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Impact of Operating Spread on Firm's Performances: Evidence from Sri Lankan Manufacturing Companies

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Abstract

Purpose: The purpose of the study is to examine the effect of operating spread on organizational performances with reference to the listed manufacturing companies in Colombo Stock Exchange. In order to identify the relationship between operating spread and organizational performances, the author used data processed from financial reports of manufacturing companies in Colombo Stock Exchange from 2012 to 2016.

Design/methodology/approach: Reformulated financial statement data analysis done using SPSS software, especially correlation and regression analysis. Firms' performance was measured by ROOA, RNOA and ROE which were depended on Operating Spread.

Finding: The result exposed the fact that operating spread positively impact on firm performance, (ROOA, RNOA and ROE).

Practical Implications: The article offers insights to manufacturing companies to identify the capacity of debt level and the importance of considering the spread level when making a decision relating to debt capital. Moreover, Invertors can also consider the company spread level when they select a stock to invest.

Originality/Value: The article presents significant evidence in terms of its scrupulous approach towards checking the toughness of results.

1. Introduction

Management deals with capital structure decisions which come up with a mixture of debt and equity, and which play a dynamic role in the growth of the company. However, the relationship between the level of debt and the company's performance remains an important and unsolved problem in the field of financing (Duais 2016). Heyse (2014), the financing decision, in terms of selecting a capital structure, is one of the most fundamental problems faced by the organization.

The capital structure of a business can divide in to two financial aspects, such as ownership capital or the non-ownership. Selecting the capital of a firm is important for the firm's financial decisions (Tharmila and Arulvel 2013). Moreover, the business has to have the ability to decide on its sources of finance with the available information. In the same way, it can use either equity capital or debt capital. Most companies tend to prefer leverage when the organizations have less capital to form or to operate business activities. If the organizations prefer more leverage than their capacity for business operations, they may face unexpected bankruptcy. Therefore, organizations should be careful with their leverage situations.

Moreover, organizations have to have the sufficient knowledge in managing their debt capital in order to increase their performances. In this manner, operating spread is an important factor to be considered. Operating also called as SPREAD. "If a firm earns an RNOA greater than its after-tax net borrowing cost, it is said to have a favorable financial leverage or favorable gearing: the RNOA is "levered up" or "geared up" to yield a higher ROCE. If the SPREAD is negative, the leverage effect is unfavorable" (Penman 2010, p. 365).

1.1 Statement of the Research Problem

Leverage is one of the tools which magnify the return in an organization. A high amount of leverage or a low amount of leverage is not effective for the success of business activities. Organizations having a large amount of leverage which is not affordable may be one of the reasons for bankruptcy. If the organizations refuse to acquire debt capital, then the organizations will lose the tax benefits which may accrue due to debt capital interest. Therefore, organizations should balance their debt capital for a better performance in their business activities using the calculation of spread level. Adoption of spread theory helps organizations to make effective decision on firm leverage. Therefore, organizations have to

identify the real impact and the relationship of spread on financial performance in order to make their decisions.

1.2 Research Question

The main purpose of this research is to identify the relationship between operating spread and organizational performances. For the detailed analysis the research, question of the research is based on the;

- What is the relationship between operating spread and organizational performances?

1.3 Significance of the Research

A firm's financial performance is also a key indicator which investors analyze before make their investment decisions. Firm performance is affected by a number of internal and external factors. Those are sales, size of the firm and effectiveness and efficiency of usage of firm assets and liabilities. Managing firm assets and liabilities plays a major role in business activities. Finding the finance to run a business can either be through debt capital or equity capital, and the amount of debt and equity capital is called the capital structure of the organization. Debt capital makes it easy to find the finance for business activities but it also entails a risk. The study aims to investigate the operating spread on firm performance. Previous research findings conclude that there is sometimes a positive, negative or null relationship between financial leverage and firm performance. Spread has considerable influence on the financial leverage. Therefore, the findings of this research study will help investors make investment decisions based on current market conditions with a supporting key indicator known as spread.

2. Literature Review

Every organization considers its capital structure in its operations. Some businesses are afraid to go in for a higher amount of debt capital, even though some of these companies prefer debt capital to equity capital. Therefore, the investigation of the behavior of the capital structure of a firm is an important component of its business operations. Organizational policy makes the decision on whether the organization is a levered company or a zero leverage company. Market situations show that most organizations have shown an interest in making a capital structure consisting of both debt capital and equity capital.

Lee and Moon (2011) explained, based on their research findings, that companies which prefer zero leverage are more traditional, self-disciplined and judicious in making decisions. These types of companies are less prospective in over-investment. In other words, they refrain from borrowing. They are likely to finance large profitable investments which can help to recover the debt capital. This kind of managerial behavior helps zero leverage organizations to maintain higher performances in the organization over a long period of time.

Gijsbertsen (2013) explained that an organization needs to increase its debt for higher returns without meeting the risk of a debt crisis. In this situation, managers of the organizations must play a major role in their business activities. Managers must consider the investments which provide the highest returns. Hussan (2016) points out that the expansion of business operations is dependent on leverage. Most organizations use a certain amount of debt in their finance. The reason for this is that a company can increase its investments without increasing the amount of equity in the organization. It helps the organization to invest or to use the operations

The trade-off theory of financial leverage in corporate finance suggests that organizations decide on the optimal capital structure which provides tax benefits to the organization. This theory explains that organizations can maintain leverage at a certain level with observations. However, corporate behaviors are not completely compatible with theory. For example, in the USA, some organizations purposely stay away from any kind of leverage. Those organizations do not consider debt in either the short term or the long term in their capital structure (Lee and Moon 2011).

On the other hand, Duais (2016) noted the negative side of high debt capital in an organization. Though the company receives tax benefits through debt capital, high debt capital leads to the risk of bankruptcy. It also impacts the profitability of the company. Therefore, a balance needs to be struck in the capital structure between equity and loans, for all companies.

Shahzad et al., (2015) noted that only a smart manager can strike a balance between debt and equity finance in an organization. A smart manager will assess both internal and external

factors when he/she makes a decision on the capital structure of the organization. The literature explains that even though debt capital gives rise to tax benefits, organizations are advised not to increase their debt capital beyond the capacity of the organization.

Financial leverage and spread are influencing on financial contribution on return on equity. Spread measure consists with profitability of the operation and net borrowing cost. It only contributes positively when the firm leverage operates with positive spread. (Lundholm, et. al 2012). The present study measure the reaction of spread on the financial performance with reference to the Sri Lankan manufacturing companies.

3. Research Methodology

The main objective of this study to investigates the relationship among the operating leverage and performances of listed manufacturing companies in CSE. For the purpose of finding data was collected by secondary data from the company's annual reports which have been disclosed in Colombo Stock Exchange website.

3.1 Conceptual Framework

Operating spread is the independent variable of the research analysis and firm performances are the dependent variables which changes due to the financial leverage and operating spread in the organization. The methodology of the research study explains the sub variables which help to measure the dependent variables. The model of the research can be explained as follows;

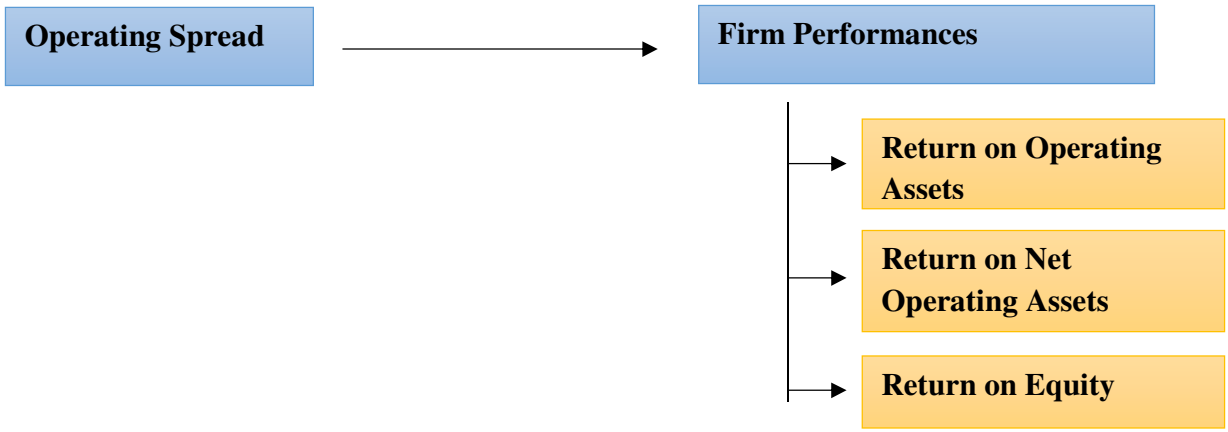

Figure 3.1 *Conceptual Framework*

3.2 Operationalization of Variables

Table 3. 1

Operationalization of Variables

Concept	Indicator	Measurement	Reference
Independent variable	Operating Spread	Spread discusses the difference between RNOA and net borrowing cost. The equation for the Spread calculation is as follows; $$Spread = Return\ on\ Net\ Operatng\ Assets - Net\ Borrowing\ Cost$$	Safiuddin et al (2015), Lundholm et al 2012)
Dependent variables	Return on Operating Assets	ROOA ratio explains how efficiently the company uses its assets for operations in an organization or ROOA is the operating earnings generated by using operating assets in the organization. ROOA is calculated using the following equation; $$Return\ on\ Operating\ Assets = \frac{Operating\ Income + Implicit\ Interest\ (after\ tax)}{Operating\ Assets}$$	Safiuddin et al (2015), Lundholm et al 2012)
	Return on Net Operating Assets	Return on net operating assets calculates the amount that a company earns for an investment. RNOA is calculated using the following equation, $$Return\ on\ Net\ Operating\ Assets = \frac{Operating\ Income}{Net\ Operating\ Assets}$$	Safiuddin et al (2015), Lundholm et al 2012)
	Return on Equity	ROE examines how the company management uses investors' equity in the company. ROE is calculated using the following equation, $$Return\ on\ Equity = \frac{Net\ Income}{Shareholders'\ Equity}$$	Javed et al (2015), Abubakar (2015), Ashraf et al (2017), Leon (2013), Tharmila and Arulvel (2013), Pratheepkanth (2011), Rajkumar (2014), Enekwe et al (2014), Salim and Yadav (2012), Vatavu (2015)

3.3 Research hypothesis

The regression model is used to measure the strength of the relationship between operating spread and firm performance, statistically. In order to find the relationship between operating spread and firm performance, the following hypothesis is formed.

H0: $\beta i = 0$

H1: $\beta i \neq 0$

βi = the coefficients of operating spread

In the same manner, it can consider the following hypotheses;

H0: There is no significance relationship between operating spread and firms' performances

H1: There is a significance relationship between operating spread and firms' performances

The changing dependent variables denoted by "Y" firm performance (ROOA, RNOA and ROE) and independent variable of operating spread are explained as follows;

$$\text{Firm (i)Performance} = \beta 0 + \beta 1 \text{ Operating Spread} + \mu i$$

3.4 Research Sample and Data Collection

Research data was collected through secondary data by evaluating the financial statements in 33 listed manufacturing companies in Sri Lanka. Reformulated financial statements data were analyzed for the analysis. Reformulated financial statements were formed by using the annual financial statements published by each manufacturing company from the year 2012 to the year 2016.

The collected data was analyzed by using the SPSS software. The correlation analysis, regression analysis are used to interpret the relationship and the impact of operating spread on firms' performances.

4. Data Analysis

4.1 Convergent Validity of Sample Data

Table 4. 1 *KMO and Bartlett's Test of Sphericity*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.720
Bartlett's Test of Sphericity Chi-Square	.000

Adequacy of sample data is explained by the KMO and Bartlett's Test. Since the KMO > 0.5, (.650 > 0.5), the sample is adequate enough to run the test.

4.2 Correlation among Operating Spread and Firms' Performance

Table 4. 2 *Correlation among Operating Spread and Firms' Performance*

		Spread	ROOA	RNOA	ROE
Spread	Pearson Correlation	1	.491	.726	.644
	Sig (2-tailed)		.004	.000	.000
ROOA	Pearson Correlation		1	.463	.437
	Sig (2-tailed)			.007	.011
RNOA	Pearson Correlation			1	.908
	Sig (2-tailed)				.000
ROE	Pearson Correlation				1
	Sig (2-tailed)				

According to the correlation analysis, firms' performance indicators have significant positive correlation with operating spread. RNOA and operating spread have strong positive correlation (.726). ROOA is positively correlated with RNOA and ROE. RNOA and ROE have strong positive correlation. All other firms' performance indicators have significant relationship among the variables and positive correlation between the variables.

4.3 Regression Analysis

Table 4. 3 *Regression Analysis*

Dependent variable	R^2	ANOVA	Coefficient Beta Value		Coefficient Sig value	
			Constant	Spread	Constant	Spread
ROOA	.241	.004	.115	.367	.003	.004
RNOA	.527	.000	.136	.535	.000	.000
ROE	.415	.000	.119	.306	.000	.000

Regression analysis explains an operating spread significantly impact on RNOA, ROOA and ROE. A higher R^2 in the model adequacy is shown in RNOA (52.7%). The other firm performance indicators (ROOA and ROE) show moderate adequacy, which is explained by the variables, where the R^2 of ROOA is 24.1% and the R^2 of ROE, is 41.5%.The ANOVA values in three models are less than 0.05 which implicates that operating spread significantly impact on RNOA, ROOA and ROE, where the þ value is 0.004, 0.000 and 0.000 respectively. Estimated Models for firm performance indicators are as follows;

$$Y\ (RNOA) = 0.115 + 0.367\ (\text{Operating Spread})$$
$$Y\ (ROOA) = 0.136 + 0.535\ (\text{Operating Spread})$$
$$Y\ (ROE) = 0.119 + 0.306\ (\text{Operating Spread})$$

According to the regression and correlation analysis the operating spread is significantly correlated with ROOA, RNOA and ROE.

5. Conclusion

According to the analysis, there are significant positive correlations between and a significant positive impact of operating spread on return on operating assets, return on net operating assets and return on equity. Following tables conclude the summary of conclusions in each analysis.

Table 5. 1 *Decision Table*

H0	B	ANOVA sig value	Decision	Correlation	Conclusion
βi 1 = 0	β1 ≠ 0	.004	Reject H0	.491	There is a positive relationship between operating spread and ROOA
βi 2 = 0	β2 ≠ 0	.000	Reject H0	.726	There is a strong positive relationship between operating spread and RNOA
βi 4 = 0	β4≠ 0	.000	Reject H0	.644	There is a positive relationship between operating spread and ROE

Source: Author Compiled Based on Survey Data

Based on the analysis, it can be conclude that operating spread has positive impact on firm performance. When the operating spread is increasing the performance of the firm also increase. Safiuddin et al, (2015) state that any changes made in financial leverage and spread helps for a huge change in profitability. The returns on equity depend on financial leverage and the amount of spread. If the firm leverage earns a positive spread, will contribute for a positive return on equity (Lundholm, et. al., 2012). The major results of this research provide an overview of operating spread reaction on firms' performance. This research reveals that the operating spread is positively impact on firm's performance in Sri Lankan manufacturing companies.

5.1 Managerial Implications

The combination of debt and capital is of supreme importance. During a certain time, the degree of leverage which organizations are supposed to have will be revealed by their spread. Decisions on having higher leverage with a reasonable spread value will increase the wealth of the owners. Acquiring higher leverage during negative spread will not be beneficial for business operations. Spread can be negative due to higher net borrowing cost rather than being dependent on RNOA. During periods of negative spread, organizations have to pay high interest on borrowings.

Calculation of individual company spread (Appendix I) implied that, some of the manufacturing companies have higher degrees of financial leverage with negative spread values. Therefore, the impact of financial leverage was negative in those companies. On the other hand, some manufacturing companies had positive and higher spread values which have revealed their capacity to borrow, but most of these companies did not try to have enough financial leverage in their business operations. Therefore, those companies had missed the advantages of leverage due to financial mismanagement. Therefore, in these companies, this course of action will reduce the wealth maximization of owners. Spread value in companies is the main decision making tool that helps build sound financial leverage decisions. Therefore, the management of each company should be very concerned about their spread value and manage it efficiently.

Companies can consider investing in assets and projects that give higher returns on assets. Therefore, the management in each company has to be concerned about their investment assets. In other words, financial management can find effective sources to reduce financial cost in companies. Studying the financial market will give a better understanding of the available sources in the financial market. Financial management has to have some agreements which provide benefits to the companies. Using these techniques, the company can reduce its financial cost. Then, the company can increase its spread value. Besides that, firm performance and firm leverage will be affected by other factors as well. Some of these are the way the organization deals with society, management decisions, related parties, human resource management, marketing, and other administrative actions. However, this study focuses only on the impact of operating spread on firm performance.

Appendix I – Individual Company Analysis

Company Code	Spread	Financial Leverage	ROOA	RNOA	ROE
C01	0.0676	0.0269	0.1110	0.1472	0.1544
C02	-0.0270	0.0047	0.0751	0.1020	0.0876
C03	-0.1698	-0.0875	0.0117	0.0126	-0.1323
C04	0.1953	-0.1738	0.1692	0.3518	0.1623
C05	-0.0858	-0.0265	0.0146	0.0154	-0.0077
C06	-0.0680	-0.0877	0.0957	0.1535	0.1227
C07	0.3231	-0.0425	0.2063	0.2890	0.2012
C08	-0.8605	0.0076	0.0091	0.0103	0.0178
C09	0.2562	-0.0536	0.2085	0.3345	0.3177
C10	0.0213	0.0272	0.0914	0.1175	0.1249
C11	-0.0250	-0.0306	0.3116	0.3882	0.3879
C12	0.0467	-0.0260	0.1069	0.1309	0.1094
C13	0.0560	-0.0292	0.1124	0.1542	0.1369
C14	0.2486	-0.0237	0.1586	0.2227	0.1639
C15	1.0755	-0.7870	0.5721	1.1680	0.6319
C16	0.0563	0.0093	0.1273	0.1571	0.1863
C17	0.0409	0.0174	0.1051	0.1198	0.1375
C18	0.2510	0.0008	-0.3194	0.2547	0.2601
C19	0.0477	0.0246	0.1505	0.1769	0.1920
C20	-0.1244	-0.0170	0.0724	0.0920	0.0429
C21	0.2625	-0.0142	0.2601	0.2643	0.2640
C22	-0.2223	-0.0613	-0.0500	-0.2218	-0.0293
C23	-0.1405	-0.0856	0.1263	0.1603	0.1217
C24	-0.0222	-0.0140	0.0736	0.0821	0.0651
C25	-0.3896	0.2474	-0.2524	-0.3017	-0.1540
C26	0.1509	-0.0089	0.1011	0.1194	0.1177
C27	0.3848	0.0478	1.1195	0.0995	0.0991
C28	0.3848	-0.1251	-0.0227	-0.0076	-0.0615
C29	-0.4044	0.0454	0.1008	0.1289	0.1443
C30	-0.0603	0.0012	0.0860	0.1084	0.0867
C31	0.0586	0.0263	0.1824	0.1997	0.2194
C32	0.2106	-0.0052	0.1594	0.1877	0.1967
C33	-0.0351	0.0018	0.0677	0.0877	0.0071

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