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Effects of Working Capital Approaches and Firm's Returns of Sri Lankan Listed Non-Financial Companies

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Abstract

The aim of this study is to find out the effects of aggressive/conservative working capital management policies; (both investment and financing policies) have on firms' returns for 172 Sri Lankan listed non-financial companies of 17 business sectors listed at Colombo Stock Exchange (CSE) for a period of six years from 2014 to 2019. Data were obtained from the annual audited financial statement of the firms presented to CSE. The study adopted Descriptive Statistics Least Significant Differences (LSD), Rank Correlation, and Linear Regression models in analysing the data. The results revealed that the working capital investment and financing policies have generally significant positive effects on firms' returns to the investors as well as financial managers in the long run. The empirical evidence suggests that the balanced and well-monitored policy including both conservative working capital investment and financing policies should be an ideal as regularized and reviewed in the process. The study emphasized that the conservative working capital investment policies increase firms returns while conservative financing policies yield negative returns. Therefore, this study would enable finance managers to be able to regularize and prepare the appropriate working capital management policies. Moreover, findings suggest the Sri Lankan business firms pursuing the conservative working capital investment policy should balance it with an aggressive working capital financing policy to enhance firms' returns and to create value for their investors.

Introduction

The corporate finance literature has traditionally focused on the study of long-term financial decisions. Researchers have particularly examined investments, capital structure, dividends, or company valuation decisions, among other topics. However, short-term assets and liabilities are important components of total assets and need to be carefully analyzed. Management of these short-term assets and liabilities wants a careful investigation since the working capital management plays an important role in the firm's profitability and risk as well as its value (Smith, -1980). A firm may adopt an aggressive working capital management policy with a low level of current assets as a percentage of total assets. Moreover, an aggressive working capital management policy may be used for the financing decisions of the firm with a high level of current liabilities as a percentage of total liabilities. Excessive levels of current assets may have a negative effect on the firm's profitability whereas a low level of current assets may lead to a lower level of liquidity and stock-outs resulting in difficulties in maintaining smooth operations (Van-Horne & Wachowicz, 2004). The optimal level of working capital is determined to a large extent by the methods adopted for the management of current assets and liabilities.

Working capital management is very important for the success of a business. It requires continuous management to maintain a proper level in various components of working capital i.e. cash receivables, inventory, and payables, etc. In general, current assets represent an important component of the total assets of a firm. A firm may be able to reduce the investment in fixed assets by renting or leasing plant and machinery, whereas, the same policy cannot be followed for the components of working capital. The high level of current assets may reduce the risk of liquidity associated with the opportunity cost of funds that may have been invested in long-term assets. The above discussion highlights the significance of working capital management in a business.

The impact of working capital policies is highly important; however, less empirical research has been carried out to examine the working capital policies and firms' returns for non-financial companies listed in the Colombo Stock Exchange from 2014 to 2019. This study will contribute to better understand these policies and their impact especially in emerging markets like Sri Lanka. Within the huge competition in the industry, the major challenge organizations face in achieving their overall goals and objectives. So that all of the organization needs sufficient resources to keep it going and ensure its profitability and overall performance. So, working capital approaches and their impact on firm's returns have been studied by different researchers. Most of these researches identified a significant relationship between working capital approaches and firm's returns. However, despite the above consequence this issue arises to attract the attention of researchers in Sri Lanka. Thus, while searching on the internet, browsing through the books and journals the

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researcher didn't find directly related research topics carried out in working capital approaches in non-financial companies listed in Colombo stock exchange Sri Lanka after the change of CSE 2020. Therefore, the researcher believed that, the problem is almost untouched and there is a knowledge gap in this area. Hence, the lack of proper research study on the area gives a chance for Sri Lankan company's managers to have limited awareness in using working capital management policies to increase firms' performance.

In the event of being conducted this study, the findings of this study would increase the knowledge about the working capital approaches of listed companies in the Colombo Stock Exchange except for commercial banks, insurance companies and diversified finance companies in Sri Lanka. As well as, this finding would help to develop an understanding of the advantages and disadvantages of financial practices and techniques of managing Working Capital policies in different sectors in Sri Lanka. And also, this result contributes to the organization, countries to prepare their organization structure. This research would help decision makers to investigate whether there is a significant difference among the working capital practices of the firms across different industries and to analyze whether these aggressive or conservative working capital policies are relatively stable over a longer period of time. This study consists of Aggressive Investment Policy and Aggressive Financing Policy as independent variables. Return on Assets and Return on Equity has been used as dependent variables. Seventeen non- financial industrial sectors have been tested to collect data. The research explains Sri Lankan companies' familiarity with different working capital approaches and their significant differences among the working capital practices across the different industries.

This study will contribute to better understand this aggressive Investment policy and aggressive financing policy and their impact on Return on Assets and Return on Equity especially in emerging markets like Sri Lanka. There are main objectives to be achieved by conducting this study as; to investigate the relationship between the aggressive and conservative working capital investment and financing policies, to find out the impact of aggressive working capital policies on the profitability of the listed non-financial companies. In addition, the specific objectives which support to achieve the above mentioned objectives were formulated as; to investigate whether there is a significant difference among the working capital practices of the firms across different industries, to analyse whether the aggressive or conservative working capital policies are relatively stable over a long period, to validate the relationship of aggressive and conservative working capital policies among firms and see whether an aggressive policy accompanied by aggressive financing policy, and to examine the impact of aggressive and conservative working capital policies on the profitability of the company. This research further describes literature review, conceptual framework and hypotheses development, methodology, results and interpretations, and the conclusions and recommendations with suggestions for future research.

Literature Review

There are three broadly categorized working capital management strategies/ approaches to choose the mix of long and short-term funds for financing the net working capital of a firm (Afza & Nazir, 2008; Bandara & Weerakoon Banda, 2008; Azam & Haider, 2011; Gardner, Mills, & Pope, 1986; Carpenter & Johnson, 1983). They are Conservative, Aggressive, Hedging (Or Maturity Matching) approach. These strategies are different because of their different trade-off between risk and profitability. Another remarkable difference is the extent or proportion of application of long and short-term fund to finance the working capital. The terms 'methods of working capital management', 'strategies and approaches to working capital management' are interchangeably used in general parlance. But, ultimately the concept and achievement of the objective of working capital management are important (Finau, 2012).

The working capital policy is mainly focusing on the liquidity of current assets to meet current liabilities. Current assets are a key component of working capital and the Working capital policy also depends on the level of current assets against the level of current liabilities (Mengesha, 2014). Pandey (2010) said that there are three financing categories in the firm. Three types of financing may be distinguished as; Long term financing, Short term financing, and Spontaneous financing.

The sources, of long-term financing, include ordinary share capital, preference share capital, debentures, long term borrowings from financial institutions and borrowings and surplus. The short-term financing is obtained for a period of less than one year. It is arranged in advance from banks and other suppliers, of short-term finance in the money market. Short term finance includes working capital funds from banks, public deposits, commercial papers and factoring of receivables. (Pandey, 2010). Spontaneous financing refers to the automatic sources of short-term funds arising in the normal course of a business. Trade credits and outstanding expenses are an example to Spontaneous financing. Pandey (2010) said that there are three types of approaches depending on the mix of short term and long-term financing as; Matching approach, Conservative approach, and Aggressive approach.

First, the matching approach refers that long-term financing is used to finance fixed assets and permanent current assets and also short-term financing is used to finance temporary or variable current assets. However, it should be realized that the exact matching approach is not possible because of expected lives of assets may be uncertain (Pandey, 2010). Second, a conservative approach has the lowest risk and lowest profitability among other working capital financing strategies. Businesses use long-term financing to fund not only non -current assets and permanent working capital but also some portion of temporary working capital. This approach is also inherent in low liquidity risk because of excessive cash. A firm in practice may adopt a conservative approach in financing its fixed and current assets. The financing policy of the firm is said to be conservative when it depends more on long term funds for financing needs. The advantages of a conservative approach are the lowest reinvestment and interest rate risk among the other working capital financing strategies. But this approach might hurt long term profitability because excess cash doesn't earn much of a return. Third, the aggressive policy is said to be followed by the firm when it uses more short-term financing than warranted by the matching plan. In this case, aggressive Investment Policy (AIP) results in a minimal level of investment in current assets versus fixed assets. In contrast, a conservative investment policy places a greater proportion of capital in liquid assets with the opportunity cost of lesser profitability. In order to measure the degree of aggressiveness, the following ratio are used.

Aggressive Investment Policy (AFP)

An aggressive investment policy is willing to take additional risk in exchange for higher returns. A higher percentage of funds allocated to equity and a lower percentage of funds allocated to fixed income securities.

$$AIP = \frac{\text{Total Current Assets (TCA)}}{\text{Total Assets (TA)}}$$

Where a lower ratio means a relatively aggressive policy.

Aggressive Financing Policy (AFP) utilizes higher levels of current liabilities and less long-term debt. In contrast, a conservative financing policy uses more long-term debt and capital.

$$AFP = \frac{\text{Total Current Liabilities (TCL)}}{\text{Total Assets (TA)}}$$

Where a high ratio means a relatively aggressive policy.

There are several piece of research conducted by different researchers about working capital approaches. But there are only a few researches available on working capital policies/approaches on firms' returns in Sri Lanka. Some earlier work by Gupta (1969) and Gupta and Huefner (1972) examined the differences in financial ratio averages between industries. Both studies concluded that differences do exist in mean profitability, activity, leverage and liquidity ratios amongst industry groups.

Filbeck and Krueger (2005) highlighted the importance of efficient working capital management by analyzing the working capital management policies of 32 non-financial industries in the USA. According to their findings, significant differences exist between industries in working capital practices across time. Moreover, these working capital practices, themselves, change significantly within industries across time. Similar studies are conducted by Ghosh and Maji (2004), Gombola and Ketz (1983), Soenen (1993), Maxwell, Gitman, and Smith (1998), Long, Malitz, and Ravid (2001).

In a regional study, Pandey and Parera (1997), provided empirical evidence of working capital management policies and practices of the private sector manufacturing companies in Sri Lanka. The information and data for the study were gathered through questionnaires and interviews with chief financial officers of a sample of manufacturing companies listed on the Colombo Stock

Exchange. They found that most companies in Sri Lanka have an informal working capital policy and company size influence on the overall working capital policy (formal or informal) and approach (conservative, moderate or aggressive). Moreover, company profitability has an influence the methods of working capital planning and control.

However, Weinraub and Visscher (1998) have discussed the issue of aggressive and conservative working capital management policies by using quarterly data from 1984 to 1993. Their study looked at ten diverse industry groups to examine the relative relationship between their aggressive/conservative working capital policies. The authors have concluded that the industries had distinctive and significantly different working capital management policies. Moreover, the relative nature of the working capital management policies exhibited remarkable stability over the ten-year study period. The study also showed a high and significant negative correlation between industry asset and liability policies and found that when relatively aggressive working capital asset policies are followed, they are balanced by relatively conservative working capital financial policies.

In literature, there is a long debate on the risk/return tradeoff between the different working capital policies (Pinches 1991; Brigham & Ehrhardt, 2004; Moyer, McGuigan & Kretlow, 2005; Gitman 2009, Gitman, 2005). More aggressive working capital policies are associated with higher return and higher risk while conservative working capital policies are concerned with the lower risk and return (Carpenter & Johnson, 1983; Gardner et al., 1986; Weinraub & Visscher,1998) In the light of the above discussion, the present study expects a positive relationship between the degree of aggressiveness and the profitability of the firms.

The study will provide an easy way to understand how working capital approaches affect the firms' returns of the Sri Lankan listed non-financial companies. Many researchers (Malik, 2014; Onodje, 2014; Mwangi, Stephan, & Kosimbei, 2014; Nyarko-Baasi & Addae, 2013; Bagchi & Khamrui, 2012; Lingesiya & Nalini, 2011; . emphasized the importance of working capital for the achievement of organizational profitability as well as overall performance with much concentration on the value addition to firm (firm's returns). Apart from that, this research will be of huge importance to the different group of people in the society and country as a whole depending on how they deal with working capital, the corporate managers, researchers and students will find this relevant in their daily works on business and academic perspectives. Researchers and students who are interested in working capital management and the impact of it on maximizing firms return of the companies. To managers of companies, especially non-financial listed companies will be in good position to know the best way to optimize the balance between working capital management policies and firm return in the companies which they manage, from this study the managers will be equipped with a desirable working capital strategy that maximizes shareholders wealth and solution of the challenges that the entity faces. It will therefore contribute to already done researches in the field area of corporate finance. Also, the research will link the gap left by previous researchers on the area of working capital management policy and its impact on firms' returns of Sri Lankan listed non-financial companies in the Sri Lankan context.

Concerning this management discipline, previous literature focused on analyzing different aspects of working capital dimensions to see the effect on profitability or firm return (Sadeghkhani & Jamshidinavid, 2014; Rehman, 2006; Smith, 1980). Thus, the researcher states that the working capital approach/policy can be an important governance consideration from the financial management perspective. The optimal utilization of financial resources should be performed for good corporate governance as well as performance in the firm. Furthermore, in the Sri Lankan context, few studies have been conducted on the same related research theme emphasizing this particular research area. Therefore, it is important to find out the impact of working capital approaches and firms returns in the Sri Lankan context to fulfill the fund management requirements of said companies and other organizations as per the aforesaid literature findings.

Conceptual Framework and Hypotheses Development

Deducing from the empirical findings from the literature (which were derived from the theoretical understandings and originality of those researches) linking their implications, the following conceptual framework is formulated.

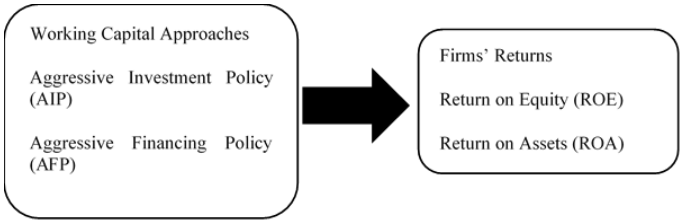

Figure 1: Conceptual Framework

Source: Developed by the Author, 2020

Hypotheses

Based on the structural viewpoint from the conceptual framework that the researcher has sketched, the following hypotheses are formulated to be tested to support to achieve the study objectives in this study.

H_1 = There are differences among the working capital investment policies of firms across different listed non-financial business sectors at CSE.

H_2 = There are differences among the working capital investment policies of firms across different listed non-financial business sectors at CSE.

H_3 = The working capital policies are relatively stable over the period of time

H_4 = An aggressive investment working capital policy is accompanied by an aggressive ` financing policy

H_5 = An aggressive working capital policy is directly related to firms' profitability

Methodology

Research Design

Burns and Grove (2001) defined research design as a study that help a researcher direct the research in a manner that help the smooth attainment of the expected required results. In addition, the research design is the blueprint through which the researcher uses and plans in order to get the answers to the research questions in respect of the study. The researcher used the quantitative approach in this study. Quantitative research questions are designed to investigate whether there is a significant difference among working capital practices of the firms across the different industries or sectors linking with the working capital approaches or policies in a manner of aggressive or conservative perspectives in order to effectively manage working capital to achieve the optimal firms returns of the Sri Lankan listed non-financial companies, and these are utilized mainly to interpret the results. The purpose of this research is to investigate the impact of working capital approaches on firm's returns and this section was intended to identify the variables of the study. According to this study, independent variables were Aggressive Investment Policy (AIP - TCA/TA) and Aggressive Financing Policy (AFP - TCL/TA). The dependent variables are return on assets (ROA.) and return on equity. (ROE).

Sample Size

Sample size refers to the number of items to be selected from the universe to constitute a sample, consisting of some elements in a population that a researcher wishes to make conclusion about the entire population. Further, the sample size should not be extremely large or too small rather, it should be optimal. Therefore, this study analyzed the working capital management policies and impact on firms' returns of Sri Lankan listed non-financial companies from 2014 to 2019. The total population of the study is 172 non-financial companies listed in CSE except the technology Sector indicating that CSE didn't list any company during study period and therefore it was removed from the sample. This whole population has been taken to the census for analysis.

Method of data collection

Primary data collection method and secondary data collection methods are the methods of gathering data and information. The primary data was collected for the first time by the researcher. Secondary data collected from financial reports and other published annual reports; in CSE. This research based on secondary

data from the financial statements of sample companies. These financial statements published on the website of the Colombo Stock Exchange.

Research Variables and their measurement

Variable means an aspect of the theory which differs or altered as being part of the interaction within the theory. In such a way, they are as well defined as anything that can influence the change of the results of the study. Each research undertaken must be carried with the inclusion of these variables as they help to understand the difference. In order to be a variable, a variable must vary (e.g., not be a constant), that is, it must take on different values, levels, intensities, or states. Variables are categorized into two parts as the dependent and the independent variables and those can be explained as follows

Dependent Variable and its measurements

Dependent variables are variables that are used to measure the performance of firms (Deloof, 2003). Mengesha (2014) used the Return on assets and return on equity as the measurements of company's performance. Hassan, Imran, Amjad, and Hussain (2014) used return on asset, and return on equity to measure the performance. Therefore, this study was used, return on assets and return on equity as the indicators for measurements to the dependent variable.

Return on Equity (ROE)

This ratio measures a company's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on equity calculated by net income divided by shareholder's equity.

Equation: 01

$$\text{Return on equity} = \frac{\text{Net income}}{\text{shareholders equity}}$$

Return on Assets (ROA)

This ratio indicates that how profitable a company is relative to its total assets. Return on assets gives an idea as to how efficient management is at using its assets to generate earnings. This ratio can calculate by net income divided by its total assets.

Equation: 02

$$\text{Return on Assets} = \frac{\text{Net income}}{\text{Total assets}}$$

Independent Variable and its measurements

In this research, Independent Variables are Aggressive Investment Policy (AIP) and Aggressive Financing Policy (AFP).

Aggressive Investment Policy (AIP)

Aggressive Investment Policy (AIP) results in a minimal level of investment in current assets versus fixed assets. In contrast, a conservative investment policy places a greater proportion of capital in liquid assets with the opportunity cost of lesser profitability. In order to measure the degree of aggressiveness, the following ratio will be used:

$$\text{AIP} = \frac{\text{total current assets}}{\text{Total assets}}$$

Where a lower ratio means a relatively aggressive policy.

Aggressive Financing Policy (AFP)

Aggressive Financing Policy (AFP) utilizes higher levels of current liabilities and less long-term debt. In contrast, a conservative financing policy uses more long-term debt and capital. The degree of aggressiveness of a financing policy adopted by a firm will be measured by

$$\text{AFC} = \frac{\text{Total current liabilities}}{\text{Total assets}}$$

Where a higher ratio means a relatively aggressive policy.

Data Analysis

In this study, the researcher has gathered secondary data in order to identify the working capital approaches to a firm's performance in non-financial organizations listed in CSE. To test the relationships, this study was developed hypotheses. In this study, SPSS 16.0 Package was employed to analyses data. Data were analyzed by using the statistical tools; Descriptive Statistics, Pearson Correlation Analysis, and Multiple Regression Analysis. The data analysis model in this research takes the following format.

$\text{ROA}_i = \alpha + \square\ 1\ (\text{TCA/TA}_i) + 2\ (\text{TCL/TA}_i) + \varepsilon$ …… (i)

$\text{ROE}_i = \alpha + \square\ 1\ (\text{TCA/TA}_i) + 2\ (\text{TCL/TA}_i) + \varepsilon$ …… (ii)

Where, ROA_i - Return on Assets

ROE_i - Return on Equity

TCA/TA_i - Total Current Assets / Total Assets

TCL/TA_i -Total Current Liabilities / Total Assets

α -Intercept

ϵ - Error Term

Results and Interpretations

The fourth chapter represents results obtained through the relevant statistical package (SPSS 16.0) relevant to the data entered. Then it describes how those results interpreted by using the most commonly used statistical techniques and methods. For the convenience of understanding the statistical data are represented by using tables. The analysis of the relationship between conservative and aggressive working capital policies and firm's performance was discussed in this chapter using the collected data from a sample. After interpreting the results, the interpretations will compare with hypotheses already established. Then acceptance and the rejection of hypothesizes are performed.

Descriptive statistics for non-financial companies listed in CSE

Table 1 presents the descriptive analysis of 172 listed firms of CSE from 2014 to 2019. The TCA/TA ratio and TCL/TA ratios are averaged for each firm for all five years and then the industry mean has been calculated out of these firm means. The standard deviation is the variation of these ratios for each year and an average value has been calculated for each industry by the same method. The number of companies varies from 1 to 36 firms in each industry.

Table 1: Industry Means and Standard Deviations for Current Assets / Total Assets and Current Liabilities / Total Assets

Industry	No of Companies	Tca /Ta		Tcl /Ta	
		Mean	Sd	Mean	Sd
Energy	2	0.454	0.200	0.256	0.030
Materials	21	0.539	0.290	0.352	0.290
Commercial And Professional Services	5	0.549	0.190	0.314	0.120
Transportation	2	0.296	0.070	0.192	0.170
Automobile And Component	1	0.401	0.400	0.065	0.065
Retailing	13	0.445	0.260	0.311	0.220
Food And Staples Retailing	4	0.198	0.090	0.251	0.000
Food Beverage and Tobacco	10	0.393	0.130	0.133	0.220
Household And Personal Products	2	0.377	0.170	0.508	0.080
Health Care and Equipment Services	9	0.395	0.270	0.368	0.470
Pharmaceutical & Biotechnology & L Life Sciences	1	0.786	0.780	0.327	0.320
Telecommunication Services	2	0.173	0.000	0.270	0.010
Utilities	6	0.225	0.070	0.147	0.140
Real Estate	18	0.290	0.250	0.234	0.320
Consumer Durable/Appeal	12	0.410	0.160	0.249	0.140
Consumer Services	36	0.154	0.150	0.141	0.130
Capital Goods	28	0.450	0.240	0.274	0.260

Source: Survey Data, 2020

Table 1 presents the descriptive analysis of 172 listed non-financial companies of CSE from 2014 to 2019. The independent variable (Working Capital

Approaches) measures in terms of Aggressive Investment Policy (AIP) and Aggressive Financing Policy (AFP) as calculated by the ratios; TCA/TA and TCL/TA and those are averaged for each firm and then each sector for all six years to get the sector mean, which has been calculated out of these firm means. The standard deviation is the variation of these ratios for each year and an average value was calculated for each sector by the same method. The number of companies varies from 1 to 36 firms in each sector. Based on the average mean value of Aggressive Investment Policy (AIP = TCA/TA) representing all the sampled companies, The TCA/TA on average, is near about 0.384 (approx.) and its mean values are ranged from 0.377 to 0.549 except pharmaceutical & bio techy & life sciences, transport, utilities, foods & staples retailing telecommunication services, and consumer services on extreme values of 0.786, 0.296, 0.225, 0.198, 0.173, and 0.154 respectively. The variation in the TCA/TA is less than 0.2 for 11 sectors with the exceptions of **0.400, 0.290, 0.270, 0.260, 0.250, 0.240** of pharmaceuticals life science and biotechnology, materials, health care & equipment services, retailing, real estates and capital goods sectors respectively.

In the Aggressive Financing Policy (AFP = TCL/TA), the TCL/TA on average, is near about 0.258 (approx.) and its mean values are ranged from 0.234 to 0.352 except Household and personal products, health care and equipment sciences, transportation, utilities, and foods beverage and tobacco sectors on extreme values of 0.508, 0.368, 0.192, 0.147, 0.141, and 0.133 respectively. The variation in the TCA/TA is less than 0.2 for 10 sectors with the exceptions of **0.470, 0.320, 0.320, 0.290, 0.260, 0.220** and o.220 of health care and equipment sciences, pharmaceuticals life science and biotechnology, real estates, materials, retailing and capital goods sectors respectively.

Brooks, (2008) revealed that a low standard deviation indicates that the data point tends to be very close to the mean, whereas high standard deviation indicates that the data point are spread out over a large range of values. With compared to the variations working capital management policies as the aggressive investment policies and the aggressive finance policies, the variation (standard deviation) in investment policies is relatively higher as compared to financing policies in the energy, commercial & professional services, automobile & component, retailing, foods & staples retailing, household and personal products, pharmaceuticals life science and biotechnology, consumer durable apparel, and consumer services sectors, whereas the variation in financing policies is relatively higher as compared to investment policies, in the transportation, foods, beverage and tobacco, health care & equipment services, telecommunication services, utilities, real estates and capital goods sectors. Especially the pharmaceutical & Biotechnology y & life sciences sector has recorded a high mean value and for both Aggressive investment and financing policies almost having standard deviation more than 0.78 and 0.32 respectively.

ANOVA and Test for Least Significant Differences (LSD)

The ANOVA and test for Least Significant Differences (LSD) were used to TCA/TA ratio to examine the differences in investment policies among the sectors over the study period. The result is presented in Table 2 to further examine the strength of the results of ANOVA, a post hoc Least Significant Difference (LSD) test has also been applied to compare the industry mean values of TCA/TA on a paired sample basis. Among 136 pairs, 11 are statistically significant at different levels of significance [Table 2]. It is apparent from both ANOVA and LSD test that a few numbers of significant differences exist among various industrial groups regarding investment working capital management policies.

Table 2: Results of ANOVA (F-test) and Test of Least Significance Differences (LSD) for Total Current Assets / Total Assets (TCA / TA)

	foodst	energy	material	comandpro	transportation	automobile	retailing	foodbeverages	household	healthcare	macutical s	mmunication	utilities	realestate	consumerdura	consumerservi	capitalgoods
foodst																	
energy	.326																
material	-.055	-.421															
comandpro	.230	.709	-.893*														
transportation	.737	.248	-.261	.443													
automobile	-.126	-.627	-.353	-.035	-.147												
retailing	-.032	.435	-.028	.401	.295	-.567											
foodbeverages	-.514	.455	.100	.006	-.710	-.480	.205										
household	.017	.663	-.154	.537	.348	-.714	.940**	.302									
healthcare	.363	.697	-.845*	.979**	.612	-.087	.404	-.138	.552								
pharmaceuticals	.360	.689	-.844*	.968**	.441	.027	.387	-.031	.474	.940**							
telecommunica	.047	.663	-.928**	.901*	.089	.121	.087	.227	.259	.819*	.869*						
utilities	-.041	-.302	-.362	.311	.577	.327	.303	-.677	.212	.388	.228	.030					
realestate	.188	.461	-.628	.673	-.031	.250	.215	.190	.178	.559	.807	.734	-.113				
consumerdura	-.437	.246	.341	-.106	-.544	-.484	.591	.786	.499	-.227	-.066	-.086	-.415	.226			
consumerservi	.707	.457	.072	.084	.081	-.183	-.140	.124	-.096	.087	.271	.151	-.673	.468	.074		
capitalgoods	.445	-.490	-.044	-.044	.711	.426	-.131	-.991**	-.238	.106	-.026	-.295	.736	-.272	-.739	-.225	

ANOVA and Test of Least Significant Difference (LSD) have also been applied to TCL/TA ratio to examine the differences in financing policies among industries over the study period. The results are presented in Table 3. Table 3 also shows 10 pairs of industries that are significant at a different level of significance. It is clear now that significant industry differences do not exist in the relative degree of both aggressive/conservative working capital investment and financing policies. However, both the ANOVA and Test of Least Significance Difference (LSD) show these differences are generally broader and more significant when examining working capital investment policies. However in the light of results presented in Table 4.2 and 4.3, the findings are somewhat different on the working capital financing policies insignificantly so that the researcher is to partially accept that there are differences among the working capital management practices across different industries.

Table 3: Results of ANOVA (F-test) and Test of Least Significance Differences (LSD) for Total Current Liabilities / Total Assets (TCL / TA) Liabilities / Total Assets (TCL / TA*)*

	energy	material	comandpro	trans	automobile	retailing	foodandstaples	foodandbeverages	household	healthcare	pharmaceuticals	telecommunication	utilities	realestate	consumerdurable
energy															
material	.111														
comandpro	.115	-.742													
trans	.061	.069	.479												
automobile	-.645	.092	.116	.567											
retailing]	.367	.060	.544	.507	-.136										
foodandstaple	-.229	.410	.223	.849*	.684	.547									
foodandbevera	.211	.497	-.760	-.189	-.239	-.546	-.290								
household	-.695	-.182	-.190	-.267	.609	-.710	-.119	-.107							
healthcare	-.698	-.557	.219	-.339	.380	-.494	-.272	-.441	.827*						
pharmaceutica	.507	-.551	.824*	.573	-.165	.561	.155	-.304	-.588	-.262					
telecommunic	.071	-.951**	.821*	-.014	-.016	.143	-.243	-.728	.179	.563	.519				
utilities	.745	-.115	.405	.390	-.528	.606	.056	.089	-.924**	-.705	.820*	.054			
realestate	.921**	-.179	.119	-.161	-.676	.384	-.323	-.020	-.540	-.506	.332	.220	.527		
consumerdura	.280	-.073	-.516	-.421	-.241	-.786	-.653	.748	.261	-.002	-.248	-.166	-.122	.185	
consumerserv	.459	.483	.114	.715	.061	.754	.722	.006	-.685	-.834*	.377	-.367	.584	.311	-.415
capital goods	-.638	.414	-.164	.289	.377	-.103	.397	.232	.021	.032	-.117	-.487	-.071	-.843*	-.270

Rank Order Correlation between Working Capital Approaches

Once the significant differences for working capital investment and financing policies are explored across sectors, next to examine was the relative stability of these differences over the study period. For this purpose, a mean sector value for TCA/TA has been calculated for each sector for each year and ranked from the highest to lowest ratio. Then the base year (2014) rankings were sequentially compared to the TCA/TA rankings of each following year. The industries were also ranked for each year on the basis of TCL/TA and their rankings were also compared with the base year of 2014. The rank order correlation coefficients and their respective p-values are presented in Table 4. It is apparent from the results that each sector maintained its relative degree of aggressiveness for both working capital investment (TCA/TA) and financing (TCL/TA) policies over time.

Table 4: Rank Order Correlations and Z values Between Base Year and Each Succeeding Year for TCA/TA and TCL/TA

TCA/TA			**TCL /TA**	
Between base year: 2014				
Year	Correlations	P - Value	Correlations	P-Value
2015	.848**	.000	.681**	.003
2016	.600*	.011	.686**	.002
2017	.525*	.031	.672**	.003
2018	.740**	.001	.674**	.003
2019	.703**	.002	.603*	.010

There is a strong correlation between the base year rankings and succeeding year rankings for both policies. In the aggressive working capital investment policy, the values of rank order correlations for the years 2015, 2018 and 2019 are statistically significant at a 1% significant level, while the values of rank order correlations for the years 2016 and 2017 are statistically significant at 5% significant level. Then, in the aggressive working capital financing policy, the values of rank order correlations for the years 2015, 2016, 2017, and 2018 are statistically significant at 1% significant level, while the value of rank order correlation for the year 2019 is statistically significant at 5% significant level. Furthermore, these correlation values are statistically significant at 1% level. Especially, these rank order correlations indicated that the working capital investment and financing policies of Sri Lankan listed non-financial companies were sustained as implemented over the period of study under review. Therefore, the researcher can accept that working capital policies are relatively stable over time.

Rank Order Correlation per year of Working Capital Approaches

Moreover, the relationship between the working capital investment and financing policies is also examined in this study. The objective was to determine how an aggressive investment policy corresponds to an aggressive financing policy. To validate this relationship, a year-by-year analysis has been conducted. Industries were ranked from low to high TCA/TA ratios for the first year, ascending order of degree of aggressiveness for working capital investment policy and from high to low TCL/TA ratios corresponding to an ascending order of aggressiveness of working capital financing policies. Rank order correlation has performed on these policies for first year and all succeeding years subsequently. The results are presented in Table 5

Table 5: Rank Correlation, Per Year, of AIP and AFP

Year	Correlations	P-Value
2014	.398	.114
2015	.515*	.034
2016	.496*	.043
2017	.200	.441
2018	.443***	.075
2019	.686**	.002

According to Table 5, it was presented that the rank correlation per year of AIP and AFP. Only, the rank order correlation for the year 2019 is positively significant at a 1% significant level. In addition, the rank order correlations for the year 2015 and 2016 are positively significant at a 5% significant level. Another rank correlation for 2018 is positively significant at a 10% significant level. However, the rank order correlation for the year is insignificant. Furthermore, all the above positive significant rank correlations were indicated that the particular industrial sectors in the Sri Lankan stock market at CSE follow the aggressive investment working capital policies at the same time; aggressive working capital financing policies as well.

Regression Analysis

This section uses a panel regression analysis to test the developed research hypotheses. This panel regression analysis was undertaken to examine the impact of working capital approaches on firms' return of listed non-financial companies in Sri Lanka. The results of the analysis are given in the following tables.

Linear Regression Model

The Linear Regression model is used to test the impact of working capital approaches on firms' return of listed non-financial companies in Sri Lanka. As the researcher mentioned in the mode of analysis, two models were formulated and the results as follows.

Model for ROA

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.671	.450	.372	.04281

The above table provides the R and R^2 values. The R value represents the simple correlation and is 0.671, which indicates a moderately high degree of correlation. The R^2 indicates that only 45% (approx.) variation in ROA can be explained by the working capital approaches and other 55% (approx.) variation come from other factors.

Table 7 is the ANOVA table, which reports how well the regression equation fits the data (predicts in ROA) and is shown below.

Table 7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.021	2	.011	5.733	.015[b]
	Residual	.026	14	.002		
	Total	.047	16			

This table indicates that the regression model predicts the dependent variable ROA significantly well. This indicates the statistical significance of the regression model that was run. Here the P-value is 0.015 which is less than 0.05, and indicates that the regression model statistically significantly predicts the firms' returns. This means that it is a good fit for the data.

The coefficients table (Table 8) provides us with the necessary information to predict ROA from AIP and AFP, as well as determine whether AIP and AFP contribute statistically significantly to the model. When considering ROA, the beta coefficient values are 0.071, and -0.369 respectively. Among these variables; only AFP is significantly associated with ROA at a 1% significant level ($p<0.01$), and AIP is insignificantly associated with ROA.

Table 8: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.133	.033		4.018	.001
	AIP	.071	.073	.208	.972	.347
	AFP	-.369	.110	-.722	-3.369	.005

By referring to the Beta coefficients, the regression model can be of the following firm.

ROA = 0.133+.071 AIP+.(-0.369) AFP + Ɛ

Model for ROE

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.073	.005	-.137	.20117

Predictors: (Constant), AFP, AIP

Source: Researcher's Data Analysis, 2020

The above table provides the R and R^2 values. The R value represents the simple correlation and is 0.073 which indicates a low degree of correlation. The R^2 indicates that only 1% (approx.) variation in ROE can be explained by the working capital approaches and the other 99% (approx.) variation come from other factors.

The next table (Table 10) is the ANOVA table, which reports how well the regression equation fits the data (predicts in ROA) and is shown below.

Table 10: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	2	.002	.038	.963[b]
	Residual	.567	14	.040		
	Total	.570	16			

This table indicates that the regression model predicts the dependent variable ROE significantly adverse. This indicates the statistical significance of the regression model that was run. Here the P-value is 0.963 which is greater than 0.1, and indicates that the regression model statistically insignificantly predicts the firms' returns. This means that it is a not too good fit for the data.

Table 11 provides us with the necessary information to predict ROE from AIP and AFP, as well as determine whether AIP and AFP contribute statistically significantly to the model. When considering ROE, the AIP and AFP is insignificantly associated with ROE.

Table 11: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.043	.155		.275	.788
	AIP	.089	.344	.074	.258	.800
	AFP	-.006	.515	-.003	-.011	.991

a. Dependent Variable: ROE

By referring to the Beta coefficients, the regression model can be of the following firm.

ROE = 0.043 +0.089 AIP+.(-0.006) AFP + Ɛ

Findings from the Study

This study was conducted by the researcher based on research conducted by Afza and Nazir (2008). Therefore, the findings from the research are drawn according to the literature findings and the analysis was done by using the data collected through the annual reports from the secondary sources at CSE.

1. **H_1** = There are differences among the working capital investment policies of firms across different listed non-financial business sectors at CSE. According to the results presented from the data analysis, there are few significant differences among the working capital management practices across the listed non-financial business sectors. However, the least differences can be seen among the sectors in table 4.2 and 4.3. Therefore, hypothesis 1 is partly supported to validate objective one of the studies.
2. **H_2** = There are differences among the working capital investment policies of firms across different listed non-financial business sectors at CSE. Based on the results using the descriptive statistics it can be seen that there are differences among the working capital investment policies of firms across different listed non-financial business sectors at CSE. With compared to the variations of working capital management policies as the aggressive investment policies and the aggressive finance policies, the variation (standard deviation) in investment policies is relatively higher as compared to financing policies in the energy, commercial & professional services, automobile & component, retailing, foods & staples retailing, household and personal products, pharmaceuticals life science and biotechnology, consumer durable apparel, and consumer services sectors. Then, the variation in financing policies is relatively higher as compared to investment policies, in the transportation, foods, beverage and tobacco, health care & equipment services, telecommunication services, utilities, real estates and capital goods sectors. In addition, the pharmaceutical & biotechnology & life sciences sector has recorded a high mean value and for both aggressive investment and financing policies almost having standard deviation more than 0.78 and 0.32 respectively. This means that there are differences in practice among the working capital investment policies of firms across different listed non-financial business sectors at CSE. Therefore, hypothesis 2 is supported to achieve the objectives of this study.
3. **H_3** = *The working capital policies are relatively stable over the period of time*. According to the rank correlation between the base year and each following year, there is a strong correlation between the base year rankings and succeeding year rankings for both policies. These rank order correlations indicated that the working capital investment and financing policies of Sri Lankan listed non-financial companies were sustained as implemented over the period of study under review. Therefore, the researcher is to accept hypothesis 3 as supported to achieve the study objectives that working capital policies are relatively stable over time.
4. **H_4** = *An aggressive investment working capital policy is accompanied by an aggressive financing policy.* This study would enable finance managers to be able to regularize and prepare the appropriate working capital management policies. Moreover, findings suggest the Sri Lankan business firms pursuing the conservative working capital investment policy should balance it with an aggressive working capital financing policy in order to enhance firms' returns and to create value for their investors. As per the rank correlations which were significant in table 4 .4 and 4.5, those indicate that the particular industrial sectors in the Sri Lankan stock market at CSE follow the aggressive investment working capital policies at the same time; aggressive working capital financing policies as well. Therefore, hypothesis 4 is supported for the achievement of objectives.
5. **H_5** = *An aggressive working capital policy is directly related to firms' profitability*. Based on the R^2 values from the regression models; ROA and ROE (.0450 and 0.005), these R^2 values indicate that only 45% (approx.) aggregate variation in ROA and ROE can be explained by the working capital approaches and other 55% (approx.) variation come from other factors. Therefore, it seems to be much less than the variation that comes from other factors. Therefore, hypothesis 5 is partly supported to the achievement of study objectives

Conclusions and Recommendations

Conclusions

Working capital management is a very important management theme in corporate finance which leads to the success of the firm. In this scenario, working capital management should be appropriately performed by the financial managers in order to operate daily functions of financial management in a proper manner in order to achieve the firms' return parallel to the long-term achievement of successive paradigm in nature with the firm performance (financial and non-financial performance. The firm should compulsorily keep a working capital management policy by adopting a balanced working capital investment policy as well as a working capital financing policy with a view to operate up an optimal level of liquidity and profitability of the firms. In that case, the management of current assets and current liabilities should be regularly stipulated and operated as a policy to adopt in the process of decision-making any firm. Based on the hypotheses testing and findings through this study, there are some differences among working capital investment and financing policies except a few differences especially in the listed non-financial business sectors in Sri Lanka. However, it is specially mentioned that, there are somewhat same policies are implemented with some modified perspectives among the said sectors. In addition to this, CSE has regularized the specific guidelines as per the regulatory perspectives in Sri Lanka in order to present their financial statements and progress reports in line with the accounting and auditing standards. Also, the business sectors pursue mixed working capital management policies including both aggressive and conservative working capital investment and financing policies. Moreover, the aggressive current asset financing policies have a highly significant positive effect on returns to equity holders in the long-run. The empirical evidence suggests that conservative current asset investment policies increase firms return while conservative financing policies yield negative returns. A firm pursuing a conservative current asset investment policy should balance it with an aggressive current asset financing policy in order to enhance profitability and create value for their investors.

However, there are few limitations that the researcher pointed out; there are 290 listed companies in Colombo Stock Exchange. But in this study the researcher selected only 172 listed non-financial companies in the sample except financial companies as a sample. Therefore, the results may withhold with financial and banking companies listed in CSE. Also, the data was collected from annual reports of the company for publication as purposive with secondary aspects without having professional consents from the decision-makers as fund administrators. Also, in this study, two independent and dependent variables were considered for study purpose without concentrating much more the discipline.

In the light of the outcome, of this study, the findings revealed that there are very few significant differences in working capital management practices incorporating the aggressive working capital investment policies and aggressive working capital financing policies across the business sectors of Sri Lankan listed business sectors as supported hypothesis 1 (H_1). But, the majority of differences insignificantly exist in the practice, so that hypothesis 2 (H_2) is supported. Thereafter, the rank order correlations indicated that the working capital investment and financing policies of Sri Lankan listed non-financial companies were sustained as implemented over the period of study under review. Therefore, the researcher is to accept hypothesis three as supported to achieve the study objectives that working capital policies are relatively stable over time. So that hypothesis 3 (H_3) is supported. Further, on the basis of rank correlations per year, AIP and AFP, an aggressive investment working capital policy is supplemented by an aggressive financing policy in working capital management in many Sri Lankan listed non-financial companies. Because, the companies adopt their policy may be in a sort of their decision-making in various perspectives on their business requirements. Therefore, hypothesis 4 (H_4) is supported. Finally, the R^2 values indicate that aggregately 45% variation in firms' returns can be explained by working capital management policies and the other 55% variation comes from other factors. This seems to be a direct relation to firms' profitability, but there is reasonable impact of working capital approaches on the profitability of Sri Lankan listed non-financial firms. Therefore, hypothesis 5 (H_5) is partly supported. Therefore, the research objectives in this study were achieved with the support by testing the hypotheses formulated in this study.

Recommendations

This research is contended to study about 172 non- financial organizations listed in CSE. This research fully completed all the non-financial organizations categorized based on 17 sectors except Technology sector. So further researchers can collect all the data from all organizations listed in CSE. This research collected data from both profited and negative profited companies and but further researchers can collect data from only profit earned companies. This will lead to a good significant result. Furthermore, the following

recommendations are made for the academic as well as business perspectives which would more sophisticates for the working capital management on firms' returns.

1. The working capital management policy needs to be changed from informal to formal to enhance the chances of the firm's operations to be successful in their working capital management practices. Further, the policies of working capital must be reviewed more than once a year depending upon the firm so as to identify and mitigate the weaknesses early with taking the for redial actions to be taken on time.
2. Choice of working capital management practices of the companies depended on legislation, customer needs, management method, and Credit policy and yet failed to reap the benefits of optimal working capital management. It is therefore recommended that the firms and/or its' particular business sectors re-examine the factors that determine their working capital. Then only, the financial managers and fund administrators come up with best practices of working capital that can mitigate against the liquidity challenges, low profitability, worse competitive position, increased funds tied up in working capital and finally lack of ability on the part of the supermarket to unlock capital to finance growth.
3. Today, the business sectors are in the global technological transforming era, in this case, online automated control systems are efficient to be used to manage all aspects of financial control instead of manual reporting. Therefore, the companies and its' business sectorial forums must therefore get maximum benefits in their operations to reinforce efficiency in their working capital management and financing.

Suggestions for future Research

The present study was intended to discuss the working capital policies on a firm's performance of non-financial organizations listed in CSE from 2014 to 2019. When considering the above discussion of the reviewing literature, there are different kind of arguments about the relationship of the variables, were mentioned by the researchers based on their findings. Therefore, researchers can do further research about the relationship between working capital approaches and firm value. The findings are different from each study. And also, each study has taken different data sets, samples, methodologies, research context and analytical tools. Therefore, all those findings cannot adapt directly to the Sri Lankan context. Therefore, the space for these gaps will be kept to those who are required to be done by this researcher or others researches in the Sri Lankan context.

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