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Working capital policy practice: Evidence from Sri Lankan companies

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Abstract

This study investigates working capital policy (WCP) practices in Sri Lankan context. We utilize multiple regression analysis (MRA) to empirically formulate the industry's 'best practice' limit and measures firm efficiency as the detachment from that limit. Using these different working capital policy we study WCP behavior, firm performance and deciding factors. We summarize the divergent properties of working capital policy in terms of two hypotheses: the efficiency, liquidity levels and working capital policy hypotheses. Employing multiple regressions we test the influence of efficiency on factors that is determining the WCP, thus the empirical validity of two competing hypotheses across different working capital policy choices and what factors associated with the determinants of listed firm to exploit particular working capital management policy. We also investigate firm performance and WCP. Throughout this investigation we consider the role of WCP and determinants of WCP. The study finding explore the impact of different types of working capital policy practises are differently affect the firm liquidity, efficiency, profitability and capacity usage. Sample of this investigation consist 155 companies listed in Colombo Stock Exchange (CSC) from 2002 -2006.

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1. Introduction

In firms of all kind, a basic objective of management accounting practice is to manage vital areas and to monitor, improve, firm performance. Small or Large firms need to control and monitor their working capital (WC). This is fundamentally firms are associated with a higher proportion of current assets, less liquidity, reliance on short term debt, and variation of cash flows [14]. Empirical evidence proposes that relatively few firms practice basic WC policy and they show a grater occurrence of momentary WC decision making. A lack of practice does not mean that a firm is weakly managed; they apply some sort of asset and liability management policy. However, assert that some firms should assume formal working capital management (WCM) policy in order to reduce the probability of business failure, as well as to achieve business performance. Policy maker for the business developers are targeting support towards the elimination of barrier to the smooth function of firm to enhance the firm achievements successfully. If established firm with resource pools are associated with lower start up rates of WCM, there may be a case to provide support to these firms.

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However, there is reluctant to introduce new policies without additional information relating to the scale and nature of firms' working capital policy (WCP). Understanding, attention and knowledge of the WCM policy of the firms in Sri Lankan context as well small firm is currently insufficient. Empirical evidence in this area is determined by lack of accepted framework large firms in developed countries. The factors influenced with the adaption of WCP have generally been explained within an accepted [5],[7],[8]. For the model development and formulation of hypothesis, theoretical justification has been provided for the developed WCP by the later findings have failed to influence that organization demographics can overcome comparative studies. Based on the above several study seeks to explain wider understanding of several factors relates firm WCM policy such as stock turnover, stocks levels, stock reorder levels, customer discount period and credit policy, bad debts, customer credit risk, finance of working capital, use of cash budgeting, and doubtful debts.

The study focuses evidence from sample of listed companies in the CSC to examine the following research questions: Q1: Are there different types of WCP practicing firms with regard to the take- up of WCM? Q2: What independent variables are associated with the propensity of WCP to utilize particular WCM? The remainder of the paper is organized as follows. The next section explains the relationship between firms WCP. Section three formulates the hypotheses to be tested. Section 4 explains the data collection and empirical model employed to analyze the WCP, and ROA. Section 5 concludes the paper.

2. Overview

Rather than providing new approaches to examine the above research questions, conceptual framework was initiated. These frameworks are then capitalized to identify independent and variables that may be associated with adopt working capital management policy.

2.1 A resource base view of the firm

According to the [13] resource is meant anything which could be consideration of a strength or weakness of a given time. Resource at a given time could be defined as these assets which are semi permanently to the firm (e.g brand name, in house knowledge of technology, employment of skilled personnel, trade contract, capital, machinery, efficient product. Further propose that owners and managers of firms can create competitive advantage for their firms when they collect distinctive firm resources that are uncommon, valuable and hard to replacement. In addition to that this model emphasis the resource positioning is important.

2.2 Transactions cost theory

Provide that the firm acquisition or merging information to satisfy stakeholders engages transaction costs. Transaction cost theory explains why firm exist, expand or source out activity to the external environment and try to minimize cost of exchange resource with the environment at the same time try to minimize the routine costs of exchange within the firm. When the external transaction costs are higher than the internal routine costs, the firm will grow [7]. The transaction costs related to the exchange resources with outside could be determined by the following factors. But this list is not complete (e.g. Environmental uncertainty, opportunism, risks, bounded rationality, and core company assets. Systems of the organization will be initiated where the benefit is received to exceed the cost and firm invest assets where they achieve the greatest marginal return. Most of the firms return on investment of any area of working capital is less than the other potential uses and these firms may invest very little in working capital. Some small firms may invest assets in particular area of working capital that is expected to be higher marginal return.

2.3 Agency theory

In finance, the principal-agent problem arises under the condition of owner manger separation situation but due to the incomplete and asymmetric information when an owner (principal) hires manager (agent). Different systems (motives) used to align the interest of agent with those of the owner, such as financial motives and non financial motives. Research findings of [4] assume that the managers are opportunistic agent who focuses to reduce their welfare at the expense of shareholders. To minimize information asymmetry problems between owner and manager, most of the owner of firms utilizes formal management control systems to minimize these problems. When there is exist agency problem,

information flows and the requirements of stakeholders in firm may be linked with obtain of management systems. Finally, the attitude of risk sharing is deferent with the owner and manager it is difficult to maintain the agency relations with owner and manager.

2.4 Working capital management policy

Working capital policy depends on the risk and returns trade off inherent in alternative policies. High risk, high return working capital investment and financing strategies are referred to as aggressive; lower risk and return strategies are called moderate or matching; lowest risk and returns is called conservative [8]. Aggressive asset management policy results in capital being minimized in current assets against long term investment. Expectation of this type firm has higher profitability but greater the risk. As an alternative, firm policy is conservative high proportion of capital in liquidity asset, but at the forgo profitability. To measurement of working capital policy current asset to total assets is used. Lower the ratio, working capital policy is aggressive. On the other hand, the ratio of current liability to total asset is used. By this higher the ratio indicate the policy is conservative.

3. Derivation of hypotheses

As a business grows, its credit sales grow, which means in effect, that it is lending more money to its customers. At the same time more inventories and debtors are accumulate and firm have more obligation in the short term. The overview of the theoretical frameworks provides that the both small and large firms may not unique entity with regard to firms' working capital policy practices. Most of the firm adopts particular types of working capital policy it may be determined by the resource availability, transaction cost, informational requirements and management intention to the risk and return. Empirical evidence provides that most of firms are less likely to adopt working capital management policy [3], [11]. As a firm grows, its operations and other process are complexity and vital, role of the managers in all the levels are to be devoted more time for control the firm. Returns on investment in working capital on firms may high. This explanation helps to formulate the following hypotheses:

H₁: Working capital is positively associated with liquidity position when firm practices conservative WCP.

Stage model of the firm theorists [2],[6] propose that the firms with more liquidity position adopt a more experienced management, more sophisticated control systems. This evidence support to formulate the following hypotheses:

H₂: The leverage is positively associated liquidity when firm practices matching WCP.

H₃: Liquidity and working capital are negatively associated short term liability over total asset when firm practices matching WCP.

H₄: Overall capacity of the firm is negatively associated working capital, and usage of total assets when firm practices aggressive WCP.

H₅: Turnover of the firms is positively associated working capital, capital rising, and liquidity when firm practices aggressive WCP.

H₆: Working capital of the firms is negatively associated liquidity when firm practices aggressive WCP.

4. Data collection and research methodology

We obtained audited annual reports data from companies listed in Colombo Stock Exchange (CSE) from 2001 to 2006. The study period, 237 companies are listed on the Colombo Stock Exchange employed to identify a sampling frame of independent companies that reported five years average total current liability over total assets. Total sample of the study proportions were identified for three fold based on the conservative, aggressive and matching working capital policy. An empirical investigation has carried by [1] revealed the ratio to identify in which what working capital policy (WCP) the firm practices. However, because WCP is measured through three levels (>0.139 Conservative, 0.14- 0.199 Matching and <0.2 Aggressive). The firms from the sample that were no longer operating or missing data were removed from the sampling frame. In total 155 firms completed data were collected from valid sample. The 95% valid rate was considered acceptable and complete data sample. In the overall sample, 23% in valid sample firms practice conservative working capital policy (CWCP), 12% of the overall sample firms practice

matching working capital policy (MWCP) and, 64% firms practice aggressive working capital policy (AWCP). Summary descriptive statistics for data in the sample are given Appendix A. As can be seen in this table, the level of each variable of CSE companies varies significantly depending on the measures of entire variables identified.

4.1 Simple correlation

Appendix B presents simple correlation coefficient of each firm main variable with three working capital policy. Several patterns materialize. First, WCP represent indicators are positively and negatively correlated with other indicators which are represented firm profitability, risk, efficiency, stability and capacity of the firm wherever firm policy are conservative, matching and aggressive. Second, firm liquidity status correlates positively with leverage of conservative, aggressive WCP. However, firm liquidity status correlates negatively with leverage of matching WCP. At the same time, firm liquidity status correlates negatively with turnover of conservative and aggressive WCP and positively correlates with turnover of matching working capital policy. Third, working capital negatively correlates with leverage firms which practices conservative and aggressive WCP. This relationship positively affects the firm with matching WCP. Fourth, the working capital positively correlates with turnover of the firm practice conservative and aggressive WCP, at the same relationship is positive with matching WCP. Fifth, working capital correlates positively with liquidity to be widely held firms are practicing three types of WCP. Sixth, firm capacity usage or assets allocation correlates positively with firm profit of all WCP. This indicator correlates negatively with leverage of firms practicing conservative and aggressive WCP but since firm WCP is matching, leverage positively correlates. Assets allocation negatively correlates when firm increase total asset in the all types of WCP. Assets allocation negatively correlates with turnover of the firm practices matching and aggressive WCP and negatively correlates with firm liquidity of all the aspect of WCP. Working capital positively associates with assets allocation of all the types of firm WCP since the firm maintains efficient asset allocation i.e. optimum combination of current assets over total assets, positively associates the working capital positions of the firm. Seventh, current liability over total assets represents firm short term liability levels. This indicator positively correlates with leverage of the firm practices all the types of WCP. This relationship revealed that the leverage represent short term and long term obligations of the firm. Except aggressive WCP, current liability over total asset positively associates with both firm capacities. The aspect of firm liquidity, this indicator positively correlates all the types of WCP. Working capital of entire WCP has been negatively correlated with this indicator. Policy of assets allocation has been correlated positively with current liability over total assets of all entire type of WCP. Ninth, firm internal capital raising ability represent firm retain earns which correlates positively with turnover and current assets over total assets of WCP except conservative WCP. Firm liquidity with the firm practice conservative and matching WCP has been positively correlated with capital raising ability i.e. capital raising ability enhance both liquidity and firm capacity. Finally, firm liquidity has been positively correlated with firm profitability of conservative and matching WCP.

4.2 Multiple regressions

This section we illustrate regression results with different measures as the dependent variables were performed; only the OLS results were reported. If is not clear that the different WCP related measures should not be censored at the same point. The estimated multiple regressions model may be represented as (Eq 1):

$$WCP_{i,t-3} = \alpha + \beta_1 * Return\ on\ Assets_{i,t-3} + \beta_2 * Leverage_{i,t-3} + \beta_3 * Z-Score_{i,t-3} + \beta_4 * Ln-Total\ Assets_{i,t-3} + \beta_5 * Ln\ Working\ Capital_{i,t-3} + \beta_6 * Ln-Turnove_{i,t-3} r + \beta_7 * Current\ Assets\ Ratio_{i,t-3} + \beta_8 * Current\ Assets\ to\ Total\ Assets\ Ratio_{i,t-3} + \beta_9 * Current\ Liability\ to\ Total\ Assets\ Ratio_{i,t-3} + \beta_{10} * Capital\ Raising\ Ability_{i,t-3} + \beta_{11} * Earnings\ Before\ and\ Interest\ Tax\ to\ Turnover_{i,t-3} + \beta_{12} * LnAgeRatio_{i,t} + \beta_{13} * Cashbase_{i,t-3} + \varepsilon_{ij} \quad [1]$$

Where i refers to the individual firms, t to the time period of the WCP measure(measured at the accounting year end) , and $t -3$ to the average for the previous three years, measures of WCP are dependent variables from each model, α denotes intercept of the regression. β_1 to β_{13} denotes the coefficient of each variabes. The results of multiple regressions are reported in table 3, where the results of

models are significant at 5% confidential level. The interpretation of the coefficients associated with each variable are now considered in turn.

Table 1

Coefficient and R² (Sample basis WCP)

Model& Obs.	Dependent Variable	WCP	CA	Leverage	CL/TA	Ln-TA	Ln-TR	Ln-WC	R ²
1 N=33	Conservative	Ln WC	0.974						0.93
2 N=19	Matching	CA	-	0.977	-0.953	-	-	-	0.99
3 N=19	Matching	Ln WC	-1.024		-1.047			-	0.99
4 N=19	Matching	CA/TA	0.571						0.53
5 N=99	Aggressive	CA						-0.975	0.99
6 N=99	Aggressive	Ln WC			-1.668	-0.753	0.655		0.16
7 N=99	Aggressive	CA/TA	-0.138		0.753	-0.036			0.69
8 N=99	Aggressive	CRA			3.285				0.17
9 =155	Overall	CATA			0.705	-0.106	0.060		0.68

Ln Working capita l (Ln-WC), Current assets (CA), Total assets (TA), Capital raising ability(CRA), Ln-Turnover (Ln-TR).

We controlled for the effect of WCP by introducing firm practice working capital policy into three groups: conservative working capital policy; Matching working capital policy and Aggressive working capital policy. The interpretation of the coefficient associated with each independent variable for three WCP and overall samples are now considered in turn. The significant level was 5% for all calculated value. The effect of firm working capital under the conservative WCP on current assets was estimated (97%). We obtained R-square of 93%, which indicates the good fit of the model. The effect of current assets under the matching WCP on leverage was found 97% and coefficient -95% of current liability to total assets, overall fit was highly significant with R-square 99%. Firm working capital of matching WCP was associated with current assets (97%) was positively influenced and current liability (-95%) to assets was negatively influenced, overall fit (R²) was 99%. However, while the coefficient of current asset has been positive for current assets to total asset, the size of the coefficient tend to be small. The results of aggressive WCP, working capital has negatively affected on current assets (-97%). We obtained model fit of 99%. Coefficients of current liability to total asset (-166%), total assets (-75% were negatively associated on working capital under aggressive WCP with model fit R-square 17%. However, coefficient of turnover was positively associated. The Coefficient of total assets (-3%) and current assets (-13%) under aggressive WCP were negatively associated for current assets to total assets, while R-square was 69%, while coefficient of current liability to total assets (75%) was positive. Model 3 for capital raising ability has been positively correlated current liability to total assets (328%) with R-square 17%, however, while the coefficient was negative for current assets(-46%) for capital raising ability. The coefficients of current liability to total assets (70%), turnover (6%) under the overall sample were found positively with R-square 68% for current assets to total assets. However, coefficient of total assets (-11%) was negatively associated.

5. Conclusions and implications

The aim of the study has been to persuade additional research, rather than to reveal all the factors associated with the WCP by Sri Lankan context. The theories steered the selection of independent variables explored in this study. The results consistency highlighted, across a verity of dependents by using multiple regressions, that deferent WCP firms are not a homogenous group with regards to working capital and ROA. Considerable variability was identified in the take up of three working capital policy by a large random sample of listed in the CSE in Sri Lanka. Evidence from the correlation and regressions confirmed the identification of various performance, profitability, liquidity, and efficiency with regards to deferent type of WCP. Evidence of the study, vital point of firms' WCP is liquidity indicators among the study variables. In addition, variability of ROA in the deferent WCP practicing firms have found deferent set of working capital determinants. Moreover, evidence from the multiple regression analysis suggests that the selected independent variables successfully discriminated between the three types of working capital policies practices by the companies. All hypotheses were supported. Evidence that the majority of the firms focus their efforts on one area of working capital management (WCM) indicates that resources

for WCM are limited. However, a prominent finding from the regression analysis was the detection that firms which utilize fewer WCP were not essentially firms. We can identify here that the resource constraint may be a major barrier to utilization of working capital MCM by a firms. Firms may invest resources into managing a particular area of working capital where they are performing badly because the returns from controlling the problem area are perceived to be high. If the direction of WCM is not understood, the investment of more resource into an area leads to worse performance. Currently, it is not clear whether these WCP are underperforming but additional research is required before firm conclusions can be drawn. WCP practitioners need to appreciate the management time constraint faced by many firms. Time constraints not only limits the amount of time for working capital management, but also the amount of time available to assess whether changes to current working capital policy would be worthwhile.

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