

# The Relevance of Between the Stability on the Financial Structure and Trade Balance on the Tangible Goods-A Centered Discussion in Korea

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## Abstract

The purpose of the study is to investigate that the relevance of between the stability on financial structure and the trade balance on tangible goods. This study was used to data (1994-2013) as the independent variable which represent the stability on financial structure. The dependent variable is the trade balance on tangible goods by using this data (1994-2013). From this research, the points of the study result can be summarized in the following items. First, ratio of stability on financing has no significant effects as to dependent variable. Second, ratio of stability on payment capacity also has no significant effect on the dependent variable also. Third, however, the non-current ratio which is shown the stability of fund management has significant positive effect on dependent variable.

**Keywords:** Ratio of Stability on Financing, Ratio of Stability on Fund-Management, Ratio of Stability on Payment Capacity, Stability on Financial Structure, Trade Balance on Tangible Goods

## 1. Introduction

The trade balance on tangible goods is value (the value of exports minus the value of import) for tangible goods produced in Korea. It's called by another name 'trade balance on general goods' from time to time. And that is excepted the intangible goods, the import and export goods for processing, a gold etc. that is all kind of difficult recognized to tangible goods. Thus, the trade balance on tangible goods can be utilized to see for quantifiable data of foreign trade activities of domestic manufacturers or distributors in only tangible goods production. In other words, it can estimate activity that is the foreign trades by manufacturers or distributors as their result of achievement. The manufacturing of domestic market in recent years has shown more important point on the business activities for abroad market than the business activities for domestic market. It is due to the limitations of growth in domestic market, the increased competition of domestic market, uniquely consumers' buying tendencies etc.

As a result, the increasing of foreign trade dependence on manufacturers of tangible goods are required analysis, attention, research. Meanwhile, the financial structure of the company shows that stability, profitability and activity. The stability would be gauged mainly through the statement of financial position. The profitability can be examined through the income statement and the statement of financial position. The activity can be also examined through income statement, cash flow statement, and other data of finance. This analysis of financial structure can be comprehensive utilization for analysis activity of the company's management<sup>1-8</sup>.

By the way, the stability which is representing one of financial structure is an important indicator to show the company's growth and potential power as to whether to the continuity of the company. Therefore, given these points, we are required to consideration and examination about stability of financial structure using information analysis. We can be estimated about trade balance on the companies which are producing tangible goods. it could affect in enterprise' business performance.

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And the business performance affects stability of the financial structure. The stability of a financial structure should have essential key points, for the performing of desired management activities. Analysis about stability of financial structure could be one of for performing of desired management. Therefore, in this paper, we discuss on this analysis.

The stability of financial structure can be classified as follows; first, the stability on Financing; second, stability on payment capacity; three, the stability on fund management. A confirm about the stability on financing is able to compare measurement as the capital and liabilities that of each values. At this time, mainly, these items use to ratio such as equity ratio, debt ratio. The stability on payment capacity is shown the ability to pay short-term liabilities. That is judged to compare with the value about current debt and current asset. At this time, the current ratio and quick ratio were used as variables. The stability on fund management can be checked on over-investment. These items can be determined from comparing the value of non-current asset and shareholders' equity or non-current debt. At this time, the non-current ratio and long-term ratio was used as variables.

As mentioned above, if the trade balance on tangible goods affect the business performance of enterprise and if the business performance of enterprise affect the stability of financial structure, we can have estimated about relevance of between the stability on financial structure and the trade balance on tangible goods. For example, if it's effort of bold investment to promote the export and the import, in the case, we could predict that there is influence between the trade balance on tangible goods and the stability of financial structure. After all, we need to identify for the influence. The identification from the results of the trade balance tangible goods and the stability of financial structure is analysis through verification using related data. The analysis could show us the solution to the desired direction. And It will be increased for us the width of the choice on the control. This study has goal that is an attempt, analyzing, verification for the need of identifying of these relevant items. And this paper is also to investigate relevance of behavior and characteristics about between the trade balance tangible goods and the stability of financial structure.

## 2. Theoretical Background

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As mentioned above, the ratios which represent the financial structure can be classified ratio of stability, ratio of profitability, ratio of activity. This paper was affected as much to the previous studies about financial structure and financial ratios. Especially, previous major studies include<sup>9-13</sup>.<sup>9</sup>Classified financial ratio as ratio of profitability, ratio of capital structure, ratio of stability. And then he analyzed about significant relevance of between the capital investment and the financial ratios of corporate<sup>10</sup> was analyzed empirical items, about relationship between the ratio of financial and the economic value added, and has estimated that ratio of financial affect the economic value<sup>11</sup> studied the relevance of between strategy and financial ratios. Thereby, they can have empirically verified that the company which has performed strategy successful had high financial ratios to relate for profitability<sup>12</sup> was measured the control effectiveness for the variable. The used to European companies' financial statements and financial ratios and have confirmed verified relevance between of stock price and financial ratios<sup>13</sup> was analyzed the financial ratios of Singapore electronics industry. At this time, he said that the stability on financing has effect a significant level on business performance. The previous studies show us about related of the financial structure, the financial ratio. Eventually, they could have obtained how to the efficient management of the financial structure by establish policies through analysis of financial structure or financial ratio. I think it is desirable approach. Consideration of the financial structure is still required to improve efficiency. Given these points, are thought relevance of financial structure should be having research. This paper has a goal. That is research about relevance of financial structure.

## 3. Set of Hypothesis and Study Model

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### 3.1 Set of Hypothesis

The ratio of the stability of procured capital is a critical indicator in characteristic quality as the funding management which is represented. Equity ratio, which used to measure for stability of the financing can be measured that is divided by shareholders' equity to total asset. The higher the ratio, the equity ratio indicates high stability about procured funds but the reverse is that it's meaning low stability on Financing.

By the way, at that time, we can be estimated the trade balance on tangible goods has negative effect on equity ratio. It can be predicted through whether to positive perform about international marketing activity. International marketing activity would be positive relation the ratio of debt and the reason is ease of fund management. Because, funding by debt can be easier and faster than funding by equity. At this time, when ratio of debt is high position, shareholders' equity ratio will be low position. Because negative relevance of between the debt ratio and the equity ratio. In view of these matters, we could get it; the international marketing activity has positive effect on the trade balance on tangible goods. And we could estimate that the trade balance on tangible goods have positive effect on the debt ratio, but It could estimate that it have negative effect on equity ratio. Debt ratio, as one of stability ratios, it represents stability on financing. And it can be estimated that shareholders' equity divided the total debt. The higher, debt ratio which has repayment obligation about principal and interest indicate position of a high debt. And when debt is high ratio, trade balance on tangible goods can be high position. Because financing by debt is easy financing for the international marketing activity on the trade balance. The providing of capital by high ratio of debt is meaning low stability on financing. Therefore in the opposite case, that are meaning high stability financing, That is, the debt ratio will be low. And at this time, the trade balance on tangible goods which has relevance of international marketing activity will be low also. Therefore, typically, considering these points, could estimate relevance of between the trade balance on tangible goods and debt ratio. This estimating about relevance of between the trade balance on tangible goods and the stability on financing are required verification and analyzing for confirm whether to truth. By this discussion, in this study, will be setting the following hypothesis. It will be validated an empirical items.

**Hypothesis 1:** The trade balance on tangible goods has relevance on the stability of financing capital.

**Hypothesis 1-1:** The trade balance on tangible goods has negative effect on shareholders' equity ratio.

**Hypothesis 1-2:** The trade balance on tangible goods has positive effect on debt ratio.

### 3.2 Study Model

Model of this study is established so as to solve verify hypothesis as follow.

Model;

$$TBG = a_0 + a_1 EOR + a_2 DOR + a_3 COR + a_4 QOR + a_5 NOR + a_6 NLR + \omega$$

Note;

$a_0$  is intercept,  $a_i$  ( $i=1,2,\dots,6$ ) are regression coefficients and  $\omega$  is error term

Variable definitions;

TBG(the trade balance on tangible goods) : Shipped FOB

$$EOR(\text{shareholders' equity ratio}): \frac{\text{equity}}{\text{total asset}} \times 100$$

$$DOR(\text{debt ratio}): \frac{\text{total debt}}{\text{equity}} \times 100$$

$$COR(\text{current ratio}): \frac{\text{current asset}}{\text{current debt}} \times 100$$

$$QOR(\text{quick ratio}): \frac{\text{encashment asset}}{\text{current debt}} \times 100$$

$$NOR(\text{noncurrent ratio}): \frac{\text{noncurrent asset}}{\text{equity}} \times 100$$

$$NLR(\text{noncurrent ratio and long term ratio}): \frac{\text{noncurrent asset}}{\text{equity} + \text{noncurrent debt}} \times 100$$

The trade Balance on Tangible Goods (TBG) is the dependent variable of this study. It is shown to value of each quarter of trade balance on import and export about tangible goods. At this time, we selected to shareholders' equity ratio, debt ratio, current ratio, quick ratio, non-current ratio, non-current long term ratio as independent variable. The shareholders' Equity Ratio (EOR) which is shown ratio of stability on financing is calculated into a percentage value that equity divided total asset. Debt Ratio (DOR) shows us about stability of financing also. This is calculated into a percentage value that total debt divided equity. This ratio can be compared shareholders' equity with the value of the total debt.

The Current Ratios (COR) are shown us about stability on payment capacity as a percentage value. This ratio can be compared current liability with the value of the current assets. This is calculated into a percentage value that current asset divided current liability. The Quick Ratios (QOR) is shown us about stable on payment capacity also. It shows us faster liquidity in stability on payment capacity. This is calculated into a percentage value that encashment asset divided current liability.

On the other hand, Non-Current Ratio (NOR) shows stability on fund management. It is that the non current asset divided shareholders' equity as percentage value. The Non-Current Long Term Ratio (NLR) can be shown stability on fund management. It is that as percentage value, the non-current assets divided sum of shareholders' equity and non-current debt.

**Table 1.** Formula of financial ratio on stability

Ratio Stability on Funding	Stability on Payment Capacity	Stability on Fund Management
$\text{equity ratio} = \frac{\text{equity}}{\text{total asset}} \times 100$	$\text{current ratio} = \frac{\text{current asset}}{\text{current liability}} \times 100$	$\text{noncurrent ratio} = \frac{\text{noncurrent asset}}{\text{equity}} \times 100$
$\text{debt ratio} = \frac{\text{total debt}}{\text{equity}} \times 100$	$\text{quick ratio} = \frac{\text{encashment asset}}{\text{current liability}} \times 100$	$\text{noncurrent and long term ratio} = \frac{\text{noncurrent asset}}{\text{equity} + \text{noncurrent liability}} \times 100$

### 3.3 Selection of the Sample

The contents of this study are as follows:

1. Will study relevance of between the trade balance on tangible goods and the stability on financial structure.
2. Will try to discover behavior and characteristics about the trade balance on tangible goods through this study. Addition to, would have discussion for the rational and effective decision-making. In order to this end, can be selected relevant sample data (1990-2013). Specific sample selection criteria are as follows.
  - Data (1994-2013), related to the stability of financial ratios on the domestic companies each quarter.
  - Data (1994-2013), during each quarter period, of the trade balance on tangible goods of domestic companies.
  - Data from System of Statistical economic in Korea Bank (ECOS) is used.
  - Data from KOSIS (Statistics) is obtained.
  - Program used to Statistic Package (SPSS 12) for the analysis.

On the other hand, we used to data during the 20 years of the 80 branches for information analysis. At that time, we could use quarter data. Using quarter data is that because can study more finely about the change scale of variables. We will perform regression analysis using sufficient sample size. The quarter data have many merits because it can

be investigated subtle changes more than the annual data.

## 4. The Empirical Results

Descriptive statistics in Table 2 was exhibited for carried out the study and is used variable scale analysis. The trade balance on tangible goods which dependent variables

are not small scale. It's like Table 2 as annual average 9,505.04 billion. Considering both the minimum and maximum, after all, we can be recognized continuously improved scale of the trade balance on tangible goods in Korea from Table 2. And shareholder's equity ratio of the companies in Korea have average 35.83%, median 29.84% that represents pursuant to the international average price. On the contrary, the debt ratio shows higher value (average 212.77%) than international average. It is meaning low stability on financing. The current ratio and quick ratio can be gauged the stability on payment capacity. They have lower value than average also. Therefore they represent do not be secured stable liquidity. On the other hand, non-current and long term ratio which represents the stability on fund management has higher value than average. Therefore, can be needed recognition about risk of over-investment. The result for analyzed correlation shows relevance of all the variables on each other. At this time, they have significant effect each other, under level of less than 1% as looked table 3 below. Especially, as shown in table 3, Current ratio and quick ratio which show liquidity have positive correlation on shareholders' equity ratio. And they have negative correlation on debt ratio. On the other hand, non-current ratio and non-current long term ratio have negative correlation on shareholders' equity ratio. And they have positive correlation on debt ratio.

**Table 2.** Descriptive statistics of variables

Statistics	Minimum	Maximum	Average	Median	Deviation
TBG	-18290.4	36924.8	9505.04	11206.6	16309.36
EOR	20.1	52.06	35.38	28.84	11.52
DOR	92.1	397.43	212.77	246.88	95.45
COR	69.61	115.45	99.57	98.31	11.34
QOR	49.33	89.3	68.76	65.83	14.43
NOR	115.9	271.03	185.91	204.33	53.47
NLR	92.09	130.7	99.65	98.15	8.35

Note 1: Number of samples is 80.

Note 2: TGB (The Balance on Tangible Goods), EOR(shareholders' Equity Ratio), DOR (Debt Ratio), COR (Current Ratio), QOR (Quick Ratio), NOR (Non-Current Ratio), NLR (Non-Current and Long Term Ratio).

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

**Table 3.** Variable correlation

Correlation	EOR	DOR	COR	QOR	NOR	NLR
EOR	1.000					
DOR	-0.980 (0.000)	1.000				
COR	0.837 (0.000)	-0.792 (0.000)	1.000			
QOR	0.925 (0.000)	-0.876 (0.000)	0.806 (0.000)	1.000		
NOR	-0.969 0.000	0.966 (0.000)	-0.883 (0.000)	-0.852 (0.000)	1.000	
NLR	-0.515 (0.000)	0.440 (0.000)	-0.882 (0.000)	-0.600 (0.000)	0.580 (0.000)	1.000

Note 1: Number of samples is 80.

Note 2: p-value is in parentheses.

#### 4.1 Verification of Hypothesis

As already mentioned above, the primary purpose of this study is as follows:

1. Discussion and analysis about the relevance of between the trade balance on tangible goods and the ratios which represent stability on financing and payment capacity and fund management.
2. Could be checked the issue of trade on tangible goods through analysis. We will find ways to solve or to improve. For this end, the hypothesis of this study was established. The verification results are shown below in Table 4.

From Table 4, the shareholders' equity ratio and the debt ratio which are shown stability on financing have not significant relevance on trade balance of tangible goods. This result can be represented. There are not relevance of between the trade balance on tangible goods and the stability on financing. Therefore, from Hypothesis 1, "the trade balance on tangible goods has relevance on the stability of financing capital" is dismissed. On the other hand, the current ratio and quick ratio which are shown stability on payment capacity have not significant relevance on trade balance of tangible goods also.

This result has not relevance of between the trade balance on tangible goods and the stability on payment capacity also. Therefore, from Hypothesis 2, “the trade balance on tangible goods has relevance on the stability of payment capacity” is also dismissed.

However, non current ratio which is shown the stability of the fund management has significant positive effect on the trade balance of tangible goods under significance level 10%, regression coefficient have 1.007. It is meaning that the more investment of non-current assets have increased effect on the trade balance of tangible goods. It shows us that aggressive investments in manufacturing companies may be required for the improvement of trade balance on tangible goods within the relevant range.

Aggressive investment more effect than the stability management approach. That is for the improvement of trade balance on tangible goods.

Thus, investing in large facilities or investing local factories and abroad could have positive effect on the improvement of trade balance or to make revenue with big potential. Nevertheless, investment is required caution. It needs watchfulness because excessive over-investment would be formed. On the other hand, non-current and long term ratio which is shown stability on fund management has not significant effect on the trade balance on tangible goods, unlike non-current ratio.

**Table 4.** Result of regression analysis for hypothesis

	TBG		
	Regression Coefficients	t-Value	p-Value
<b>Intercept</b>		-1.108	0.271
<b>EOR</b>	0.795	0.85	0.398
<b>DOR</b>	-0.107	-0.193	0.847
<b>COR</b>	0.366	0.396	0.694
<b>QOR</b>	0.66	1.47	0.146
<b>NOR</b>	1.007	1.698	0.094
<b>NLR</b>	0.512	0.788	0.434
<b>Adj. R<sup>2</sup></b>	<b>0.501</b>		

Note 1: Model:

Note 2: Number of samples is 80.

## 5. Conclusion

This study was analyzed relevance of between the trade balance on tangible goods and related financial ratio by using the data (1994-2013). We can be obtained major and significant results using the variable analysis. The investment on non-current assets has positive effect for the trade balance on tangible goods. It show that the non-current ratio which represents the ratio of the stability of the fund management have positive relevance on the trade balance of tangible good under significance level 10%. Therefore, we could have more effect from active capacity, using aggressive approach by such as like a big capital investment than investment of stability-oriented approach. Ultimately, the attention of needing is the decision making of the investment for non-current assets aggressive such as like capital investment.

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