	0.9363	0.0002	0.1602	9051
Board	0.3727	0.3333	0.8	0.1429	0.0545	9051
MCI	15.1726	15.1706	18.5339	7.3344	0.7756	9051
MEI	0.1179	0.0009	0.9801	0	0.1923	9051
Lar	0.3468	0.3266	0.8635	0.0220	0.1519	9051

4.2 Pearson Analysis

Table 2 is the results of Pearson correlation analysis of the main variables. In Table 2, the *EM* is significantly and positively correlated to *Overfin*, which verifies the hypothesis above in a way. i.e., the accounting information quality is significantly and negatively correlated. The higher the quality of accounting information is, i.e., the smaller the value of *EM* is, the lower the level of the entity over-financialization is, i.e., the smaller the value of Overfin is. The lower the quality of accounting information is, i.e., the greater the value of *EM* is, the higher the level of the entity over-financialization is, i.e., the greater the value of *Overfin* is. Moreover, the Pearson correlation coefficients between two of the main variables are generally less than 0.8, which indicates that the possibility of co-linearity is smaller in the linear-regression with the model (4).

Table 2. Pearson Analysis

Variables	*Overfin*	*EM*	*Growth*	*Lev*	*Size*	*Fix*	*Board*	*Xcjl*	*Gqjl*	*Big*
Overfin	1									
EM	0.080***	1								
Growth	0.039***	0.061***	1							
Lev	-0.267***	0.039***	0.001	1						
Size	-0.124***	-0.079***	0.075***	0.396***	1					
Fix	-0.227***	-0.128***	-0.103***	0.200***	0.127***	1				
Board	0.029***	0.018*	0.007	-0.032***	0.050***	-0.084***	1			
MCI	-0.021**	-0.049***	0.044***	0.021**	0.510***	-0.121***	0.023**	1		
MEI	0.070***	0.019*	0.069***	-0.304***	-0.262***	-0.207***	0.080***	0.010	1	
Lar	-0.039***	-0.053***	-0.014	0.058***	0.226***	0.120***	0.027**	-0.022**	-0.103***	1

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

4.3 Basic Regression Analysis

Table 3 is the multivariate regression results with the model (4). According to the OLS regression results, the regression coefficient of relationship between *EM* and *Overfin* is 0.0677, the P-value is 0.000, it is significant at 1% level, they indicate that the lower the quality of accounting information is, the higher the level of over-financialization is. However, the better the quality of accounting information is, the lower the level of over-financialization is. Improvement of quality of accounting information could effectively reduce the entity over-financialization. Taking the heteroscedasticity problem into account, the Robust standard-error test and the clustering standard-error test are both employed. According to results of Robust and Clustering checks, the regression coefficient of quality of accounting information (*EM*) and over-financialization （*Overfin*） is significantly positive, it further proves that the improvement of quality of accounting information could effectively reduce the level of entity over-financialization, i.e., the hypothesis could be verified. According the analysis about control variables, the regression coefficient of Growth is significantly positive, it indicates that physical enterprises with good growth are more likely to

be over-financialization. The regression coefficient of *Lev* is significantly negative, it indicates that the debt ratio of the companies could reduce the entity over-financialization. The reason is that the enterprises with high debt ratio are lack of capitals for productive investment, they unlikely to invest in financial assets. The regression coefficient of *Fix* is significantly negative, it indicates that physical enterprises will reduce over-financialization if they increase investment in productive investment. The regression coefficients of *MCI* and *MEI* are both significantly negative, it indicates that the increase of managers' compensation incentive and manager's equity incentive will both inhibit entity over-financialization, it also indicates that there is the principal-agent problem in entity over-financialization.

Table 3. Results of Multiple Regression

Variables	OLS	Robust	Cluster
$EM_{i,t}$	0.0677*** （0.000）	0.0677*** （0.000）	0.0677*** （0.000）
$Growth_{i,t}$	0.0043** （0.015）	0.0043** （0.034）	0.0043** （0.036）
$Lev_{i,t}$	-0.0757*** （0.000）	-0.0757*** （0.000）	-0.0757*** （0.000）
$Size_{i,t}$	-0.0006（0.449）	-0.0006（0.512）	-0.0006（0.590）
$Fix_{i,t}$	-0.0800*** （0.000）	-0.0800*** （0.000）	-0.0800*** （0.000）
$Board_{i,t}$	0.0148（0.270）	0.0148（0.675）	0.0148（0.307）
$MEI_{i,t}$	-0.0094** （0.025）	-0.0094** （0.035）	-0.0094* （0.053）
$MCI_{i,t}$	-0.0050*** （0.000）	-0.0050*** （0.000）	-0.0050*** （0.002）
$Lar_{i,t}$	0.0022（0.664）	0.0022（0.675）	0.0022（0.732）
constant	0.2057*** （0.000）	0.2057*** （0.000）	0.2057*** （0.000）
Year/Industry	controlled	controlled	controlled
R^2	0.1649	0.1681	0.1681
SS	9051	9051	9051

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

4.4 Robust Checks

4.4.1 Panel Fixed Effect Model

Taking the possibility of endogenic problems which exist between over-financialization and accounting information quality into account, we analyze the relationship between the quality of accounting information and entity over-financialization by using the panel fixed effect model. Table 4 shows the empirical results of regressing the data by using the panel fixed effect model. The panel fixed effect model is used to control individual fixed effect and time fixation effect, as while as Robust standard errors test, Clustering standard errors test. According to the regression results of Table 4, the regression results of *EM* and *Overfin* are both significantly and positively correlated at 1% level, the increase of quality of accounting information could significantly reduce the entity over-financialization, it is consistent with the hypothesis above.

Table 4. Regression Results of Panel Fixed Effect Model

Variables	FEM	Robust	Cluster
$EM_{i,t}$	0.0744*** （0.000）	0.0744*** （0.000）	0.0744*** （0.000）
$Growth_{i,t}$	0.0043** （0.035）	0.0043* （0.076）	0.0043* （0.076）
$Lev_{i,t}$	-0.0587*** （0.000）	-0.0587*** （0.000）	-0.0587*** （0.000）
$Size_{i,t}$	-0.0006（0.798）	-0.0006（0.831）	-0.0006（0.831）
$Fix_{i,t}$	-0.0860*** （0.000）	-0.0860*** （0.000）	-0.0860*** （0.000）
$Board_{i,t}$	0.0021（0.927）	0.0021（0.926）	0.0021（0.926）
$MEI_{i,t}$	-0.0318** （0.011）	-0.0318** （0.016）	-0.0318** （0.016）
$MCI_{i,t}$	-0.0007（0.784）	-0.0007（0.792）	-0.0007（0.792）
$Lar_{i,t}$	-0.0018（0.896）	-0.0018（0.904）	-0.0018（0.904）
constant	0.1248** （0.026）	0.1248* （0.077）	0.0834（0.247）

Year/Industry	controlled	controlled	controlled
R^2	0.1349	0.1349	0.1349
SS	9051	9051	9051

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

4.4.2 Replaced Key Variables

Table 5 show the regression results by replacing key variables. The manipulation of listed companies' surplus, which is calculated by the comparability of accounting information, the DD model and the non-linear model, is used to replace the quality of accounting information.

Comparability is an important feature of the enterprise's accounting information quality. The more the comparability of accounting information with other enterprises in the same industry is, the better it indicates that the quality of enterprise's accounting information is. We refer to method De Franco et al. (2011) to measure the comparability of accounting information. The treatment company group is matched to other controlled company group in the same industry, comparability of the accounting information between the treatment company group and controlled company group in the same industry is calculated. The comparability of company's accounting information in treatment group is measured by the mean value of comparability, which is denoted by *CAI*, the greater the value of *CAI* is, the stronger comparability of treatment company's accounting information is, i.e., the high the quality of accounting information is. In Table 5, the coefficient of comparability of regression of accounting information on over-financialization is -0.9572, the P-value is 0.000, it is significantly negatively correlated at 1% level, they indicate that the stronger the comparability of accounting information is, the lower the level of entity over-financialization is.

In order to verify and modify the Jones Model which is used to measure manipulation of listed companies' surplus, we furtherly employ the Jones Models of the cash flow, i.e., DD model in Table 5, and non-linear, i.e., non-linear accrued model in Table 5. These two kinds of Jones models are both popularly used in the empirical studies. Dechow and Dichev (2002) believe that enterprise's profit is negatively related to the operational cash flow in the same period. The enterprise's profit in current period is positively related to operational cash flows in all of the last periods and future periods. Then, we introduce cash flows of three periods, i.e., the t-1 year, the t year and the t+1 year, into Jones model, then the Jones model of cash flows is built, i.e., DD model. Ball and Shivakumar (2008) deem that the principle of accounting and asymmetry of relationship between accounting profits and losses could lead to an imperfection, i.e., there is a non-linear relationship between accounting profits and corporate performance. In order to make up for this imperfection mentioned above, the dumb variables, which could represent the loss and reflect this nonlinear relationship, are introduced into Jones Model, a nonlinear accrued model could be built. When the enterprise's cash flow is less than 0, the dummy variable which represent the loss is written as 1, otherwise it is written as 0. We refer to DD models of Dechow and Dichev (2002) and the non-linear accrued model Ball and Shivakumar (2008), to measure degree of manipulation of listed company's surplus. The absolute value of the residual from the regression model is used to measure the quality of accounting information which is denoted by *EM*, the larger the value of *EM* is, the higher the degree of manipulation of listed company's surplus is, the low the quality of accounting information is. In Table 5, the regression coefficient of *EM*, i.e., the residual absolute value in the DD model, and *Overfin*, i.e., the residual absolute value in the nonlinear accrued model, are both positive and significant. They indicate that the higher degree of manipulation of listed companies' surplus is, the higher the level of over-financialization, i.e., the lower the quality of accounting information will increase the level of entity over-financialization, and the improvement of the quality of accounting information will reduce the level of entity over-financialization.

4.4.3 Interpretation Variables with Lagged One Period

Taking the lag effect of accounting information on enterprise's investment into account, we use the OLS regression model, Robust Standard Error Estimation, and Clustering Standard Error estimation to analyze the relationship between quality of accounting information with one-period lag and entity over-financialization in the current period. Table 6 show the regression results of explaining variable with one-period

lag. The regression coefficient of $EM_{i,t-1}$ is 0.0482, the P-value is 0.003, it is significant at 1% level. They indicate that the lower the quality of accounting information is, the higher the level of entity over-financialization. Improvement of quality of accounting information could inhibit the entity over-financialization. they are not substantively different with the basic regression results.

Table 5. Regression Result with Replaced Key Variables

Variables	Comparability of accounting information	manipulation of companies' surplus	
		DD Model	non-linear accrued model
$CAI_{i,t}$	-0.9572*** （0.000）		
$EM_{i,t}$		0.1819*** （0.000）	0.1031*** （0.000）
$Growth_{i,t}$	0.0080** （0.029）	-0.0055** （0.044）	0.0049*** （0.005）
$Lev_{i,t}$	-0.0756*** （0.000）	-0.0734*** （0.000）	-0.0746*** （0.000）
$Size_{i,t}$	-0.0026** （0.011）	0.0006（0.478）	-0.0007（0.399）
$Fix_{i,t}$	-0.0921*** （0.000）	-0.0739*** （0.000）	-0.0821*** （0.000）
$Board_{i,t}$	0.0015（0.930）	0.0050（0.742）	0.0142（0.289）
$MEI_{i,t}$	-0.0143** （0.042）	-0.0148** （0.003）	-0.0099** （0.018）
$MCI_{i,t}$	-0.0057*** （0.000）	-0.0049** （0.000）	-0.0052*** （0.000）
$Lar_{i,t}$	-0.0052（0.427）	-0.0074（0.189）	0.0035（0.485）
constant	0.2434*** （0.000）	0.1974*** （0.000）	0.1962*** （0.000）
Year/Industry	controlled	controlled	controlled
R^2	0.1821	0.2149	0.1660
SS	5503	7050	9060

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

Table 6. Regress Results of Explanation Variables with Logged One Period

Variables	OLS	Robust Check	Clustering Check
$EM_{i,t-1}$	0.0482*** （0.003）	0.0482** （0.042）	0.0482** （0.051）
$Growth_{i,t-1}$	-0.0080** （0.036）	-0.0080* （0.066）	-0.0080* （0.070）
$Lev_{i,t-1}$	-0.0758*** （0.000）	-0.0758*** （0.000）	-0.0758*** （0.000）
$Size_{i,t-1}$	0.0001（0.917）	0.0001（0.917）	0.0001（0.932）
$Fix_{i,t-1}$	-0.0696*** （0.000）	-0.0696*** （0.000）	-0.0696*** （0.000）
$Board_{i,t-1}$	-0.0157（0.440）	-0.0157（0.439）	-0.0157（0.495）
$MCI_{i,t-1}$	-0.0086*** （0.000）	-0.0086*** （0.000）	-0.0086*** （0.000）
$MEI_{i,t-1}$	-0.0146** （0.021）	-0.0146** （0.032）	-0.0146* （0.052）
$Lar_{i,t-1}$	0.0058（0.435）	0.0058（0.454）	0.0058（0.539）
constant	0.2014*** （0.004）	0.2014*** （0.000）	0.2014*** （0.000）
Year/Industry	controlled	controlled	controlled
R^2	0.1361	0.1445	0.1445
SS	3623	3623	3623

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

4.5 Analysis of Effect Path

According to the logical analysis above, the quality of accounting information may inhibit entity over-financialization by alleviating financing constraints and agency conflicts. We will furtherly verify these conjectures in this part.

4.5.1 Accounting Information Quality, Over-financialization and Financing Constraints

We build a mediating effect model, in which the explained variable is entity over-financialization, explanatory variable is the quality of accounting information, and the mediating variable is financing constraints, which is denoted by *KZ*. We refer to method of Kaplan and Zingales (1997) and Jiang et al. (2017) and build the index of financing constraints in order to measure the financing constraint. Firstly, cash

dividend distribution is measured by the ratio that cash dividend is divided by net profit and denoted by *KZ1*. Currency holding is measured by ratio that currency holding is divided by total assets and denoted by *KZ2*. Net operation cash flow is measured by the ratio that operation cash flow is divided by total assets and denoted by *KZ3*. the debt-to-assets ratio is measured by the ratio that total debts are divided by total assets. Tobin Q is measured by ratio that the value of the enterprise in the market is divided by total assets and denoted by *KZ5*. All of the indexes are taken as the key feature values. When the enterprise's cash dividend distribution is greater than the median of samples, *KZ1* is written as 0, otherwise it is written as 1. When the Currency holding is greater than the median of samples, *KZ2* is written as 0, otherwise it is written as 1. When the net operation cash flow is greater than the median of samples, *KZ3* is written as 0, otherwise it is written as 1. when the debt-to-assets ratio is greater than the median of samples, *KZ4* is written as 1, otherwise it is written as 0; when Tobin Q is greater than the median of samples, *KZ5* is written as 0, otherwise it is written as 1. Additionally, we calculated the value of KZ, i.e., $KZ = KZ1 + KZ2 + KZ3 + KZ4 + KZ5$. Secondly, we regress KZ on the continuous value of all of the indexes above by ordered Logit model, and regression coefficient of each key feature value could be obtained. Finally, we figure out the financing constraint index, i.e., *KZI*, by estimating the regression coefficients and the corresponding key feature values. The regression coefficient of cash dividend distribution is -1.518122*, regression coefficient of currency holding is -6.401016*, regression coefficient of net operational cash flow is -13.62126*, regression coefficient of the debt-to-assets ratio is +5.856464*, regression coefficient of Tobin Q is -0.4171407*. The larger the value of cash dividend distribution, i.e., *KZ1*, is, the higher the degree of corporate financing constraint is.

Table 7 shows the regression results of the accounting information quality on entity over-financialization by alleviating the financing constraints. In the path, i.e., "*EM→Overfin*", the egression coefficient of *EM* is 0.0596, P-value is 0.000; in the path i.e., "*EM→KZI*", the regression coefficient of the *EM* is 1.0987, P-value is 0.000; we introduce the mediating variable, i.e., *KZ*, into the path i.e., "*EM→Overfin*". In the new path i.e., "*EM→KZI→Overfin*", the regression coefficient of *EM* is 0.0583, the P-value is 0.0012, and t P-value is 0.016. It is obvious that the lower quality of accounting information could increase financing constraints, the level of entity over-financialization could be increased. The improvement of accounting information quality will alleviate financing constraints and reduce entity over-financialization.

Table 7. Regression Results of Accounting Information Quality on Over-Financialization by Alleviating Financing Constraints

Variables	*EM→Overfin*	*EM→KZI*	*EM→KZI→Overfin*
$EM_{i,t}$	0.0596*** (0.000)	1.0987*** (0.000)	0.0583*** (0.000)
$KZI_{i,t}$			0.0012** (0.016)
$Growth_{i,t}$	0.0055*** (0.002)	0.0513 (0.184)	0.0055*** (0.002)
$Lev_{i,t}$	-0.0825*** (0.000)	8.2817*** (0.000)	-0.0924*** (0.000)
$Size_{i,t}$	0.0003 (0.684)	0.2111*** (0.000)	0.0001 (0.918)
$Fix_{i,t}$	-0.0812*** (0.000)	-0.0987 (0.416)	-0.0811*** (0.000)
$Board_{i,t}$	0.0176 (0.199)	-0.0052 (0.986)	0.0176 (0.199)
$MCI_{i,t}$	-0.0045*** (0.000)	-0.3919*** (0.000)	-0.0040*** (0.001)
$MEI_{i,t}$	-0.0082* (0.053)	0.1421 (0.123)	-0.0084** (0.048)
$Lar_{i,t}$	0.0017 (0.746)	-1.3769*** (0.000)	0.0033 (0.522)
constant	0.1641*** (0.001)	-3.6313*** (0.001)	0.1685*** (0.001)
Year/Industry	controlled	controlled	controlled
R^2	0.1668	0.5903	0.1673
SS	8509	8509	8509

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

4.5.2 the quality of the accounting information inhibits the entity over-financialization by

alleviating principal-agent conflict

In order to verify the effect paths above, the mediating effect model is constructed. The explained variable is entity over-financialization, explanatory variable is accounting information quality and the mediating variable is shareholder-manager's agency conflict which is denoted by *Agency*. Rate of management cost of agency conflict between shareholder and manager is measured by the ratio that management costs are divided by main business income. the greater the rate of management cost is, the more serious it indicates that the agent conflict between shareholder and manager t is.

Table 8 shows the regression results of the accounting information quality on entity over-financialization by alleviating the agency conflict. In the path, i.e., "*EM→Overfin*", the regression coefficient of the *EM* is 0.0596, the P-value is 0.000. in the path, i.e., "*EM → Agency*", the regression coefficient of the EM is 0.0025, P-value is 0.813., the intermediation variable, i.e., Agency, is furtherly introduced into the path, i.e., "*EM→Overfin*". in the new path i.e., "*EM → Agency → Overfin*", the regression coefficient of *EM* is 0.0594, the P-value is 0.000, and the regression coefficient of *Agency* is 0.0784, P-value is 0.000. Because the regression result of path, i.e., "*EM→Agency*" is not significant, Sobel test is necessary to furtherly be done. Table 9 shows the results of Sobel test. In the Sobel test, we use the method, i.e., sgmediation function. According to Table 9, in the path, i.e., "*EM → Agency*", the regression coefficient of *EM* is significant, it indicates that the agency conflict has a significant partial intermediary effect on the relationship between quality of accounting information on over-financialization. It is obvious that the low quality of accounting information will exacerbate conflicts between shareholder and manager and improve the level of over-financialization. The improvement of accounting information quality will alleviate agency conflict between shareholder and manager and reduce over-financialization.

Table 8. Regression Result of Accounting Information Quality on Over-Financialization by Alleviating Agent Conflicts

Variables	*EM→Overfin*	*EM→Agency*	*EM→Agency→Overfin*
$EM_{i,t}$	0.0596*** (0.000)	0.0025 (0.813)	0.0594*** (0.000)
$Agency_{i,t}$			0.0784*** (0.000)
$Growth_{i,t}$	0.0055*** (0.002)	-0.0011 (0.480)	0.0056*** (0.002)
$Lev_{i,t}$	-0.0825*** (0.000)	-0.0570*** (0.000)	-0.0780*** (0.000)
$Size_{i,t}$	0.0003 (0.6841、)	-0.0141*** (0.000)	0.0015* (0.088)
$Fix_{i,t}$	-0.0812*** (0.000)	-0.0244*** (0.000)	-0.0793*** (0.000)
$Board_{i,t}$	0.0176 (0.199)	0.0367*** (0.003)	0.0147 (0.282)
$MCI_{i,t}$	-0.0045*** (0.000)	0.0031*** (0.006)	-0.0047*** (0.000)
$MEI_{i,t}$	-0.0082* (0.053)	-0.0180*** (0.000)	-0.0068 (0.108)
$Lar_{i,t}$	0.0017 (0.746)	-0.0372*** (0.000)	0.0046 (0.372)
constant	0.1641*** (0.001)	0.4049*** (0.000)	0.1324*** (0.010)
Year/Industry	controlled	controlled	controlled
R^2	0.1668	0.2678	0.1710
SS	8509	8509	8509

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

Table 9. Regression Result of Sobel Test

Variables	path c	path a	paths b and c'
$EM_{i,t}$	0.0608*** (0.000)	0.0235** (0.034)	0.0585*** (0.000)
$Agency_{i,t}$			0.0961*** (0.000)
$Growth_{i,t}$	0.0049*** (0.006)	0.0026 (0.127)	0.0047*** (0.010)
$Lev_{i,t}$	-0.0987*** (0.000)	-0.0821*** (0.000)	-0.0908*** (0.000)
$Size_{i,t}$	0.0017** (0.034)	-0.0120*** (0.000)	0.0029*** (0.000)
$Fix_{i,t}$	-0.0843*** (0.000)	-0.0374*** (0.000)	-0.0807*** (0.000)

$Board_{i,t}$	0.0120（0.392）	0.0400***（0.003）	0.0082（0.559）
$MCI_{i,t}$	-0.0038***（0.002）	0.0031***（0.008）	-0.0041***（0.001）
$MEI_{i,t}$	-0.0166***（0.000）	-0.0187***（0.000）	-0.0148***（0.000）
$Lar_{i,t}$	-0.0034（0.514）	-0.0456***（0.000）	0.0010（0.852）
constant	0.1310***（0.000）	0.3542***（0.000）	0.0969***（0.000）
Year/Industry	controlled	controlled	controlled
R^2	0.1104	0.1623	0.1176
SS	8509	8509	8509

Note: *** means significant at 1% level, ** means significant at 5% level, and * means significant at 10% level, the value in the brackets is the P-value

5. Conclusions and Policy Recommendations

5.1 Conclusions

Accounting information is very important for corporate to improve environments of obtaining information. It is also very important for the shareholders to incent and supervise the mangers. Thus, the efficiency of capital allocation could be improved with high account information. Using the panel data of A-share listed company among 2008-2019 in China, our studies analyze the impact of accounting information quality on entity over-financialization, as well as the internal mechanism of this impact. According to our studies, there are three meaningful conclusions.

On the one hand, the quality of accounting information is significantly and negatively correlated with entity over-financialization, i.e., the improvement of accounting information quality has the inhibitory effect on entity over-financialization.

On the other hand, the quality of accounting information inhibit entity over-financialization by alleviating financing constraints and agency conflicts.

Thus, it is obvious that the quality of accounting information is an important factor that affects entity over-financialization. Improvement of accounting information quality could reduce enterprise's financing constraints, alleviates agency conflicts between shareholders and managers. Thus, it is an important way to inhibit entity over-financialization.

5.2 Policy Recommendations

According to the conclusions from our studies, we put forward two policy recommendations.

Firstly, the improvement of accounting information quality should be encouraged continuously in order to increase relevance and usefulness of decision with accounting information. The improvement of quality of accounting information could clearly evaluate the enterprise's long-term investment in financial assets, and efficiently monitor and evaluate the corporate's financialization, which could prompt enterprise to reduce the entity over-financialization. The efficiency of enterprise' resource allocation will be improved, the ability of enterprise's R&D in its main business could be enhanced, enterprise's core competitive advantage also could be enhanced.

Secondly, the corporate governance of accounting information quality could reduce excessive configuration in financial asset when entity over-financialization occurs. Whatever the causes of over-financialization, i.e., managers pursue to maximize his benefit, they invest in financial assets which could increase enterprise's short-term performance and increase their monetary compensation, or the enterprise excessively invest in the financial assets for hedging the risk of financing constraints, once the quality of enterprise's accounting information could be asked to be improved, information asymmetry could be reduced, agency conflicts will be suppressed. Then, enterprise's excessive investment in financial asset investment could be reduced.

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