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The Discussion on Relationship of between Funding Raising and Management Performance in Korean Companies

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Abstract

Background/Objectives: The purpose of the study is to investigate that the Consideration of Optimal Funding Raising in Korean companies. The Total Debt Ratio and Current Debt Ratios have significant positive effects on the management performance in Korean companies. The Equity Ratios have significant negative effects on the management performance in Korean companies. Inventory turnover which are multiplied Equity Ratios as a moderator have significant positive effect on the management performance in Korean companies. This study will be helpful for better management performance in Korean companies.

Keywords: Financial Ratios, Funding Raising, Management Performance, Moderator, Total Debt Ratio

1. Introduction

Behavior of Fund Raising is one of important factors which affect Management Performance. By the way, such influence has two aspects such as positive or negative. We can have brief mention about positive or negative aspects of Funding Raising by debt and shareholders' equity. It is as follows:

First, Fund Raising by debt could have Tax saving effect by handling Interest as expense. Accordingly, it is possible to lower the capital cost. Fund Raising by debt could have performance of watch by Creditor because Creditors have high involvement as important investors. As a result, it will strengthen the reporting obligations and will lower information asymmetry. Thereby, it can be more transparent and that a rational management system will can be able to play a part. Manager can have attitude deliberate when Fund-Raising by the debt, because they have obligation for repayment about interest and principal. Fund Raising by shareholder equity has no obligation from interest or principal. So it has aspect of positive which is lighter burden as a favorable point and also it has the favorable positive aspects to create a large-scale capital by the securitization of capital.

Second, we can also have mention about negative aspect of Fund Raising. Fund-Raising can be made by the debt and shareholders' equity. The negative aspect of Fund Raising is as follows: 1) Funding by the imprudent debt does not take into account the situation that increases the burden of interest and principal repayment obligations. Thus, the increased capital cost like Bankruptcy costs, agency costs, costs of information and in addition, the indiscriminate use of the debt would be bad and ill-advised funding-raising. It is potentially a source of lax management and mismanagement. 2) Fund Raising by shareholders' equity has negative aspect by the lax management possibility, because there is ease of Fund Raising by equity capital.

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In view of these, it demands reasonable control and management for the successful financing due to the advantages or disadvantages on Fund Raising. The goal of this paper is to find successful approach among the Fund Raising by debt and shareholders' equity. To do this, it classifies Fund Raising by means of debt and shareholders' equity.

2. Research Model Set

2.1 Establish Hypotheses

Generally, we can presume that Debt Ratio or Equity Ratio has positive effect on the management performance. However, the trend is estimated to show a non-linear form of the U-shape. That is, the relationships will be maintained on regular section. But it will not be maintained except on regular section[1–3]. Therefore, Fund Raising by debt or equity must have implementation on optimal level for the desirable management performance. It must be able to prevent excess or shortage by the Funding on debt or equity.

This paper analyzes relationship between Net Income Ratio and Debt Ratios, Equity Ratio etc. from 1994 to 2013. This paper examines on the adequacy of Funding Raising on the Debt Ratio and Equity Ratio etc. That is, this paper tried to prove that Debt ratio and Equity ratio have effect on the Net Income Ratio (whether or not effect of positive, negative, non-relational etc.). If these ratios have adequacy on average during the 20 year survey period, these ratios will be positive effect on Net Income Ratio. And if these ratios were due to inadequate financing, will be negative effect on the Net Income Ratio. And also, if it has not significant effect on the Net Income Ratio, it could not examine about whether or not adequate of Funding Raising. That is, because we can think about that, the higher adequacy for Funding Raising, the higher management performance will be. Therefore, when considering these points, we can establish four hypotheses for research model set on this study as follow.

Meanwhile, Inventory Turnover Ratio is represented of sales activation. We could be seen whether sales activated through Inventory Turnover Ratio. If there is made an activated sales in the conditions that Debt Ratio and Equity Ratio are affecting management performance, think about that we could predict higher management performance. Therefore, we will establish related hypothesis also and we will verify.

[Hypotheses 1]

1.1: The ratio of total debt will have a positive effect on the management performance.

1.2: The ratio of total debt affecting the management performance will be stronger, the higher the Inventory Turnover Ratio.

[Hypotheses 2]

2.1: The ratio of current debt will have a positive effect on the management performance.

2.2: The ratio of current debt affecting the management performance will be stronger, the higher the Inventory Turnover Ratio.

[Hypotheses 3]

3.1: The ratio of non-current debt will have a positive effect on the management performance.

3.2: The ratio of non-current debt affecting the management performance will be stronger, the higher the Inventory Turnover Ratio.

[Hypotheses 4]

4.1: The ratio of shareholders' equity will have a positive effect on the management performance.

4.2: The ratio of shareholders' equity affecting the management performance will be stronger, the higher the Inventory Turnover Ratio.

2.2 Research Model

Model of this study is established so as to solve or verify hypothesis as follow: As shown in Table 1, meanwhile, model of this study was established that to refer prior research. The prior papers which using regression method about adequacy of Fund Raising[4–8]. Especially, focus of this paper as discussion is a moderator. This paper analyzes Inventory Turnover Ratio as a moderator. One of the goal of this study are analysis role of influence about whether of high or low of Inventory Turnover Ratio as a promoting variable.

Note.

$$\text{RNI (Ratio of Net Income)}: \frac{icom + \cos t}{Total\ Asset} \times 100 \quad , \quad \text{CDR (Current Debt Ratio)}: \frac{current\ bebt}{equity} \times 100$$

NDR (Non-current Debt Ratio): $\frac{\text{non-current debt}}{equity} \times 100$,

TDR (Total Debt Ratio): $\frac{total\,bebt}{equity} \times 100$

OER (Owner Equity Ratio): $\frac{equity}{Total\,asset} \times 100$, GTR (Inventory Turnover Ratio): $\frac{sale}{inventory} \times 100$

The Ratio of Net Income (RNI) is the dependent variable of this study. It is shown to value of each quarter of net income of company in Korea. The Net Income of company indicates value about management performance. This is calculated into a percentage value that income plus capital cost divided total asset.

On the other hand, these papers were selected independent variable as following. Current Debt Ratio (CDR), Non-current Debt Ratio (NDR), Total Debt Ratio (TDR), Equity Ratio (OER), Current Debt Ratio (CDR) × Inventory Turnover Ratio (GTR), the Non-current Debt Ratio (NDR) × Inventory Turnover Ratio (GTR), Total Debt Ratio (TDR) × Inventory Turnover Ratio (GTR), Equity Ratio (OER) × Inventory Turnover Ratio (GTR). Current Debt Ratio (CDR) is calculated in to percentage value that current debt divided equity. And Current Debt Ratio represents behavior of Funding Raising and liquidity related encashment. Non-current Debt Ratio (NDR) is calculated in to percentage value that non-current debt divided equity. This also represents behavior of Funding Raising. The Total Debt Ratio also indicates behavior of Funding Raising. Total Debt Ratio (TDR) is calculated in to percentage value that total debt divided equity. Equity Ratio (OER) is calculated in to percentage value that equity divided total asset. Equity Ratio represents stability of Funding Raising. Inventories Turnover Ratio (GTR) is that calculated in to percentage value that sales divided inventory. At this time, Inventory Turnover Ratio represents activity of business.

And Current Debt Ratio × Inventory Turnover Ratio (CDR × GTR) is variable as moderator for analysis. It is a variable for analysis of management performance which is accordance with activation for the sales when current debt has positive effect on the Net Income Ratio. It is researched whether more affirmative of activation of sales. Non-current Debt Ratio × Inventory Turnover Ratio (NDR × GTR) also is variable to perform the functions as a moderator. It is a variable for analysis to management performance. That could analyze relevance of between the management performance and Non-current Ratio according whether or not sales-activation become. It is researched whether affirmative of Activation of sales. Total Debt Ratio × Inventory Turnover Ratio (TDR × GTR) and Equity Ratio × Inventory Turnover Ratio (OER × GTR) are variable as moderator which is also to perform analysis about whether activation sales by the proposed variables.

2.3 Selection of the Sample

The data which are used can be collected from 1990 to 2013 in ECOS (Korea Bank) for the study. Selection criteria of specific samples were selected as follows.

- The data, between 1990 and 2013 on each quarterly in Korean Companies Equity Ratio, Debt Ratio, Current Debt Ratio, Non-current Debt Ratio and ratio of inventory turnover.
- The Ratio of Net Income of each company's quarterly in Korean companies from 1990 to 2013,
- The data extracted from the Bank of Korea, Economic Statistics System (ECOS),

Table 1. Regression equation for hypothesis testing

	Regression
1	$RNI = \alpha_0 + \alpha_1 TDR + \alpha_2 GTR + \alpha_3 TDR \times GTR + \varepsilon$
2	$RNI = \alpha_0 + \alpha_1 CDR + \alpha_2 GTR + \alpha_3 CDR \times GTR + \varepsilon$
3	$RNI = \alpha_0 + \alpha_1 NDR + \alpha_2 GTR + \alpha_3 NDR \times GTR + \varepsilon$
4	$RNI = \alpha_0 + \alpha_1 OER + \alpha_2 GTR + \alpha_3 OER \times GTR + \varepsilon$

- The samples used in this study are an analysis of data pertaining to the branch 96 for a 24-year period.

3. The Empirical Results

Descriptive statistics was shown in Table 2 for carrying out the study. Dependent variable which is Net Income Ratio on the data 20 years from 1994 to 2013 represents as a value at 6.3537% of the annual average assets. It shows us that value high rather than the expected value. Therefore, we can infer active and vigorous business activities through the value. Net Income Ratio was 2.63% as a value of minimum when IMF shortly at 2000. And Net Income Ratio was 9.58% as a value of maximum when IMF recovered at 2002.

Meanwhile, independent variable is Total Debt Ratio, the Current Debt Ratio, Non-current Ratio etc. However, the singular point of this independent variable is that it appears to be a very large difference between the minimum and maximum values. It could be presume due to the decrease Debt Ratio after financial crisis called IMF. During the investigation period, Total Debt Ratio was 396% record high in 1997, recorded the lowest at about 93% in 2013. Current Debt Ratio was 232.62% record high in 1997, recorded the lowest at about 61.8% in 2013. And Non-current Debt Ratio was 261.13% record high in 1997, recorded the lowest at about 29.4% in 2010. When we view the review of such data, the peak of the financial crisis reached its peak in 1997 the debt ratio. This makes it suggests the possibility fail to implement Funding Raising efficient behavior at the time.

On the other hand, the result which analyzed Pearson correlation is in Table 3 as follow.

The result for analysis on the relevance of correlation shows variables each other as shown in Table 3. Looking at the results, Net Income Ratio has significant negative effect on the Total Debt Ratio and Current Debt Ratio × Inventory Turnover Ratio and Total Debt Ratio × Inventory Turnover Ratio. And Net Income Ratio has significant positive effect on the Equity Ratio and Equity Ratio × Inventory Turnover Ratio. Current Debt Ratio has significant positive effect on the Non-current Debt Ratio and Current Debt Ratio × Inventory Turnover Ratio, Total Debt Ratio × Inventory Turnover Ratio, Non-current Debt Ratio × Inventory Turnover Ratio. And Current Debt Ratio has significant negative effect on the Inventory Turnover Ratio and Equity Ratio × Inventory Turnover Ratio.

Non-current Debt Ratio has significant positive effect on the Current Debt Ratio × Inventory Turnover Ratio and Non-current Ratio × Inventory Turnover Ratio, Total Debt Ratio × Inventory Turnover Ratio. And Non-current Debt Ratio has significant negative effect on the Inventory Turnover Ratio and Equity Ratio × Inventory Turnover Ratio. Other more details of the relationship between the variables are the same as Table 3. We can presume existence of relationship organic through the analysis of correlation.

Table 2. Descriptive statistics of variables

Variable Statistics	Average	Median	Deviation	Minimum	Maximum
RNI	6.3537	6.6	1.63785	2.63	9.58
CDR	123.4404	93.98	55.2396	61.8	232.62
NDR	145.2792	1,633,500	82.31358	29.46	261.13
TDR	196.5467	158.82	97.54476	92.93	396.25
OER	373,783	38.955	11.42211	20.15	51.83
GTR	9.2579	10.135	1.56937	6.85	11.09
CDR × GTR	1061.8094	991.3621	305.68999	641.48	1746.98
NDR × GTR	1245.3285	1481.2968	615.13904	313.75	2018.34
TDR × GTR	1677.9391	1671.1248	57,979,994	964.61	2975,84
OER × GTR	362.3385	410.812	157.07031	151.33	544.59

Table 3. Variable correlation

	RNI	OER	TDR	CDR	NDR	GTR	CDR × GTR	NDR × GTR	TDR × GTR	OER × GTR
RNI	1									
OER	.194 (.058)	1								
TDR	-.170 (.098)	-.984 (.000)	1							
CDR	-.128 (.215)	-.975 (.000)	.995 (.000)	1						
NDR	-.125 (.224)	-.925 (.000)	.900 (.000)	.880 (.000)	1					
GTR	.058 (.586)	.918 (.000)	-.935 (.000)	-.944 (.000)	-.780 (.000)	1				
CDR × GTR	-.231 (.024)	-.966 (.000)	.970 (.000)	.966 (.000)	.905 (.000)	-,838 (.000)	1			
NDR × GTR	-.148 (.151)	-.770 (.000)	.719 (.000)	.686 (.000)	.943 (.000)	-.531 (.000)	.775 (.000)	1		
TDR × GTR	-.277 (.006)	-.973 (.000)	.970 (.000)	.952 (.000)	.925 (.000)	-.832 (.000)	.989 (.000)	.808 (.000)	1	
OER × GTR	.175 (.087)	.993 (.000)	-.981 (.000)	-.975 (.000)	.955 (.000)	.955 (.000)	.940 (.000)	-.712 (.000)	-.946 (.000)	1

3.1 Verification of Hypothesis

The main concern of this study is to check influential of Funding Raising of equity and debt. According to the result of checking, we could Inspect and examine about the problem of that. And we could find Improvement. For this end, the hypothesis of this study was established. The verification results are shown below in Tables 4, 5, 6 and 7.

Hypothesis 1.1. The ratio of total debt will have a positive effect on the management performance" is accepted significant positive level (regression coefficients 4.875) as shown in Table 4. And at this time, Hypothesis 1.2. "The ratio of total debt affecting the management performance will be stronger, when the higher inventory turnover ratio" is accepted significant negative level (regression coefficients is -4.110) as also shown in Table 4. This is representing the opposition of the hypothesis. In other word, it is verified that affecting of the ratio of total debt of degree on the management performance will be weakening when the Inventory Turnover Ratios have higher level. This result makes offer on grounds of judgment, about whether efficient Funding Raising of the total debt. Total Debt Ratio must be significant positive effect on the management performance if it is efficient Funding Raising by total debt. And it must be negative direction if it is inefficient Funding Raising. Meanwhile, during the survey period, result of analysis it can have judgment that was efficient Funding Raising of total debt because Total Debt Ratio has significant positive effect on the management performance. And in a statistical analysis based on during the survey period, Total Debt Ratio will be more negative direction when the degree of activation sales is the more strong property. This is meaning, the stronger activity of sales, more inefficient of Funding by total debt in this case.

On the other hand, Current Debt Ratio has significant positive effect on the management performance as shown in Table 4. And Current Debt Ratio × Inventory Turnover Ratio has significant negative effect on the management performance as shown in Table 5. As a result, Hypothesis 2.1 "The ratio of Current Debt Ratio will have a positive effect on the management performance" is accepted significant positive level (regression coefficients 5.935). And

Table 4. Impact on the management performance of Total Debt Ratio

Variable/ coefficients	Regression coefficients	t-value	p-value	Adjusted R^2
Intercept	-	-1.044	0.299	0.282
Total debt ratio(TDR)	4.875	4.130	0.000	
Inventory turnover ratio (GTR)	1.457	2.831	0.006	
TDR × GTR	-3.795	-5.034	0.000	

Note 1)

$$RNI = \alpha_0 + \alpha_1 TDR + \alpha_2 GTR + \alpha_3 TDR \times GTR + \varepsilon$$

Note 2) RNI : Ratio of net income.

Note 3) Total number of analyzed sample is 96.

Table 5. Impact on the management performance of Current Debt Ratio

Variable/ coefficients	Regression coefficients	t-value	p-value	Adjusted R^2
Intercept	-	-2.293	0.024	0.294
Current debt ratio(CDR)	5.935	5.180	0.000	
Inventory turnover ratio (GTR)	2.215	4.100	0.000	
CDR × GTR	-4.110	-5.935	0.000	

Note 1)

$$RNI = \alpha_0 + \alpha_1 CDR + \alpha_2 GTR + \alpha_3 CDR \times GTR + \varepsilon$$

Note 2) RNI : Ratio of net income.

Note 3) Total number of analyzed sample is 96.

Table 6. Impact on the management performance of Non-current Debt Ratio

Variable/ coefficients	Regression coefficients	t-value	p-value	Adjusted R^2
Intercept	-	-0.137	0.891	0.002
Non-current debt ratio(NDR)	1.989	1.005	0.318	
Inventory turnover ratio (GTR)	0.741	0.953	0.343	
NDR × GTR	-1.629	-1.114	0.268	

Note 1)

$$RNI = \alpha_0 + \alpha_1 NDR + \alpha_2 GTR + \alpha_3 NDR \times GTR + \varepsilon$$

Note 2) RNI : Ratio of net income.

Note 3) Total number of analyzed sample is 96.

Table 7. Impact on the management performance of Equity Ratio

Variable/ coefficients	Regression coefficients	t-value	p-value	Adjusted R^2
Intercept	-	5.808	0.000	0.261
Owner equity ratio(OER)	-5.966	-3.789	0.000	
Inventory turnover ratio (GTR)	-3.323	-5.375	0.000	
OER × GTR	9.275	4.412	0.000	

Note 1)

$$RNI = \alpha_0 + \alpha_1 OER + \alpha_2 GTR + \alpha_3 OER \times GTR + \varepsilon$$

Note 2) RNI : Ratio of net income.

Note 3) Total number of analyzed sample is 96.

at this time, Hypothesis 2.2, "The ratio of current debt affecting the management performance will be stronger, when the higher Inventory Turnover Ratio" is accepted significant negative level (regression coefficients -4.110).

This is for the domestic enterprises to implement efficient use of the average level of current debt during the study period. But Current Debt Ratio × Inventory Turnover Ratio would not be represented implement. It is meaning that it has contributed to the formation of proper Funding Raising. But this is showing that inefficient Funding-Raising of current debt by domestic enterprise on during the survey period in the case of a situation in which sales enable. This is shown potential of efficient Funding Raising by current debt in the case of a situation

which is sales not active. But this is shown potential of ineffective Funding Raising by current debt in the case at the situation which is sales enable. Therefore we need pay attention to the Funding Raising when become active sales.

By the way, Non-current Debt Ratio has positive direction on the ratio of net income (regression coefficient 1.898) but is not significant level on the ratio of net income as shown in Table 6. And Non-current Debt Ratio × Inventory Turnover Ratio has negative direction (coefficient -1.629) but is not also significant level as shown in Table 7. As a result, Hypothesis 3.1. 'The ratio of non-current debt will have a positive effect on the management performance' and Hypothesis 3.2. 'The ratio of non-current debt affecting the management performance will be stronger, the higher the Inventory Turnover Ratio' are dismissed. When we look at it, though that needs Funding Raising efficient generally for the management performance desirable, Hypothesis 3.1 show it which couldn't analyze and judge about whether or not efficiency of using non-current asset. And also Hypothesis 3.2 shows it which could not was judged whether or not efficiently performs of the using non-current asset in the case of a situation in which sales active. I think about that it needs interesting aggressive on the non-current debt as a relatively stable funding.

Meanwhile the owner equity ratio has significant negative effect on the ratio of net income (coefficient -5.966). And owner equity ratio × Inventory Turnover Ratio has significant positive effect on the ratio of net income (coefficient 9.2758). As a result, result of verification show it on opposition of hypothesis 4.1 which is the ratio of shareholders' equity will have a positive effect on the management performance. On the other hand hypothesis 4.2 was accepted that the ratio of shareholders' equity affecting the management performance will be stronger, the higher the Inventory Turnover Ratio. It means that domestic companies could not Funding Raising efficient during the study period on average. But this is meaning, it can judge that is performed proper about Funding Raising on average during the study period in the case of a situation in which sales active.

4. Conclusions

Data which are used can be collected from 1994 to 2013 at ECOS for the study. Fund Raising Ratio which are used in data are Equity Ratio, Total Debt Ratio, Current Debt Ratio, Non-current Debt Ratio, and the others Inventory Turnover Ratio as a Moderator. Meanwhile, the results of study can be summarized in the following.

First, Total Debt Ratios have significant positive effects on the management performance in Korean companies. And inventory turnover which are multiplied Total Debt Ratios as a moderator have significant negative effects on the management performance in Korean companies. Second, also, Current Debt Ratios have significant positive effects on the management performance in Korean companies. And Inventory turnover which are multiplied Current Debt Ratios as a moderator have significant negative effect on the management performance in Korean companies. Third, Non-current Debt Ratios and Inventory turnover which are multiplied Non-current Debt Ratios as a moderator has not significant level effect on the management performance in Korean companies. Fourth, the Equity Ratios have significant negative effects on the management performance in Korea companies. And Inventory turnover which are multiplied Equity Ratio as a moderator have significant positive effect on the management performance in Korea companies.

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