

课程名称：财务专业英语

Title: Pledge of Stock Rights and Earnings Management: Based on Enterprise Life Cycle Perspective

Research Proposal

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Abstract:

Pledge of stock rights is a way of financing of listed companies, numerous studies of pledge of stock rights have mainly focused on its motivation, influencing on the enterprise value or corporate performance, which ignore the relationship between pledge of stock rights and earnings management. However, this study mainly studies the relationship between pledge of stock rights of listed companies and earnings management from the perspective of enterprise life cycle. This paper aims to explore the following questions: (1) the influence of the stockholder's equity pledge on the enterprise's earnings management, including the accrued earnings management and the real earnings management; (2) explore the regulation effect of property rights between pledge of stock rights and earnings management; (3) explore the regulation effect of enterprise life cycle between pledge of stock rights and earnings management.

Key words: Pledge of stock rights; Earnings management; Property rights; Enterprise life cycle

1 Introduction

1.1 Problem statement

The pledge of stock rights of China's capital market is a very common phenomenon, but now only a few scholars study shareholder equity pledge's motivation and economic consequences (Li Y. W., 2007; Zheng G. J., 2009; Hao X. C., 2014; Li N., 2015; etc.). The research on the motivation of equity pledge mainly includes investment, speculation and cash increase (Gao L. F., 2002); increase control levers (Hao X. C., 2009) and interest embezzlement motivation (Lv C. J., 2007). As the financial behavior of the large shareholders, the motivation of equity pledge is divided into two types: active and passive (Ai D. L., Wang B., 2012). Some scholars believe that the equity pledge to increase the agent cost (Chen and Hu, 2001; Gao L. F., 2002), the shareholder equity pledge lead to increase the degree of separation between cash flow rights and control, enhance the leverage effect of control rights, weakening the incentive effect of controlling shareholders, strengthening the entrenchment effect of controlling shareholders (Hao X. C., 2009; Zheng G. J., 2014). Some scholars have studied the relationship between equity pledge and corporate performance (Zhang T. Y., 2014; Zheng G. J., 2014; Xie D. R., 2016). It is found that the equity pledge of large shareholders is more likely to be used for the listed companies, which has a negative impact on the performance of the listed companies. After the equity pledge, when the market price of the hypothecation power has a sharp fall, the large shareholders will be required to add the pledge right or to make up the margin to ensure that the financing institutions will get the funds safety, otherwise the pledge will be disposed of. If this occurs, not only to large shareholders suffered huge losses, but also may lose the status of the listed holding company, so it is the pledge of the major shareholders have strong motivation for earnings management ability (Chen G. R., 2016; Li J. Y., 2016; Xie D. R., 2017). In conclusion, this paper argues that it is necessary to study the relationship between pledge of stock rights and earnings management.

1.2 Statement of the research objectives

This paper aims to explore the following questions: (1) the influence of the stockholder's equity pledge on the earnings management of the enterprise, including the accrued earnings management and the real earnings management; (2) explore the effect of property rights on the adjustment between pledge of stock rights and earnings management; (3) explore the effect of enterprise life cycle on the adjustment between pledge of stock rights and earnings management.

1.3 Definitions of terms

Pledge of stock rights: the large shareholder defined in this article refers to the large shareholder with a shareholding ratio of more than 5% (Bharath, 2013). This paper defines two kinds of large shareholders' equity pledge variables, including controlling shareholders' equity pledge and other major shareholders' equity pledge. The other major shareholders' equity pledge refers to a large shareholder's pledge of equity interest of a noncontrolling shareholder but whose shareholding is above 5%.

Accrued earnings management is achieved by changing the accounting methods or estimates used when presenting a given transaction in the financial statements. For example, changing the depreciation method for fixed assets and the estimate for provision for doubtful accounts can bias reported earnings in a particular direction without changing the underlying transactions (Amy,2012).

Real earnings management is a purposeful action to alter reported earnings in a particular direction, which is achieved by changing the timing or structuring of an operation, investment or financing transaction, and which has suboptimal business consequences. The idea that firms engage in real activities manipulation is supported by the survey evidence in

Graham et al. (2005).¹ They report that 80 percent of surveyed CFOs stated that, in order to deliver earnings, they would decrease research and development (R&D), advertising and maintenance expenditures, while 55 percent said they would postpone a new project, both of which are real activities manipulation (Amy,2012).

Enterprise life cycle: Considering the net value of cash flow, the net cash flow and the net cash flow of cash flow, we divide the life cycle of enterprises into five stages: introduction, growth, maturity, elimination and recession (Dickinson, 2006).

2 Literature Review

2.1 Pledge of stock rights

(1) Motivation of pledge of stock rights. The pledge of stock rights of China's capital market is a very common phenomenon, but now only a few scholars study shareholder equity pledge's motivation and economic consequences (Li Y. W., 2007; Zheng G. J., 2009; Hao X. C., 2014; Li N., 2015; etc.). The research on the motivation of equity pledge mainly includes investment, speculation and cash increase (Gao L. F., 2002); increase control levers (Hao X. C., 2009) and interest embezzlement motivation (Lv C. J., 2007). As the financial behavior of the large shareholders, the motivation of equity pledge is divided into two types: active and passive (Ai D. L., Wang B., 2012). Xu S. F.(2016) found that the willingness and pledge size of large shareholders' equity pledge is positively correlated with the stock's false pricing, that is, the overvaluation of the listed company's stock price will push forward the stockholder's equity pledge. Compared with the credit crunch period, large shareholders are more willing to pledge equity in the period of credit easing, and the scale of pledge is even larger. Stock pricing and credit policy will also affect the willingness and scale of large shareholders' equity pledge.

(2) The agency problem brought by the pledge of stock rights. Some scholars believe that the equity pledge to increase the agent cost (Chen and Hu, 2001; Gao L. F., 2002), the shareholder equity pledge lead to increase the degree of separation between cash flow rights and control, enhance the leverage effect of control rights, weakening the incentive effect of controlling shareholders, strengthening the entrenchment effect of controlling shareholders (Hao X. C., 2009; Zheng G. J., 2014). From the perspective of agency theory, we believe that the controlling shareholder's pledge behavior exacerbates the agency conflict between controlling shareholders and small shareholders, which makes the tunneling behavior of large shareholders more obvious. The representative document is Yeh et al. (2003). The article points out that equity pledge will lead to further separation of control rights a

nd cash flow rights. The higher the proportion of equity pledge, the more serious the agency problem is.

(3) The relationship between pledge of stock rights and enterprise performance. Some scholars have studied the relationship between equity pledge and corporate performance (Claessens, 2002; Yeh et al., 2003; Wang, 2013; Zhang T. Y., 2014). Zheng G. J. (2014) found that the stock pledge of the large shareholders is more likely to be occupied by the listed companies, which has a negative impact on the performance of the listed companies.

What's more, Xie (2016) found that controlling shareholders did not strive to improve business performance to reduce the risk of stock price collapse during equity pledge, and the risk of stock price collapse increased after controlling shareholders' equity pledge was lifted.

2.2 Earnings management

By summarizing the research findings of scholars both at home and abroad, the motivation of earnings management can be divided into three: capital market motivation, contractual motivation and political cost motivation.

(1) Capital market motivation. The capital market is an important channel for corporate financing, in order to protect the interests of investors, maintaining the stability of the capital market, the Commission on the financing company set up a lot of access conditions, including the company's profit, therefore, in order to achieve the purpose of financing, enterprises have motivation before financing to increase earnings (Teoh, 1998; Haw, 2005; Lu, Z. F., 2006; Yang J., 2013).

(2) Contractual motivation. Because of the incompleteness of the contract itself and the communication friction between the stakeholders, the internal personnel of the company have the motivation to manage the surplus (Sweeney, 1994; Beneish, 2001; Li D., 2007). The study of Zhang Z. G. (2009) points out that the higher the ratio of the company's assets and liabilities is, the higher the earnings management is. Li Z. F. (2011) found that the higher the company's debt level is, the stronger the motivation to implement real earnings management in order to avoid the breach of the debt contract.

(3) Political cost motivation. The government plays an important role in the capital market. In order to avoid the government's focus attention, the listed companies have the motive to manipulate excessive or low earnings. Cohen et al. (2008) found that when SOX act passed, enterprises were more likely to adopt real earnings management while reducing earnings management. Wang Y. T. (2009) through studying the tax avoidance problem of earnings management, they found that a significant tax avoidance and earnings management phenomenon occurred in enterprises with reduced tax rates, but the tax avoidance earnings management in enterprises with higher tax rate was not significant. Chen D. H. (2010) test the applicability of the political cost hypothesis in China under the background of macro regulation of real estate in China. The study found that in order to avoid the adverse impact of austerity policy, China's real estate listed companies have carried out the downward earnings management behavior.

2.3 Enterprise life cycle and earnings management

Scholars at home and abroad have more research on life cycle and business surplus, corporate profitability, accruals model, financial strategy and financial goals. But there is little direct relationship between the life cycle and the earnings management. For example, Anthony & Rameshl (1992) uses the life cycle theory to explain the changing rules of the correlation between the earnings of different enterprises and the value of cash flow.

Some scholars have found that the life cycle of enterprises directly affects earnings management, including accruals earnings management and real earnings management (Liu Q. L., 2011, Li Z. F., 2011; Yu K., 2014; Wang Y., 2016). Other scholars have studied the direction of earnings management to explore whether enterprises are making positive earnings management or negative earnings management in different life cycles (2009, Zhang J. R., 2009; Li Z. F., 2011). Yu K. (2014) found that: different stages enterprises both flexible use of accrual and real earnings management in two different ways; the extent of earnings management of the lowest mature enterprises, growth period and recession period enterprise accrual and real earnings management degree is relatively high; in addition, in different enterprises the life stage of the direction of earnings management is not the same. Wang Y. (2016) also found that the life cycle of enterprises directly affect the earnings management, the relatively mature period, growth period and recession period have positive effects on accrual and real earnings.

3 Hypothesis

3.1 Pledge of stock rights and earnings management

In order to manage the stock market value, the controlling shareholder of the listed company will use its control right to stabilize the stock price through the way of earnings management or to manipulate the surplus. In recent years, more and more to the more subtle manipulation of earnings, the company found that in addition to the accruals surplus, but also through real activities manipulation of earnings (Roychowdury, 2006). With the tightness of the regulatory environment after the pledge of equity, the enterprise accrued earnings management behavior has attracted much attention, which increases the potential risk of this method. The real earnings management is hidden and the potential risk is not increased. Therefore, the relative cost of the earnings management is reduced. (Cai C., 2011), management has stronger motivation to adopt the real earnings management mode. Consequently, this research hypothesizes that

H1: After the pledge of stock rights, the accrued earnings management of the enterprises is reduced, and the real earnings management is rised.

3.2 The regulation effect of property right

The state-owned enterprise internal resources will bring enterprise information and reputation advantage, provide an implicit guarantee for the enterprise, reduce the role of accounting information in the loan cost decision-making, reduce external financing constraints when (Li S. H., 2013; Luo D. L., 2008). And when the pledgee makes a credit decision, the state-owned companies have lower lending standards, longer loans, and more lenient conditions.

Therefore, after the pledge of equity, the degree of the real earnings management changes of the state-owned companies relative to the private companies will be lower. With the tighter regulatory environment after the equity pledge, the accruals earnings management behavior of private enterprises will be more concerned by the pledgee, investors, firms, regulators and so on, so private enterprises will significantly reduce accruals earnings management behavior. Consequently, this research hypothesizes that

H2a: Compared with the state-owned enterprises, the increase of real earnings management of private enterprises after the pledge of stock rights is more significant.

H2b: Compared with the state-owned enterprises, the reduction of accrued earnings management in private enterprises after the pledge of stock rights is more significant.

3.3 The regulation effect of enterprise life cycle

Most of the equity pledge occurred in the growth period and maturity period of the enterprise. The enterprises in the stage of growth will face more pressure, one is the pressure from the product market, and the two is the pressure on the capital market. In order to cope with various pressures, enterprises will have to increase the earnings management motivation to try to balance and meet the interests of different stakeholders, but because the accrual earnings management may lead to regulatory investigations or proceedings, in the growth stage of the enterprise will take the real earnings management is more subtle.

The mature period enterprise has abundant funds to carry on various activities, the motive of its earnings management is lower than the enterprise in the growth period. The internal governance and external supervision, based on the perspective of enterprises, with the financial accounting standards and accounting supervision mode of continuous improvement, the implementation of accrual earnings management may lead to regulatory investigations or proceedings, so the risk in this way is also growing, so mature enterprises will significantly reduce the accrual earnings management. Consequently, this research hypothesizes that

H3a: Compared with the mature period enterprises, the rising degree of real earnings management of the enterprises in the growth period is more significant after the pledge of stock rights.

H3b: Compared with the growth period enterprises, the rising degree of accrued earnings management of the enterprises in the growth period is more significant after the pledge of stock rights.

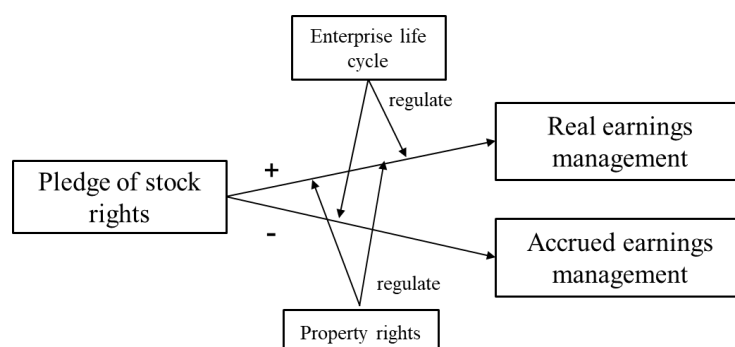


Figure 1: Conceptual Model

4 Methods

4.1 Samples and data sources

This paper is to select the listed company of A shares for 2012-2016 years as the research object. In order to ensure the reliability, stability and representativeness of the sample data, we conducted the following screening of the sample data: (1) excluding the sample data is not perfect; (2) had been removed ST and PT management of abnormal samples; (3) excluding financial and insurance companies. In order to eliminate the influence of extreme values, we carry out 1% levels of winsorize processing for all continuous variables. The software used in this research is Excel and Stata 14. All the data come from SCMAR database and WIND database.

4.2 Data collection plan

4.2.1 Interpreted variable

(1) Accrued earnings management: following prior literature, I use discretionary accruals to proxy for accrual-based earnings management. Discretionary accruals are the difference between firms' actual accruals and the normal level of accruals. I estimate the latter using the following modified Jones model (Dechow, 1995).

(2) Real earnings management: based on Roychowdhury (2006) method, we use abnormal cash flow (R_CFO), abnormal product cost (R_PROD) and abnormal handling cost (R_DISX) to measure the level or degree of real activity earnings management. Considering that the three ways of real earnings management may exist at the same time, in this paper, we draw lessons from Li Zengfu (2011), and construct an index REM ($REM = R_PROD - R_CFO - R_DISX$) that comprehensively measures the real earnings management.

4.2.2 Explanatory variable

Pledge of stock rights: the large shareholder defined in this article refers to the large shareholder with a shareholding ratio of more than 5% (Bharath, 2013). This paper defines two kinds of large shareholders' equity pledge variables, including controlling shareholders' equity pledge and other major shareholders' equity pledge. The other major shareholders' equity pledge refers to a large shareholder's pledge of equity interest of a non controlling shareholder but whose shareholding is above 5%. When the large shareholders of the listed company have the behavior of pledge the stock rights at the same year, the value is 1, otherwise 0.

4.2.3 Control variable

Generally, the mechanism of corporate governance of large scale is more perfect, the extent of earnings management will be lower, the earnings quality will be higher, so the enterprise scale (Size), independent director ratio (ID) and whether the general manager of the chairman is two or not (Dual) control this factor. The higher the debt level of a company is, the more motivated managers are to implement earnings management in order to avoid breaking the debt contract. Therefore, financial leverage (Lev) is used to control this

factor. Because the international "four big" can significantly inhibit the earnings management of accruals and real activities of listed companies, provide higher quality audit (Lin Y. J., 2013, Guo Z. R., 2015), so we use high quality audit (Big4) to control this factor. Because salary incentives and managerial shareholding will affect executives' preferences for different earnings management methods (Lu J. W., 2015), we should take executive compensation (Excp) and management shareholding ratio (Manho) as a control factor. In addition, in order to control the impact of industry or macroeconomic factors, we further control the impact of industry control variables (Ind) and annual control variables (Year) on earnings management.

Table 1 Variable Definition Table

Variable type	Variable name	Abbreviation	Calculation explanation
Interpreted variable	Accrued earnings management	DA	Modified Jones model (Dechow, 1995)
	Real earnings management	REM	based on Roychowdhury (2006) method, $REM=R_PROD - R_CFO - R_DISX$
Explanatory variable	Pledge of stock rights	Pledge	When the large shareholders of the listed company have the behavior of pledge the stock rights at the same year, the value is 1, otherwise 0.
	Property rights	SOE	When the actual control of an equity pledge enterprise is controlled by a state-owned enterprise, 1, otherwise 0
	Enterprise life cycle	LC	If the enterprise is in the growth period of 0, the maturity period is 1
Control variable	Enterprise size	Size	The logarithm of the total assets of 10 at the end of the year
	Asset liability ratio	Lev	Average total debt / average total assets
	High quality audit	Big4	If it is big four, 1, otherwise 0
	Executive compensation	Excp	The natural logarithm of the salary of the top 3 executives of the listed company
	Managerial ownership ratio	Manho	The ratio of the amount of managerial ownership to the total amount of shares
	Independent director ratio	ID	The ratio of independent directors to the total number of boards of directors
	Whether the general manager of the chairman is two or not	Dual	Whether the general manager of the chairman is one, 1, otherwise 0
	Year	Year	Annual virtual variable
	Industry	Ind	Industry virtual variables

4.3 Proposed analysis of the data

Ordinary Least Square(OLS) is an appropriate choice for testing a research model.

In order to test the influence of the large stockholder's stock pledge on the accrued earnings management and the real earnings management, the following model is proposed:

$$DA/REM = \beta_0 + \beta_1 Pledge + \beta_2 SOE + \beta_3 Size + \beta_4 Lev + \beta_5 Excp + \beta_6 Manho + \beta_7 Big4 \\ + \beta_8 ID + \beta_9 Dual + \beta_i \sum Ind + \beta_j \sum Year + \varepsilon$$

In order to test the influence of the earnings management and the real earnings management of the equity pledge of enterprises under different property rights, the following model is proposed:

$$DA/REM = \beta_0 + \beta_1 Pledge + \beta_2 SOE + \beta_3 Pledge * SOE + \beta_4 Size + \beta_5 Lev + \beta_6 Excp \\ + \beta_7 Manho + \beta_8 Big4 + \beta_9 ID + \beta_{10} Dual + \beta_i \sum Ind + \beta_j \sum Year + \varepsilon$$

In order to test the relationship between the equity pledge and the earnings management in the enterprise's different life cycle, the following model is proposed:

$$DA/REM = \beta_0 + \beta_1 Pledge + \beta_2 LC + \beta_3 Pledge * LC + \beta_4 Size + \beta_5 Lev + \beta_6 Excp + \beta_7 Manho \\ + \beta_8 Big4 + \beta_9 ID + \beta_{10} Dual + \beta_i \sum Ind + \beta_j \sum Year + \varepsilon$$

5 Possible results

- (1) After the pledge of stock rights, the accrued earnings management of the enterprises is reduced, and the real earnings management is risen.
- (2) Compared with the state-owned enterprises, the increasement of real earnings management of private enterprises after the pledge of stock rights is more significant.
- (3) Compared with the state-owned enterprises, the reduction of accrued earnings management in private enterprises after the pledge of stock rights is more significant.
- (4) Compared with the mature period enterprises, the rising degree of real earnings management of the enterprises in the growth period is more significant after the pledge of stock rights.
- (5) Compared with the growth period enterprises, the rising degree of accrued earnings management of the enterprises in the growth period is more significant after the pledge of stock rights.

6 Discussion

6.1 Research difficulties and Countermeasures

Research difficulties: the data screening and sorting is long and difficult, and there may be lack of data and the data need to be recorded manually

Countermeasures: we spend a lot of time processing data, collecting missing data manually, and using data from different databases (such as WIND and SCMAR) to make cross validation to ensure the authenticity, reliability and integrity of data.

6.2 The inadequacies and prospects of the research

In the choice of model adjustment variables, only the property of property and the life cycle of the enterprise affect the way of earnings management. And the market environment, political connections, ownership structure and other factors will also have an impact on earnings management. If we introduce the above variables into the model, we can get more empirical evidence, which is also an important direction for future research.

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