Earnings Management, Debt Contracts and Monetary Policy

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Abstract: The impact of debt contract on earnings management is analyzed from two perspectives: on the one hand, debt has an incentive and constraint effect on executives, and a certain degree of debt can restrict the behavior of earnings management. That is, enterprises can maintain high earnings quality in order to obtain low-cost financing. On the other hand, debt financing increases the interest cost of enterprises. In order to keep the profits of external reports unchanged, enterprises will have earnings management motivation in the short term to maintain the stability of stock price. Since debt financing has both a positive restraining function and a negative stimulating effect on earnings management, what kind of positive and negative effect prevails is the content of this paper. Based on the data of Chinese listed companies from 2010 to 2019, it is found that the new debt financing of listed companies significantly stimulates earnings management, especially positive accrual earnings management. However, the tightening monetary policy has a significant restraining effect on this negative effect. Under the tightening monetary policy, the stimulation of new debt on earnings management is significantly weaker than that in the loose monetary policy environment. Under the tightening policy, the stock price is not so sensitive to earnings management, so the motivation of enterprise earnings management is obviously weakened, even if there is new debt contract.

Keywords: earnings management; debt; monetary policy

1. Introduction

1.1 Earnings management and debt contract

The premise of compensation plan hypothesis, debt contract hypothesis and political cost hypothesis is the opportunistic behavior of management in choosing accounting policies. Debt contract motivation can be used to explain the relationship between debt and earnings management of listed companies. The famous debt contract hypothesis comes from Watts & Zimmerman (1986). They believe that with the emergence of debt contracts, enterprises will adjust their earnings through accounting policy changes. This is to cater to loan contracts. Hu Yiming and Tang Songlian (2007) found that the bank will stipulate the standard figures of the financial status of some companies in the loan contract. During the duration of the debt contract, the bank requires the company to provide accounting information on a regular basis for the purpose of bank monitoring. The higher the company's debt level is, the more restrictive the bank's provisions are, and the greater the company's default risk is. From the above point of view, the purpose of meeting the

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debt contract constraints leads to listed companies earnings management. But this is only one side of the problem. Under the condition of debt contract, listed companies have other motivation to manage earnings, such as capital market motivation. In the semi strong and weak market, in order to cover up the decrease of profit due to the new interest expense, the company will have the demand of earnings management, and adjust the profit upward to obtain better market performance.

1.2 Earnings management and monetary policy

This paper holds that the motivation of earnings management will converge under the tight monetary policy. Basically, under the tight monetary policy, the prosperity of stock market is low, and the market performance after earnings management is significantly worse than that during the loose monetary policy period. This view has been supported by many studies. Fu Yunying and Zhang mingni (2018) believe that monetary policy will affect the quality of accounting information disclosure of enterprises, and there are differences between the listed sectors. The biggest impact is the non-state-owned enterprises in the small and medium-sized board. The tighter the money, the higher the quality of accounting information disclosure of non-state-owned enterprises in the small and medium-sized board, while the quality of accounting information disclosure of enterprises in the main board and the growth enterprise board is not affected by monetary policy Ring.

1.3 Innovation of this paper

Most of the existing studies are from the following perspectives: the relationship between earnings management and debt contracts, the impact of monetary policy on earnings management, etc. There are few studies on the impact of monetary policy on earnings management caused by debt contracts. In this unique perspective and research area, this paper is of innovative significance.

2. Research hypothesis and design

Before and in the process of debt financing, enterprises will accept the evaluation of banks and other financial institutions, and the evaluation results often depend on the profitability of enterprises. The price and other terms stipulated by the borrower and the borrower in the debt contract, such as loan amount, loan term, collateral, etc., are also affected by the debtor's profitability. Therefore, the first assumption is that the debtor in the debt contract has stronger motivation of earnings management during the same period of new borrowing, and the amount of new borrowing changes in the same direction as the amount of accrued earnings management.

If hypothesis 1 holds, the α1 coefficient in the model (1) is significantly positive.

$$DA = \alpha_0 + \alpha_1 ND + \alpha_2 Growth + \alpha_3 MTB + \alpha_4 Size + \alpha_6 Volatility + \varepsilon (\text{model } 1)$$

Da is the manipulation accrual, which is used to measure the level of earnings management. Nd is the new loan amount of the listed company. This paper mainly sets the following basic control variables: (1) growth of main business income; (2) market book value ratio (MTB); (3) size of scale, taking the logarithm of total assets; (4) volatility of sales, expressed by the ratio of standard deviation of sales income in the past three years to total assets in the current period.

The listed companies often care about the performance of the stock market. The new accrued interest brought by the new loans will make the current profits decline. In order to prevent the decline of profits, the listed companies have the motivation of upward earnings management. Under the tight monetary policy, the sensitivity of stock price to the amount of earnings is reduced. Therefore, even in the case of new borrowings, listed companies do less accrual earnings management. Therefore, the second hypothesis is that under the tight monetary policy, the new borrowing of listed companies causes less earnings management, and the tight monetary policy has governance effect on the earnings management caused by debt.

If hypothesis two holds, the α3 coefficient in model (2) is significantly negative.

$$DA = \alpha_0 + \alpha_1 ND + \alpha_2 MP + \alpha_3 ND * MP + \alpha_4 Growth + \alpha_5 MTB + \alpha_6 Size + \alpha_7 Volatility + \varepsilon (\text{model } 2)$$

MP is a dummy variable of monetary policy. When monetary policy is in contraction, the value is 1; otherwise, the value is 0.

3. Empirical research results and analysis

3.1 Research samples

The sample interval selected in this paper is 2010-2019 quarterly data, excluding sample companies with missing variables, and finally 126433 observations are obtained. The industry classification shall follow the industry classification guidelines of listed companies issued by the CSRC. The data processing and follow-up empirical analysis are carried out by spss22 software.

In order to avoid the influence of extreme values, the main continuous variables are tail reduced at 1% and 99% quantile levels. The data of this paper is mainly from CSMAR database.

3.2 Regression analysis

In **Table 1**, the ND (representing new interest bearing debt) coefficient in regressio1 is significantly positive, and hypothesis 1 holds. New debt contracts significantly increase the amount of earnings management of listed companies, and the amount of new borrowings changes in the same direction as earnings management. This is consistent with the results of Watts & Zimmerman (1986). When listed companies add interest bearing debt contracts, in order to meet the constraints of debt contracts, and to make up for the reduction of earnings caused by new interest costs, there will be strong motivation for earnings management. Table 1 regression2 dependent variable is the absolute value of the manipulative accruals, and the coefficient of ND is larger and more significant. This shows that the incentive effect of new interest bearing debt contract on earnings management of listed companies is not only upward, but also downward. Downward earnings management may be needed to smooth profits in order to meet the constraints of debt contracts.

	DA（regression1）		**|DA|（regression2）**	
	c	**T**	**c**	**T**
ND	0.0445***	48.6172	0.0967***	109.87
Growth	.000	.002	.000	.041
MTB	-.026	1.231	.023	1.070
Size	-.134***	-3.583	.194***	4.936
Volatility	1.114	.950	-1.955	-2.483
（Constant）	-0.0105**	-2.1922	0.1077***	23.3676
Annual effect	control	control	control	control
Industry effect	control	control	control	control
Adjusted R squre	0.058		0.0872	
F	2363.64		12072	

Table 1. Impact of new debt on accruals

Table 2 Regression3 ND (representing new interest bearing debt), MP (representing monetary policy) and ND* MP (multiplier) coefficients are 0.1705, - 0.0712 and -0.1319, respectively, which are very significant. This shows that the tightening monetary policy has a restrictive effect on the motivation of earnings management. Under the tightening monetary policy, the motivation of earnings management becomes weak. The negative multiplier coefficient shows that under the tight monetary policy, the incentive effect of new interest bearing debt contract on earnings management of listed companies is significantly weaker, and the tight monetary policy has significant governance effect on earnings management caused by debt contract. In table 2, the dependent variable of regression4 is the absolute value of the manipulated accruals, and the coefficients of ND and cross multiplication is larger and more significant. The MP (monetary policy) coefficient is only significant in regression3, while the regression4 is not significant. This further shows that under the tight monetary policy, the motivation of earnings management of listed companies is weaker, especially upward, because the sensitivity of the stock market to earnings management is reduced, so is the upward earnings management caused by debt contract, and so is the upward earnings management caused by other reasons.

	DA（regression3）		**|DA|（regression4）**	
	c	**T**	**c**	**T**
ND	0.1705***	39.5170	0.4476***	110.6987
MP	-0.0712***	-7.3928	-0.0071	-0.7886
ND*MP	-0.1319***	-29.8826	-0.3672***	-88.7862
Growth	0.000	0.538	0.001	1.398
MTB	0.001	0.222	0.039	3.112
Size	.006	.875	.015	.912
Volatility	-0.078	-0.709	-0.623**	-2.157
（Constant）	0.0285***	3.9184	0.1074***	15.7646
Annual effect	control	control	control	control
Industry effect	control	control	control	control
Adjusted R squre	.075		.1408	
F	1112		6904.20	

Table 2. The influence of new debt and monetary policy on manipulative accruals

4. Conclusion

This paper examines the governance effect of monetary policy on earnings management caused by debt contracts. Through the study, we find that the tightening of monetary policy significantly inhibits the earnings management caused by the new interest bearing debt contract. The earnings management caused by debt contract, on the one hand, is the earnings management of listed companies to meet the debt contract constraints, on the other hand, is the earnings management for the performance of capital market, to make up for the profit reduction caused by interest expense. From the results of this study, the motivation of earnings management of listed companies for the performance of capital market is very significant, when the currency is tight, the capital market is not so sensitive to earnings management, the motivation of earnings management caused by the new debt contract of listed companies also weakens.

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