RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF REINSURANCE COMPANIES IN EAST AFRICA

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DECLARATION

This research project is my original work and has not been submitted for examination in any other university.

Signed…………………………………Date……………….................

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DEDICATION

This study is dedicated to my wife Irene Mumo and my son Trevor Mumo for their support, encouragement and patience during the entire period of my study and continued prayers towards successful completion of this course.

God bless you all.

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LIST OF ABBREVIATIONS

CCC   - Cash Conversion Cycle

CPD   - Creditor Payable Days

CR   - Current Ratio

DTD   - Debtor Turnover Days

DW   - Durbin Watson

LOS   - Natural logarithm of Sales

NSE   - Nairobi Stock Exchange

NWC   - Net Working Capital

NTC   - Net Trading Cycle

ROA   - Return on Asset

ROE   - Return on Equity

ROD   - Return on Investment Deposits

RONA - Return on Net Assets

WC   - Working Capital

WCC   - Working Capital Cycle

WCM - Working Capital Management

ABSTRACT

Working capital management is a critical component of corporate finance because it directly affects the liquidity and profitability of the company. A firm's value cannot be maximized in the long run unless it survives the short run. Profitability and working capital relationship is frequently emphasized for deciding on the level of investment in working capital. The study sought to establish the relationship between Working Capital Management and profitability for reinsurance companies in East Africa. The study covered the entire population of six reinsurance companies' in East Africa as at 1st January 2009. The data covered a period of five years from 2009 to 2013. The study was carried out through the use of secondary data as detailed in financial statements of the companies' annual audited reports and their websites. The data collected was analyzed using descriptive and quantitative techniques. Regression analysis was used to determine the relationship between working capital management and profitability. The variables relating to working capital management for manufacturing firms includes debtor turnover days, creditors payable days, inventory period and cash conversion cycle. This study was to establish if this relationship exists for reinsurance companies which do not hold inventory. The study utilized the following variables; return on assets, debtors turnover days, creditors payable days, current ratio, age and natural logarithm of sales. The findings of the study show that debtors turnover days and current ratio are negatively related to return on assets while creditors payable days, age and natural logarithm of sales are positively related to return on assets. The study concludes that there exists relationship between Working Capital Management and Profitability of reinsurance companies in East Africa. Managers can create profits for their companies by managing and keeping each different component of working capital (accounts receivables, accounts payables, inventory) to an optimum level. They should collect their debts as quick as possible and delay payment as much as possible taking into consideration not to strain their relations with suppliers. The study recommends that reinsurance companies should ensure that they have a framework on managing the working capital since it has direct impact on their profitability

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Working capital management is critical to a firm because of its effects on the firm's profitability and risk, and consequently its value (Smith, 1980). Specifically, working capital investment involves a tradeoff between profitability and risk. Decisions that tend to increase profitability tend to increase risk, and, conversely, decisions that focus on risk reduction will tend to reduce potential profitability. Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meets its due short term obligations on one hand and avoid excessive investment in these assets on the other hand according to Eljelly (2004). Working capital management (WCM) is therefore the management of short-term financing requirements of a firm. This includes maintaining optimum balance of working capital components – receivables, inventory and payables – and using the cash efficiently for day-to-day operations

A firm's value cannot be maximized in the long run unless it survives the short run. Firms fail most often because they are unable to meet their working capital needs; consequently, sound working capital management is a requisite for firm survival (Deloof, 2003). Optimization of working capital balance means minimizing the working capital requirements and realizing maximum possible revenues

Working Capital Management is a very sensitive area in the field of financial management (Joshi, 1994). It involves timely decisions on the amounts and composition of current assets and the financing of these assets. Current assets include all those assets that in the normal course of business return to the form of cash within a short period of time, ordinarily within a year and such temporary investment as may be readily converted into cash upon need. The success of a firm depends ultimately, on its ability to generate cash receipts in excess of disbursements. There is much evidence in the financial literature that present the importance of WCM. The results of empirical analysis show that there is statistical evidence for a strong relationship between the firm's profitability and its WCM efficiency Shin and Soenen (1998). To enhance profitability, Hill and Sartoris (1992) suggest reducing time value costs (the opportunity cost of the float), credit losses due to the inability to collect payments, transaction costs of moving cash within and between other countries, and losses on foreign exchange conversions. The objective function identified by Hill and Sartoris (1992) suggests several areas of research in international   working capital management, including foreign exchange risk management activities, international cash management operations, and   international cash collections and credit management practices.

1.1.1 Working Capital Management

Working capital is defined from two conceptual viewpoints either at Gross and Net terms. Gross Working Capital refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an accounting year or operating cycle and include cash, short- term securities, debtors, bills receivable and inventory.

Net Working Capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year and include creditors, bills payable and outstanding expenses. A negative net working capital occurs when current liabilities exceed current assets. From managerial view point, the above two concepts are mutually inclusive and they cannot be independently evaluated in isolation. Current assets management focuses attention on how to optimize investment in current assets in addition to how they should be financed (Pandey, 1999).

According to Van Horne (1977), working capital management is the administration of current assets in the name of cash, marketable securities, receivables, and inventories. Osisioma (1997) described working capital management as the regulation, adjustment, and control of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced

According to Adeniji (2008), there are no specific set of rules or formulae to determine the working capital requirements of firms. A large number of factors, each having a different importance influences working capital needs of firms. The factors which generally influence the working capital requirements of firms include nature of business, sales and demand conditions, technology and manufacturing policy, credit policy of a firm, operating efficiency, price level changes and credit granted by suppliers.

Many exiting researchers and scholars have found that managers spend a considerable time on day- today working of capital decisions since current assets are short-lived investments that are continually being converted into other asset types Rao (1989). In the case of current liabilities, the firm is responsible for paying obligations mentioned under current liabilities on a timely basis. Liquidity for the on-going firm is reliant, rather, on the operating cash flows generated by the firm's assets according to Soenen (1993).

1.1.2 Profitability

Profitability is the primary goal of all businesses ventures. Without profitability, the business will not survive in the long run. So measuring the current and past profitability and projecting future profitability is very important. Profitability is measured with income and expenses. The success of any business is measured by profitability. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Increasing profitability is one of the most important tasks of the business managers. Managers constantly look for ways to improve profitability.

Profitability is not cash flow. The main objective of every firm is maximizing profits but preserving liquidity of the firm is an important objective too. The problem is that increasing profits at the cost of liquidity bring serious problems to the firm. Therefore, there must be a tradeoff between these two objectives of the firms. If we do not care about profits we cannot survive in the long run, on the other hand, if we do not care about liquidity, we may face

problems of insolvency or bankruptcy. For this reason working capital management should be given proper consideration and will ultimately affect the profitability of the firm companies

According to Goudreau (1992) profitability measures commonly used include the rate of return on assets (ROA), the rate of return on equity (ROE), the rate of return on investment deposits (ROD), and the capital-assets ratio (capitalization). The rate of return on assets, ROA, is the measure of overall performance. It is defined as net income over total assets and shows the profit earned per dollar of assets. More important, it gauges how effectively a firm uses its financial and real investments to generate profits. ROE is defined as net income divided by average equity, measures a firm's accounting profits per dollar of book equity capital. Whereas ROA measures profitability from the point of view of the overall efficiency of assets, ROE captures profitability from the shareholders' perspective. ROD is defined as net income divided by total investment deposits and shows the ability of the bank to compete for funds. ROD can be considered as the price, or the cost of attracting deposits

1.1.3 Effects of Working Capital Management on Profitability

The level of investment in current assets has a bearing on the profitability of the firm. Excess of investment in working capital casts a negative impact on the profitability of a firm and positive impact on the liquidity. Firms with too few current assets may incur shortages and difficulties in maintaining smooth operations (Horne and Wachowicz, 2000). Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet short term

obligations due on one hand and avoiding excessive investment in these assets on the other hand (Eljelly, 2004)

Smith (1980) suggests that working capital management is important because of its effects on a firm's profitability and risk, and consequently its value. Specifically, a more aggressive working capital policy (low investment in working capital) is associated with a higher return and risk, while a conservative working capital policy (high investment in working capital) supposes a lower return and risk. These effects on profitability and risk, therefore, suggest that firms might have an optimal working capital level that balances the costs and benefits of holding working capital and maximizes their profitability

According to Kargar and Bluementhal (1994) bankruptcy may also be likely for firms that put inaccurate working capital management procedures into practice, even though their profitability is constantly positive. Hence, it must be avoided to recede from optimal working capital level by bringing the aim of profit maximization in the foreground, or just in direct contradiction, to focus only on liquidity and consequently pass over profitability. While excessive levels of working capital can easily result in a substandard return on assets; inconsiderable amount of it may incur shortages and difficulties in maintaining day-to- day operations

Most of the empirical studies support the traditional belief about working capital and profitability that reducing working capital investment would positively affect the profitability of firm (aggressive policy) by reducing proportion of current assets in total

assets. Deloof (2003) analyzed a sample of Belgian firms, and Wang (2002) analyzed a sample of Japanese and Taiwanese firms, emphasized that the way the working capital is managed has a significant impact on the profitability of firms and increase in profitability by reducing number of day's accounts receivable and reducing inventories. Soenen (1998) analyzed a sample of US firms and reported similar findings but having used Net Trading Cycle (NTC) as comprehensive measure of working capital management and found significant negative relationship between NTC and profitability. However, this relationship was not found to be very significant when the analysis was for specific industry

1.1.4 Reinsurance Companies in East Africa

Reinsurance is insurance that is purchased by an insurance company (the "ceding company" or "cedant" or "cedent" under the arrangement) from one or more other insurance companies (the "reinsurer") directly or through a broker as a means of risk management. The ceding company and the reinsurer enter into a reinsurance agreement which details the conditions upon which the reinsurer would pay a share of the claims incurred by the ceding company. The reinsurer is paid a "reinsurance premium" by the ceding company, which issues insurance policies to its own policyholders. The reinsurer may be either a specialist reinsurance company, which only undertakes reinsurance business, or another insurance company. The purpose of reinsurance is risk transfer, Income smoothing, surplus relief, arbitrage, reinsurer's expertise and creating manageable and profitable portfolio of insured risk.

There are six Reinsurance companies in East Africa as at 1st January 2009; Africa

Reinsurance Corporation(ARC), Zep-Re(PTA Reinsurance Company)(ZRC), Kenya Reinsurance Corporation(KRC), East Africa Reinsurance Corporation(EARC), Continental Reinsurance Company(CRC) and Tanzania Reinsurance Corporation(TRC). Ownership of the reinsurance company is either by governments, Private investors or partnership of governments and private investors. Key to success of any reinsurance company is the trade-off between the profitability and liquidity. Relationship between the working capital management and profitability therefore is therefore critical to the success of the reinsurance companies

According to Van Horne (1977), working capital management is the administration of current assets in the name of cash, marketable securities, receivables, and inventories. For reinsurance companies, Working capital cycle (WCC) is the amount of time it takes to turn the net current assets and current liabilities into cash and will be derived by deducting creditors payable days from debtors turnover days. A good working capital cycle balances incoming and outgoing payments to maximize working capital for the reinsurance company. The longer the cycle is, the longer the reinsurer is tying up capital in its working capital without earning a return on it. Therefore, companies strive to reduce its working capital cycle by collecting receivables quicker or sometimes stretching accounts payable. Debtor turnover days is an indication of a reinsurance company's efficiency in collecting monies owed. The lower the number of days the better. Creditor payable days is an indication of a reinsurance company's creditworthiness in the eyes of its suppliers and creditors, since it shows how long they are willing to wait for payment. Within reason, the higher the number of days the better because all companies want to conserve cash.

By reinsurance companies using efficient working capital management can facilitate access to enough liquidity in order to undertake daily activities and prevention of disturbances in their trade cycle operations, minimize risk to ensure that their short term obligations do not exceed their current assets and help maximize firm's value. Investment of idle moneys, minimizing the stocks, fast receipt of receivable and elimination of costly short term financing, all lead to increase in firms' value.

1.2 Research Problem

Management of working capital which aims at maintaining an optimal balance between each of the working capital components, that is, cash, receivables, inventory and payables is a fundamental part of the overall corporate strategy to create value and is an important source of competitive advantage in businesses (Deloof, 2003). An optimal working capital management is expected to contribute positively to the creation of firm value. The Reinsurance sector in East Africa is one of the key sectors contributing to the region's economic growth. They acts as capital management tool for insurance companies. Working capital management is therefore critical to a reinsures because of its effects on the firm's profitability and risk, and consequently its value (Smith, 1980). Previous studies have shown that decisions on working capital affect both liquidity and profitability. Excess of investments in working capital may result in low profitability and lower investment may result in poor liquidity.

Globally, the optimal combination of the various working capital financing sources has

been a controversial topic since its theoretical rise and the empirical investigations that have followed. A continuing debate in corporate finance exists over the question of how firms make their working capital financing decisions, and the effect of these on the profitability of the organization. Most studies on working capital financing policy have used data from American and European companies. However, research on the determinants of working capital financing of emerging and developing market such as nature of business, market and demand condition, credit policy, operating efficiency and conditions of supply firms has emerged as an extended new line of research because of the differences in levels of efficiency and institutional arrangements between developed markets and emerging markets (Eldomiaty, 2007).

Locally, a number of studies on the relationship between working capital management and financial performance have been done in Kenya though very little research has been conducted on the reinsurance sector in East Africa. For instance, Mathuva (2010) conducted a study on working capital management components on corporate profitability of Kenyan Listed Firms in the NSE. Wainanina (2010) studied the relationship between profitability and working capital of small and medium enterprises in Kenya. They both found out that there is a relationship between the working capital management and profitability.

A firm's objective is maximization of profits and shareholders wealth. Most of the studies on working capital are in developed countries. Proper working capital is critical for firms in developing countries and given that firms in developed countries are relatively larger

than firms in developing countries, the conclusion arrived at may not necessary be the same as those of developed countries. Most of the previous studies were done on manufacturing firms and it would be interest to assess effects of working capital management on profitability for financial service industry. Given this and that no study has been done on the relationship between working capital management and firms' profitability of with specific reference of reinsurance companies in East Africa, this study seeks to bridge the gap by undertaking a study on the same. Reinsurer's assists in smoothening income for primary insurance company and therefore the studies on the impact of working capital management will be most beneficial and relevant to the market.

The question that this study shall seek to answer is; what is the relationship between working capital management and profitability of reinsurance companies in East Africa?

1.3 Research Objective

To establish the relationship between working capital management and profitability for reinsurance companies in East Africa.

1.4 Value of the Study

The study will help reinsurance financial managers will to be able to foresee any financial challenges and opportunities and act appropriately and promptly. Poor working capital increases financial pressure resulting in late payments to creditors, poor credit rating and subsequently higher bank interest rates. Every manager aspires to avoid this problem. It

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will also provide financial analyst with quantitative and qualitative information not readily available in financial statements of companies so that they can be able to give better advice to users of financial information they provide.

With ongoing privatization of public institutions and need for extra capital for reinsurance companies, potential investors will be able to assign more realistic values to their target firms by seeing through the underlying opportunities or threats. The government stands to benefit immediately with critical information that can help improve or even reengineer performance contracting and evaluation criteria including form a criterion on legislation and best practices for reinsurance companies.

For Scholars and Researchers, the study will assist in management of conceptual framework underlying working capital management theories and practices with a view to developing more robust financial models for the financial service industry. This will enrich the knowledge of finance

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The purpose of this chapter is to present a review of literature relating to the relationship between working capital management and profitability. The chapter reviews the literature that has been done in the field of relationship between working capital management and profitability both locally and internationally. First a theoretical review on working capital and profitability is presented followed by an empirical review of the two variables. Lastly, a summary chapter is presented where research gap is identified. According to Eisenhardt (1989) an essential feature of theory building is comparison of the emergent concepts, theory or hypothesis with the extent literature.

2.2 Theoretical Review

Working capital, also referred to as net working capital (NWC), is an absolute measure of a company's current operative capital employed. It is the capital required in the short term to run a business. Working capital management involves short term asset accounts such as cash, inventory and accounts receivable as well as short term liability accounts such as accounts payable (Harford, 2009) Current assets are assets which are expected to be sold or otherwise used within one fiscal year. Current liabilities are considered as liabilities of the business that are to be settled in cash within the fiscal year. According to Harris (2005) Working capital management is a simple and straightforward concept of ensuring the ability of the firm to fund the difference between the short term assets and short term liabilities. Nevertheless it is

a complete mean and average approach preferred to cover all its company's activities related to vendors, customer and product.

Financing of current assets from current liabilities particularly in the form of interest free credit from supplies is a less expensive source of financing than equity or long term debt capital (Van Vorne, 1995).

2.2.1 Operating Cycle Theory

The operating cycle theory looks explicitly at one side of working capital that of current assets and therefore gives income statement measures of firms operating activities that is about production, distribution and collection. Receivables, for instance are directly affected by the credit collection policy of the firm and the frequency of converting these receivables into cash matters in the working capital management. By granting the customers more liberal credit policy, the profitability will be increased but at the same time liquidity will be sacrificed. The same analysis goes for other components of current assets account. However the operating cycle theory tends to be deceptive in that it suggests that current liabilities are not important in the course of the firm's operations. Our understanding of payables as the source of financing the firm's activities can be assailed as a result. Given this inadequacy of the operating cycle theory, it is essential to infuse current liabilities in the picture to enhance our analysis and understanding. Although the operating cycle considers financial flows come from receivables and inventory, it ignores the financial flow coming from accounts payables in this regard. Richards and Laughlin (1980) suggested the cash conversion cycle which considers all relevant cash flows comes from the operations

2.2.2 Cash Conversion Cycle Theory

It is the cash conversion cycle theory integrates both sides of working capital. In their seminal paper, Richards and Laughlin (1980) devised this method of working capital as part of a broader framework of analysis known as the working capital cycle. It claims that the method is superior to other forms of working capital analysis that rely on ratio analysis or a decomposition of working capital as claimed above. The CCC is calculated by subtracting the payables deferral period (360/annual payables turnover) from the sum of the inventory conversion period (360/annual inventory turnover) and the receivables conversion period (360/annual receivables turnover). More recently, the number of days per year that appears in the denominator as 360 has been replaced by 365 to improve accuracy. Since, each of these three components is denominated by some number of days, the CCC is also expressed as a number of days. It has been interpreted as a time interval between the cash outlays that arise during the production of output and the cash inflows that result from the sale of the output and the collection of the accounts receivable.

2.2.3 The Net Trade Cycle Theory

The net trade cycle is basically equal; to the cash conversion cycle where the three components of the cash conversion cycle (receivables, inventory and payables) are articulated as a percentage of sales this makes the net trading cycle easier to calculate and less complex Soenen (1993) investigated the relationship between the net trade as a measure of working capital and return on investment in the us firms. the results of chi- square test indicated a negative relationship between the length of net trade

cycle and return on assets. Furthermore this inverse relationship was found different across industry. A significant relationship for about half of the industries studied indicated that the results might vary from industry to industry. A further study by shin and Soenen (1998) argued that the net trading cycle is a better working capital efficiency measure compared with the cash conversion cycle and the weighted cash conversion cycle because it indicates the number of days sales the company has to finance its working capital and the working capital manager can easily estimate the financial needs of working capital expressed as the function of expected sales growth. The reason for using net trading cycle is because it can be an easy device to estimate for additional financing needs with regards to working capital expressed as a function of the projected sales growth. This relationship can be examined using correlation and regression analysis by industry should working capital intensify.

Using a comp start sample of 58,983 firm years covering the period 1975-1994 in all cases they found a strong negative relationship between the length of the firm's net trade cycle and its profitability. In addition shorter net trade cycle is associated with higher risk adjusted stock returns. In other works, shin and Soenen (1998) suggest that one possible way the firm to create shareholder value is by reducing firm's net trade cycle

2.3 Determinants of Profitability of Reinsurance Companies

Profitability is the primary goal of all businesses ventures. Without profitability, the business will not survive in the long run. Every firm is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios which

are used to determine the company's bottom line. Profitability measures are important to company managers and owners alike. Managers constantly look for ways to improve profitability.

2.3.1 Working Capital Management

Working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the company. Working capital management is the administration of current assets in the name of cash, marketable securities, receivables, and inventories according to Van Horne (1977). Osisioma (1997) described working capital management as the regulation, adjustment, and control of the balance of current assets and current liabilities of a firm such that maturing obligations are met, and the fixed assets are properly serviced. In order to manage working capital efficiently, there must exist two elements as necessary components and desirable quantities. Osisioma (1997) demonstrated that good working capital management must ensure an acceptable relationship between the different components of a firm's working capital so as to make an efficient mix, which will guarantee capital adequacy. Thus, working capital management should make sure that the desirable quantities of each component of the working capital are available for management. Maximizing profits is said to be the objective of all firms. Indeed, it's not always easy for the management to find out which are the right decisions that would maximize them.

Goddard et al., (2006) states that firms with a higher liquidity tend to be more profitable than those whose profitability is low. For instance, short-run profits can

be easily pumped up by avoiding maintenance, discretionary costs, investments, that however are necessary of on-going competitiveness, moreover what maximizes the "overall profits" is not necessary what allows to attain the maximum of "profitability". Bennenbroek and Haris (1995) pointed out that firms can benefit from higher than expected profits if they operate on high level production efficiency and if the market pressures are low. According to Longenecker, Moore and Petty (2005), losses can result from production issues, health, safety and environmental losses and material damage

Working capital management policies affects profitability and risk. According to Toma (1994), offensive policy is promoted by those managers who want to achieve a high turnover with minimum stocks implied. The strategy of funding the required working capital based on short-term bank loans involves some inconvenience. Protective/ defensive policy is practiced by conservative leaders who aim to achieve a high turnover with high stocks and liquidities. Balanced policy has a neutral effect, because it is based on the principle of harmonization between the duration of temporal immobilization of circulating assets and the eligibility of liabilities meant to cover the financing needs in terms of minimizing financing costs and the risks the company is facing. This policy is considered an equilibrium policy providing the best development of profitability and liquidity financial objectives. Reserves will increase profitability and reducing the short-term loan applications will increase the ability to pay, respectively the company's financial autonomy.

2.3.2 Size of the Firm

Adams and Buckle (2003) suggest that large insurers and reinsurers are likely to have better financial performance than small insurers and reinsurers because they can realize scale economies through increasing output and economizing on the unit costs of technology and product development. Large reinsurers can also more efficiently diversify assumed risks and so reduce the unit cost of risk in the management of their underwriting portfolios. However, Adams and Buckle (2003) also point out that the profitability of large insurers and reinsurers could be adversely affected by the enhanced information asymmetries and agency costs that often arise when organizations get bigger.

2.3.3 Age of the Firm

The length of time a reinsurance provider has been in operation could influence period profits. For example, established operatives are expected to have better local knowledge and a more dedicated sales force than new entrants to the market. Therefore, other things being equal, the length of time in the local reinsurance market is likely to be positively related to profitability.

2.3.4 Economic Factors

Doherty and Garven (1995) suggest that profit margins reflect the average price of traded insurance policies and that in competitive markets insurance prices follow, and are inversely related to, the movement of average annual interest rates in the economy. This reasoning implies an inverse relation between profitability and interest rates.

Financial assets are bought for profitability purposes, and so they affect profitability. High interest rates can improve yields on investments' such as cash deposits and bonds (Smith, 1989). This suggests that there will be a positive linkage between the profitability of reinsurance companies and the level of interest rates in the economy. Cargill and Troxell (1979) propose that price inflation particularly affects the profitability of reinsures companies because it alters consumption patterns hence affecting the uptake of insurance products. Inflations also affects the real rate of return hence having impact on profitability and growth of assets

2.3.5 Revenue and Costs

The relationship between revenue and expenditure determines the profit that a firm can make. Oliver (2000) explains that the management of costs determines the profitability of a firm.. Economies of scale increase profits more than proportionally when sales grow. Conversely, a recession with falling sales levels will hit profits particularly hard in industries where there are economies of scales and high fixed costs. Rising wages directly reduce profits

2.3.6 Product-mix

The type of product a firm offers affects its profitability. This is turn means that the products a reinsurance firm offers affects it profitability. Abdul, Adams and Hardwick (2010) report that the operational efficiency, and hence profitability, of insurance firms could be affected by their product-mix as multi-product insurers are likely to benefit not only from economies of scale but also from economies of scope in the use of shared inputs

(e.g., labor, technology, and so on). Mathewson (1983) also acknowledges that in multi-product insurance firms managers can spread assumed risks across different lines of insurance by imposing different underwriting criteria in order to realize economic gains in particular market segments while keeping overall underwriting risk within acceptable bounds. Therefore, it is expected that, all else equal, multi-line reinsurers will be more profitable than a reinsurer with a narrow product-range

2.4 Empirical Evidence

Many researchers have studied working capital from different views and in different environments. Overall it can be deduced that there exist a significant relation between performance and working capital management by using different variable selection for analysis.

2.4.1 International Evidence

Shin and Soenen (1998) highlighted that efficient working capital management was very important for creating value for the shareholders. The way working capital was managed had a significant impact on both profitability and liquidity. The relationship between the length of net trading cycle, corporate profitability and risk adjusted stock return was examined using correlation and regression analysis, by industry and capital intensity. They found a strong negative relationship between lengths of the firm's net-trading cycle and its profitability. In addition, shorter net trade cycles were associated with higher risk adjusted stock returns

Deloof (2003) investigated the relationship between working capital management and corporate profitability for a sample of 1,009 large Belgian non-financial firms for the 1992-1996 periods. The result from analysis showed that there was a negative correlation between profitability that was measured by gross operating income and cash conversion cycle as well as number of day's accounts receivable and inventories. He suggested that managers can increase corporate profitability by reducing the number of day's accounts receivable and inventories. Less profitable firms waited longer to pay their bills

Eljelly (2004) elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet due short-term obligations and avoids excessive investment in these assets. The relation between profitability and liquidity was examined, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. The study found that the cash conversion cycle was of more importance as a measure of liquidity than the current ratio that affects profitability. The size variable was found to have significant effect on profitability at the industry level. The results were stable and had important implications for liquidity management in various Saudi companies. First, it was clear that there was a negative relationship between profitability and liquidity indicators such as current ratio and cash gap in the Saudi sample examined. Second, the study also revealed that there was great variation among industries with respect to the significant measure of liquidity.

Padachi (2006) has conducted a study to examine trends in working capital management and its impact on firms' performance. He performed his study by using different variables like profitability is a dependent variable and account receivable ratio in number of days, account payable ratio in number of days ,inventory turnover ratio in number of days, and cash conversion cycle are independent variables. Size, gearing ratio, gross working capital turnover ratio, current assets to total assets ratio are included in control variables. His study showed that the management of various components of working capital has a positive impact on profitability.

Afza and Nazir (2009) documented a study that aggressive or conservative working capital management is better. They used different variables like as Return on Assets of Firm, Return on Equity of Firm, Value of Firm, Total Current assets to Total Assets Ratio of Firm and Total Current Liabilities to Total Assets Ratio of Firm. They found that a new measure of profitability i.e. Tobin's q to estimate the relationship of working capital management and firm returns in Pakistan, the present study is expected to be a significant contribution in finance literature. Moreover, theoretical discussion on risk and working capital management has also been tested on empirical basis in an emerging market of Pakistan. Although the results of present study are in contradiction to some earlier studies on the issue, yet, this phenomenon may be attributed to the inconsistent and volatile economic conditions of Pakistan. The reasons for this contradiction may further be explored in upcoming researches and this topic is left for future.

Dong (2010) reported that the firms' profitability and liquidity are affected by working capital management in his analysis. Pooled data are selected for carrying out the research for the era of 2006-2008 for assessing the companies listed in stock market of Vietnam. He focused on the variables that include profitability, conversion cycle and its related elements and the relationship that exists between them. From his research it was found that the relationships among these variables are strongly negative. This denote that decrease in the profitability occur due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories.

2.4.2 Local Empirical Evidence

In Kenyan context, Mogire (2003) studied working capital management among thirty public companies listed at the Nairobi Stock Exchange as at 31st December 2002. The objectives of the study were to determine the effects of profitability to companies, to investigate whether there is significant relationship between working capital management policy and the profitability of a company as measured by the return on equity and to establish if public companies in different sectors in Kenya follow different working capital management policies. Simple regression analysis was done to establish the relationship between working capital policy and return on equity. The results of the analysis showed that the commonly practiced working capital management policy among the public companies in Kenya is the aggressive approach policy and that there

were no significant differences between the working capital management practices across the five sectors. Also there were no significant differences in return on equity among companies

Mutungi (2010) sought to find out the relationship between working capital management and financial performance of oil marketing firms in Kenya registered with the petroleum institute of East Africa within Nairobi and its environs. Her sample consisted of 59 registered oil marketers in Kenya. She noted that working capital management decisions have a huge effect on the company's risk, return and share price. The study concluded that for a company to operate efficiently, receivables and inventory must be tightly monitored and controlled. More fundamental is the effect of having an adequate level of working capital which is very important for the growth and sustainability of a company

Mathuva (2010) conducted a study on the influence of working capital management components on corporate profitability within the listed firms in Kenya. A sample of 30 firms listed on the Nairobi Securities Exchange (NSE) for the periods 1993 to 2008 was used. Both the pooled OLS and the fixed effects regression models were used to analyze the findings. The study revealed that there exists a highly significant negative relationship between the accounts collection period and profitability hereby reflecting that more profitable firms take the shortest time to collect cash from their customers. The study also revealed that there exists a highly significant positive relationship between the period taken for inventory to be converted into sales vis a vis profitability. This therefore meant that

firms which maintain sufficiently high inventory levels, reduced costs of possible interruptions in the production process and loss of business due to scarcity of products. This reduces the firm supply costs and protects them against prices fluctuations. There also exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability. This implies that the longer a firm takes to pay its creditors, the more profitable it is

Waweru (2011) conducted a study to assess the relationship between working capital management and profitability of insurance companies in Kenya. The study covered a sample of eighteen (18) insurance companies in Kenya. The data covered a period of five years from 2005 to 2009 and used secondary data obtained from the insurance companies' websites. The data collected was analyzed using descriptive and quantitative techniques. The study findings indicated that there was a positive relationship between working capital management and profitability in the insurance industry in Kenya. The study also found out that when the account receivables increases, it will have a positive impact on profitability. It further indicated that if debt ratio is increased, then profitability will increase.

Mwaniki (2012) conducted a study to establish the working capital management policies among Micro Finance Institutions with a bias towards Deposit Taking Institutions (DTMs) in Kenya and to examine the relationship between working capital management and profitability in deposit taking Micro Finance Institutions in Kenya (MFIs). The population study comprised all deposit taking MFIs as at 2011, as licensed

by the CBK at the end of 2011. The financial statements of these DTMs for the year 2011 were used to extract data pertaining to working capital practices and profitability. She employed a descriptive design to explain the relationship between working capital policies and profitability.. Multiple linear regression models were used to establish the relationship between the two variables. The study findings indicated that there was a significant relationship between working capital   management policies and ROA (measure of profitability). A negative correlation existed between ROA and all the working capital components analyzed (Debtors Turnover Days, Creditors Payable Days, Working Capital Cycle, Admin overheads Turnover), meaning that no significant component contributed to working capital management and most important that a reduction in either of the components ratios (days) led to an increase in the profitability (ROA).

2.5 Summary of Literature Review

This chapter reviewed theoretical and empirical literature on the relationship between working capital management and firm profitability. The theoretical literature on working capital management practices identifies efficiency of cash management, receivables management and inventory management as determinants of profitability. Financial performance could therefore be improved if efficiency levels of cash, receivables and inventory management practices are increased.

Most previous studies focused on developed market (Peel & Wilson, 1996; Shin & Soenon, 1998 and Deloof, 2003). Thus there exists a gap in literature on the effect of

working capital management on the profitability of the firm in developing countries. Thus investigating this issue could provide additional insights and perhaps different evidence on the working capital management in emerging capital market. This will surely enrich the finance literature on this issue. As a result, it will build up confidence in investors to invest in the insurance and reinsurance companies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The methodology adopted for this study was to address the underlying research problem and respond satisfactorily to the stated research objective. This chapter outlines the methodology used in carrying out the study. Aspects to be covered included research design, population & sampling design, data collection methods, data analysis methods and testing of data validity & reliability.

3.2 Research Design

Research design is a blue print which facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible hence yielding maximum information with minimal expenditure of effort, time and money (Kothari, 2004). This study employed a descriptive design to explain the relationship between working capital management and profitability. Cooper and Schindler (2011) defines descriptive studies as those studies whose objective is to explain a phenomenon, to estimate a proportion of a population with similar characteristics and to discover associations among different variables. The descriptive design was appropriate as it sought to ascertain the determination of factors influencing the relationship between the working capital management and profitability among reinsurance companies in East Africa.

3.3 Population

A population is a group of individual persons, objects or items from which samples are taken for measurements. It is the group the investigator wishes to make inferences from. Population of this study is comprised of all six reinsurance companies in East Africa. There are six reinsurance companies in East Africa (See Appendix 1). The study was a census because the population of the study will be all reinsurance companies domiced in East Africa at 1st January 2009.

3.4 Data Collection

This study used secondary data, which was retrieved from the published and audited annual financial statements. The study period was 5 years from 2009 to 2013. Since the study was based on financial data, the main source of data were the financial statements: statement of comprehensive income, statement of financial position, and cash flow statements.

3.5 Data Analysis

The study used multiple linear regression equation and the method of estimation used was the Ordinary Least Squares (OLS) so as to establish the relationship between working capital and performance.

Model Specification

The economic model used in the study was: $Y = \beta_0 + \beta Fit + \varepsilon it$

Where, Y is the dependent variable, β_0 is constant, $\beta_{1, 2, 3, 4, 5}$ is the coefficient of the explanatory variable (working capital attributes), and εit is the error term assumed to have zero mean and independent across time period. From the economic model in the equation above, equation below evolved:

3.5.1 Analytical Model

In order to understand the relation that existed between the management of the operating cycle and profitability we calculated the following indicators for the all reinsurance companies: This study used panel data regression analysis of cross-sectional and time series data.

$$y = \beta_0 + \beta_1 \text{ (DTD)} + \beta_2 \text{ (CPD)} + \beta_3 \text{ (LOS)} + \beta_4 \text{ (CR)} + \beta_5 \text{ (AGE)} + \varepsilon$$

ROA = Return on Assets

DTD = Debtors Turnover Days

CPD = Creditors Payable Days

LOS = Natural logarithm of Sales

CR = Current ratio

AGE = Time in years

Y   = ROA

ε: = The error term

The return on assets (ROA) was derived by dividing the net income by the total number of assets for each of the reinsurance companies.

Debtor turnover days was derived by dividing the trade debtors by revenue (sales) and then multiplying by 365 days for each of the reinsurance companies.

Creditor payable days was derived by dividing the trade payables by cost of sales (retrocession premium) and then multiplying by 365 days for each of the reinsurance companies.

Natural logarithm of sales (LOS) is the measure of firm's size. It was derived by taking natural logarithm of sales (gross premium income) for each of the reinsurance companies.

Current ratio (CR) is the measure of liquidity. It was derived by dividing the current assets with current liabilities

AGE is the measure of age of the firm i.e. the number of years the reinsurance company has been in operations. It was derived by taking the difference between the time of establishment of the reinsurance company and the year under study

3.5.2 Test of significance

Descriptive Statistics (mean and standard deviation) will be used to test the relationship between working capital and ROA. Correlation analysis will be used to determine whether the values of two variables were associated. The two variables should be random samples, and should have a Normal distribution (possibly after transformation). Pearson's Correlation analysis will be used for data to see the relationship between variables such as those between working capital management and profitability. ANOVA, F-test and R-squared test will also be carried out. To test for statistical significance in the working capital management across groups of companies, the student's' statistic will be used.

The test of significant will be done at the individual company level and then compared for all the companies. To test for statistical significance, the research study will use 95 percent significance level. The 95 percent, a significance of p= 0.05 will be used since it is the generally accepted conventional level in social sciences research. This indicates that 95 times out of 100, we can be sure that there is a true or significant correlation between the two variables, and there is only a 5% chance that the relationship does not truly exist. If efficient working capital management increases profitability, one should expect a negative relationship between the measures of working capital management and profitability variable.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data findings and analysis in form of tables, figures, and measures of central tendency such as frequencies, percentages, mean and standard deviation. Descriptive statistics was used to analyze the findings obtained from the data of the financial statements of the re-insurance companies in East Africa.

4.2 Response Rate

The study targeted 6 reinsurance companies in East Africa and data was obtained from all of the 6 companies. This therefore created a response rate of 100% response rate. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very good. This also collaborates Bailey (2000) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good.

This implies that based on this assertion; the response rate which in this case was 100% is very good. The study used descriptive and inferential analytical techniques to analyze the data obtained. The study used Ordinary Least Squares (OLS) regression models. However, before running the regressions, descriptive statistics and correlation analysis were calculated. Correlation analysis shows the relationships between the different variables considered in the study. The correlation matrix presented simple bivariate correlations not taking into account other variables that may influence the results.

Table 4.1: Response Rate

Response Rate	Frequency	Percentage
Response	6	100%
Unresponse	0	0%
Total	6	100.00%

Source: Research Findings

4.3 Descriptive Analysis

Table 4.2 presents the descriptive statistics and the distribution of the variables considered in this research: Creditor Payable Days, Debt Turnover Days, natural Log of sales, Current Ratio and Age. The descriptive statistic considered was minimum, maximum, mean and standard deviation. Mean was used to establish the average value of the data; standard deviation gave the dispersion in the data.

Return on asset (ROA) recorded a mean of 6.98 with standard deviation of 2.15. On average the reinsurance companies realized a net income of 6.98 units for a unit asset used in investments. The first and the third quartile values were 5.25 and 6.75 respectively showing that the first 25% of the reinsurance companies realized $ 5.25 for every dollar invested while 75% of the reinsurance companies gained $ 6.75 for every dollar invested

Debtor turnover days had a mean of 98.87 days with a standard deviation of 39.98 days. It took an average of approximately 98.87 days for the reinsurance companies under study to

collect their debts. On average, it took the reinsurance companies 133.48 days with standard deviation of 96.31 days to pay their creditors. A difference of 35 days is observed between debt and credit payment. The mean ratio of current assets and current liabilities is 0.66 with standard deviation of 0.22 implying that every unit of current asset invested is used to finance 0.66 units of current liability. The summary result indicates that on average, reinsurance companies have been in operation for 25 years by the time the study was conducted. This implies the firms have been in operation for long enough and has expanded their capital base.

Table 4.2: Descriptive Statistics

		ROA	Debt Turnover Days	Creditor Payable Days	Current Ratio	Age
N	Valid	30	30	30	30	25
	Missing	0	0	0	0	5
Mean		6.9839	98.8703	133.475	0.6579	26.6
Median		6.751	83.8554	106.345	0.587	24
Std. Deviation		2.14787	39.97732	96.3054	0.22237	9.71682
Minimum		2.69	37.69	0	0.41	14
Maximum		11.78	188.02	517.5	1.19	42
Percentiles	25	5.2507	68.114	72.77	0.5151	17.5
	50	6.751	83.8554	106.345	0.587	24
	75	8.7586	144.9207	195.127	0.6625	36.5

Source: Research Findings

4.4 Inferential statistics

The inferential statistics involved the use of correlation and multiple linear regression analysis. The regression analysis was done using Ordinary Least Squares (OLS) method. However, before running the regressions, descriptive statistics and correlation analysis were considered. Correlation analysis shows the relationships between the different variables considered in the study. The correlation matrix presented simple bivariate correlations not taking into account other variables that may influence the results.

4.4.1 Correlation Analysis

The study sought to establish the relationship between the independent and control variables, and working capital. Pearson Correlation analysis was used to achieve this at 99% and 95% confidence levels. Table 4.3 shows negative and weak linear relationships between reinsurance profitability and debtor turnover days. This implies that an increase in delay for accounts receivable decreases profitability of the reinsurances companies. This result suggests that firms can improve their profitability by reducing the number of days accounts receivable are outstanding. The negative co-efficient of the debtor turnover days suggests that an increase in the number of days of accounts receivable by 1 day is associated with a decline in profitability this finding implies that managers can improve profitability by reducing the credit period granted to their customers.

Credit payable day's shows moderate positive linear relationship with the profitability of the reinsurances companies. This depicts that delayed outstanding accounts payable are used by the reinsurances companies to generate income. This also suggests that an increase in the number of days accounts payable by 1 day is associated with an increase in profitability. This positive relationship can be explained in two ways; First, contrary to Deloof (2003) and Raheman and Nasr (2007), this finding holds that more profitable firms wait longer to pay their bills. This implies that they withhold their payment to suppliers so as to take advantage of the cash available for their working capital needs. Second, this result makes economic sense in that the longer a firm delays its payments to creditors, the higher the level of working capital it reserves and uses in order to increase profitability. This finding is in line with the working capital management rule that firms should strive to lag their payments to creditors as much as possible, taking care not to spoil their business relationships with them.

Sales show weak positive linear correlation with the profitability of the reinsurances companies. This is an indication that an increase in sales of the reinsurances companies will result to an increase in profitability. Current assets indicate moderate negative linear relationship with the return on assets of the company. This illustrates that reinsurance companies strives to finance their current liabilities. Age of the reinsurances companies showed strong positive relationship with the company's profitability. This indicates that reinsurances companies that have been operation for twenty five years enjoy higher net return on assets.

Table 4.3: Correlation Analysis

		ROA	Debt Turnover Days	Creditor Payable Days	Natural Log of Sales	Current Ratio	Age
ROA	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	30					
Debt Turnover Days	Pearson Correlation	-0.014	1				
	Sig. (2-tailed)	0.94146					
	N	30	30				
Creditor Payable Days	Pearson Correlation	0.34496	-0.1328	1			
	Sig. (2-tailed)	0.06192	0.48406				
	N	30	30	30			
Natural Log of Sales	Pearson Correlation	0.12092	-0.2512	-0.0636	1		
	Sig. (2-tailed)	0.52446	0.18059	0.73848			
	N	30	30	30	30		
Current Ratio	Pearson Correlation	-.365*	-0.3553	0.089666	-.420*	1	
	Sig. (2-tailed)	0.04759	0.05401	0.637494	0.02078		
	N	30	30	30	30	30	
Age	Pearson Correlation	.673**	0.06085	0.334158	.704**	-.488*	1
	Sig. (2-tailed)	0.00023	0.77261	0.102559	8.5E-05	0.0133	
	N	25	25	25	25	25	25

Source: Research Findings

4.4.2 Regression Analysis

Regression analysis was used to measure the relationship between individual independent (Debtors turnover day, creditor payable days, natural logarithm of sales and current ratio) and dependent variable (return on assets). The regression analysis was of the form:

$ROA = \beta_0 + \beta_1 (DTD) + \beta_2 (CPD) + \beta_3 (LOS) + \beta_4 (CR) + \beta_5 (AGE) + \varepsilon$

Stepwise regression was done to evaluate the strength of working capital with companies return on asset without the control variables and another regression was also done with control variables. This was to determine if the result would have been different without the control variables.

Table 4.4 Model summary for R Square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.571[a]	.326	.264	1.76350
2	.866[b]	.750	.685	1.15458

Source: Research Findings

a. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days

b. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days, Natural Log of sales, Current Ratio, Age

c. Dependent Variable: ROA

Table 4.4 illustrates regression result for model 1 and model 2. Model 1 is regression result without the control variables while Model 2 is the regression result with control variables. Model 1 result indicates R square of 0.326 implying that 32.6% total variation in reinsurance profitability is attributed to the changes in creditors payable and debtor's turnover days. Model 2 depicts R of 0.866 and R square of 0.750 implying that 75.0% of the variation in reinsurances profitability is as a result of the changes in the explanatory variables. Lower R square in model 1 than in model 2 is attributed to the fact that other control variables are highly associated with the company's profitability than the working capital

The study used Durbin Watson (DW) test to check that the residuals of the models were not autocorrelated since independence of the residuals is one of the basic hypotheses of regression analysis. Being that the DW statistic were close to the prescribed value of 2.0 (1.967) for residual independence, it can be concluded that there was no autocorrelation

Table 4.5 Model summary for Autocorrelation

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.326	5.314	2a	22	.013	
2	.425	10.775	3b	19	.000	1.967

Source: Research Findings

a. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days

b. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days, Natural Log of sales, Current Ratio, Age

c. Dependent Variable: ROA

Analysis of Variance (ANOVA) was used to make simultaneous comparisons between two or more means; thus, testing whether a significant relation exists between variables (dependent and independent variables). This helps in bringing out the significance of the regression model. The ANOVA results presented in Table 4.6 shows that the regression model has a margin of error of $p < .001$. This indicates that the model has a probability of less than 0.1% of giving false prediction; this point to the significance of the model hence the model was fit for estimation.

Table 4.6 Analysis of Variance(ANOVA[a])

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.050	2	16.525	5.314	.013[b]
	Residual	68.419	22	3.110		
	Total	101.469	24			
2	Regression	76.141	5	15.228	11.424	.000[c]
	Residual	25.328	19	1.333		
	Total	101.469	24			

Source: Research Findings

a. Dependent Variable: ROA

b. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days

c. Predictors: (Constant), Creditor Payable Days, Debt Turnover Days, natural Log of sales, Current Ratio, Age

Table 4.7 shows the regression coefficients of independent variables. The following regression model was established:

ROA = 5.666 − 0.406DTD + 0.154CPD + 0.672LOS - 0.529CR + 0.861AGE

p<.001

Table 4.7 Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.666	1.083		5.235	.000
	Debt Turnover Days	-.005	.009	-.100	-.570	.574
	Creditor Payable Days	.012	.004	.553	3.143	.005
2	(Constant)	27.243	8.087		3.369	.003
	Debt Turnover Days	-.021	.007	-.406	-2.925	.009
	Creditor Payable Days	.003	.003	.154	.957	.351
	Natural Log of sales	1.101	.412	.672	2.672	.015
	Current Ratio	-4.638	1.481	-.529	-3.131	.005
	Age	.182	.047	.861	3.855	.001

Source: Research Findings

4.5 Interpretation of the Findings

The objective of this analysis was to examine the relationship between the working capital management and profitability of the reinsurance companies in East Africa. The study sought to establish the relationship between the independent and control variables, and working capital. The study found out that there exists a relationship between the components of the working capital management and profitability of reinsurance companies in East Africa. Pearson Correlation analysis was used to achieve this at 99% and 95% confidence levels. Consistent with Shin and Soenen (1998) and Mathuva(2010), the results shown negative and weak linear relationships between reinsurance profitability and debtor turnover days. This result suggests that firms can improve their profitability by reducing the number of days accounts receivable are outstanding. This finding implies that managers can improve profitability by reducing the credit period granted to their customers.

Credit payable day's shown a moderate positive linear relationship with the profitability of the reinsurances companies. This suggests that an increase in the number of days accounts payable by 1 day is associated with an increase in profitability. This finding is in line with the working capital management rule that firms should strive to lag their payments to creditors as much as possible, taking care not to spoil their business relationships with them. Sales show weak positive linear correlation with the profitability of the reinsurances companies. This is an indication that an increase in sales of the reinsurances companies will result to an increase in profitability. Current assets, a measure of liquidity indicate moderate negative linear relationship with the return on assets of the company. This illustrates that

reinsurance companies strives to finance their current liabilities. Age of the reinsurances companies showed strong positive relationship with the company's profitability. This indicates that reinsurances companies that have been operation for twenty five years enjoy higher net return on assets.

Regression result for model 1 (without the control variables) indicated R square of 0.326 implying that 32.6% total variation in reinsurance profitability is attributed to the changes in creditors payable and debtor's turnover days. Model 2 (with the control variables) depicted R of 0.866 and R square of 0.750 implying that 75.0% of the variation in reinsurances profitability is as a result of the changes in the explanatory variables. Lower R square in model 1 than in model 2 is attributed to the fact that other control variables are highly associated with the company's profitability than the working capital. The study used Durbin Watson (DW) test to check that the residuals of the models were not autocorrelated and being that the DW statistic were close to the prescribed value of 2.0 (1.967) for residual independence, it can be concluded that there was no autocorrelation. The ANOVA results shown that the regression model has a margin of error of $p < .001$. This indicates that the model has a probability of less than 0.1% of giving false prediction; this point to the significance of the model hence the model was fit for estimation.

From the regression coefficients, the study found that holding debt turnover day, credit payable days, sales, current ratio and age constant, Reinsurances Company will still realize $ 5.666 for every one dollar invested. This illustrates that reinsurances company will earn profit without the explanatory variables. Holding other explanatory variables constant, a unit

increase in debtor's turnover days will lead to 0.406 unit decrease in reinsurances profitability. A unit increase in creditor's payable days will lead to 0.154 units increase in the profitability of the firms. The result further shows that a unit increase in company's sales will lead to 0.672 unit increase in the profitability of the reinsurances company. Additionally, an increase in current ratio will result to 0.529 unit decrease in return on assets. Finally, a unit increase in the number of years of the operation of the reinsurances company will lead to 0.861 unit increase in the profitability age of the reinsurances companies

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is a synthesis of the entire study, and contains summary of research findings, exposition of the findings commensurate with the objectives, conclusions and recommendations based thereon.

5.2 Summary

This study intended to determine the relationship between working capital management and profitability of reinsurance companies in East Africa. In order to do this, the research was designed as a correlation study where relationships were tested. The population comprised of 6 reinsurance companies in domiciled in East Africa as at January 2009 and all of them formed the sample size. Secondary data from the financial statements of banks was used in conducting the study for the five year period.

Based on the study findings from chapter four, it is observed that on average, re-insurance companies took 98.87 days to collect receivables and an average of 133.48 days to pay creditors during the study period. The result from analysis showed that there was a negative relationship between profitability that was measured by return on assets and debtor's turnover days (number of day's accounts receivable) and positive relationship between profitability and creditors payable days. The study also established positive and significant relationship between the sales and the profitability of the reinsurances companies. The result contradicts

in some elements of working capital management with Deloof (2003) who investigated the relationship between working capital management and corporate profitability for large Belgian firms and concurs with Mathuva (2010) who studied the influence of working capital management components and corporate profitability for firms listed in the Nairobi Stock Exchange.

The age of the reinsurances companies as a proxy for the number of year the reinsurance companies has been in operation is significantly and positively related to return on assets. The current asset ratio is negatively related to return on assets. This implies that the reinsurance companies should have efficient liquidity management policy in place in order to realize higher profitability. Excessive current assets should be invested in a higher yielding instruments or capitalized to enable the reinsurance companies write more business

5.3 Conclusion

The objective of the study was to establish the relationship between the working capital management and profitability of the reinsurance companies in East Africa. The study found out that there exists a relationship between the components of the working capital management and profitability of reinsurance companies in East Africa. The findings indicated that debtors turnover negatively affect reinsurance companies profitability. However, the study revealed that credit payables positively impact on the return on asset of the reinsurance companies. The study also revealed that sales and age are positively related to profitability on the reinsurance companies while the current ratio is negatively related to the profitability

From the results, possessing a lower average collection period is seen by the re-insurance companies as optimal, since this means that it does not take them very long to turn its receivables into cash. This owes to the fact that these companies need cash to pay off its own financial obligations (such as operating and administrative expenses). They also tend to have a longer accounts payable period so as to maintain a high current ratio and avoid operating on losses. Monitoring the working capital is important for the re-insurance companies' cash flow and their ability to meet its obligations when they come due. However, they need to optimize this to ensure that their credit worthiness is not tainted, take advantage of discounts including avoiding accruing interest rates unnecessarily. These findings are generally in line with many previous studies done on working capital management such as those of Shin and Soenen(1998), Eljelly(2004) and Mathuva (2010)

5.4 Recommendations for Policy

The study recommends that reinsurance companies should ensure that they have a framework on managing the working capital since it has direct impact on their profitability. They should collect their debts as quick as possible and delay payment as much as possible taking into consideration not to strain their relations with suppliers. A general recommendation would be for the re-insurance companies to have a framework to manage the selection, implementation, monitoring, review, control and documentation of reinsurance arrangements that are used to contribute to the insurer's ability to meet its obligations to policyholders so as to boost their growth and subsequently create value for shareholders.

5.5 Limitations of the Study

The study faced a number of challenges, one being lack of cooperation of the employees in some of the reinsurance firms to provide relevant data for compilation of the research and different reporting currencies. The research also found out that time was a limiting factor for a complete and thorough study of profitability in reinsurance companies in East Africa in relation to working capital management. The study also noted that the findings can be more difficult and time consuming to characterize in a visual way

5.6 Suggestions for Further Research

This study mainly focused on establishing the relationship that exists between working capital management and profitability (ROA) of re-insurance companies in East Africa. The study suggests that similar studies should be done on other reinsurance firms and different industries in developed countries as the relationship adduced does not conform to the rule of thumb or one-size-fits-all mantra as different countries, industries and sector have different operational environment. This might affect the relationship between working capital and profitability. There is need to carry out similar tests for a longer time period of time. This will assist in getting more precise and diverse information on the changes in the independent variables along the years in the different re-insurance companies that were under research.

Annual accounts were used as a basis for this study. Further studies could be done using monthly or quarterly figures to obtain more accurate results.

REFERENCES

AbdulKader, H., Adams, M. & Hardwick, P. (2010), The Cost Efficiency of Takaful Insurance Companies, Geneva Papers on Risk and Insurance: Issues and Practice, 35(1), 161-181.

Adams, M & Buckle, M. (2003), The Determinants of Corporate Financial Performance in the Bermuda Insurance Market, Applied Financial Economics, 13(2), 143-144

Afza, T & Nazir, M. (2009). Impact of aggressive working capital management policy on firms' profitability, *The IUP Journal of Applied Finance*, 15(8), 20-30.

Bashir, A. (1996) "Profit-sharing Contracts and Investment under Asymmetric Information", *Research in Middle East Economics,* 1, 173-186.

Brigham, E. & Gapenski, L.(1997). Financial Management Theory and Practice, 8th ed. The Dryden Press, Fort Worth TX p. 48, 856-857.

Chakraborty, K. (2008). Working Capital and Profitability: An Empirical Analysis of Their relationship with Reference to Selected Companies in the Indian Pharmaceutical Industry, *The Icfai Journal of Management Research*.

Cooper, R & Schindler, P. (2011). Business Research methods. New York, Ny: Mcgraw Hill Irwin

Deloof, M. (2003). Does working capital management affect profitability of Belgian firms. *J. Bus*. Finance Accounting, 30, 573-588.

Eljelly, A. (2004). Liquidity-profitability tradeoff: An empirical investigation in an emerging market. *Int. J. Commerce Manage*., 14, 48-61.

Garcia-Teruel, P. & Martinez-Solano, P. (2007). Effects of working capital management on

SME profitability, *International Journal of Managerial Finance*, 3.

Gill, A., Biger. N. & Mathur, N. (2010). The Relation Between Working Capital Management And Profitability: Evidence From The United States, Business and Economics Journal,Volume 2010: BEJ-10.

Goudreau, R. (1992), "Commercial Banks Profitability Rises as Interest Marginsand Securities Sales Increase", *Economic Review: Federal Reserve Bank of Atlanta,*33.

Gupta, M.C. (1969), "The Effects of Size, Growth and Industry on the Financial Structure of Manufacturing Companies", *Journal of Finance*, 24(3), 517-529.

Gupta, M .C. & Huefner, R .J. (1972), "A Cluster Analysis Study of Financial Ratios and Industry Characteristics", *Journal of Accounting Research,* 10(1), 77-95.

Hill, N. & Sartoris, W. (1992) "Short-Term Financial Management" New York: NY, Macmillan

Jarvis, R., Kitching, J., Curran, J. & Lightfoot, G. (1996). "The Financial Management of Small Firms: An Alternative Perspective", *ACCA Research Report* No. 49

Keeley, M. (1990), "Deposit Insurance, Risk, and Market Power in Banking", *American Economic Review,* 80.

Kieschnick, R., LaPlante, M., & Moussawi, R. (2009). "Working Capital Management, Access to Financing, and Firm Value," Working Paper.

Lamberson M. (1995). Changes in working capital of small firms in relation to changes in economic activity. *Mid-American Journal of Business* 10(2), 45-50.

Lazaridis, I & Tryfonidis, D. (2006). Relationship between working capital management and profitability of companies listed in the Athens Stock Exchange, *Journal of Financial Management and Analysis*, 19(1), 26-35.

Louderback, et.al. (2000). Managerial Accounting 9th ed. South-western College Publishing Thomson Learning Asia Singapore p.365.

Mathai, A. (2010). The relationship between working capital management and profitability Retail supermarket chains in Kenya. *Unpublished MBA project*, University of Nairobi

Mathuva, D. (2010). The influence of working capital management components on corporate profitability: a survey on Kenyan listed firms. *Research Journal of Business Management*, 3, 1-11

Mehmet, S. & Eda, O. (2011). Relationship between the Efficiency of Working Capital Management and Company Size. *Unpublished MBA project*. Akdeniz University Turkey

Mutungi, M. (2010). The relationship between working capital management and financial performance of Oil marketing firms in Kenya. *Unpublished MBA project*, University of Nairobi.

Mwaniki, J. (2012). The relationship between working capital management policies and financial performance; A survey of Deposit taking MFIs in Kenya. Unpublished MBA project, University of Nairobi.

Onofrei, M. (2006). Management financiar, CH. Beck Publishing House, Bucharest, Pp.55

Osisioma, B. (1997). Sources and management of working capital. *Journal of Management Sciences*, Awka, 2(1).

Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, 2(2), 45 - 58.

Padachi, K., Narasimhan, M., Durbarry R. & Howorth, C. (2008), "An Analysis of

working Capital Structure and Financing Pattern of Mauritian Small Manufacturing Firms", *Journal of Applied Finance*, 14(7), 41-62.

Pike, R & Pass, C. (1987). "Management Working Capital: A Neglected Subject", Management Decision 25(1)

Rafuse, M (1996). "Working Capital Management: An Urgent Need to Refocus", Journal of Management Decision, 34(2), 59-63

Rao, R. K. S. (1989). Fundamentals of Financial Management. (3rd Ed). Macmillan publishers.

Rao, D. & Rao P.M. (1999). 'Impact of Working Capital on Profitability in Cement Industry-A Correlation Analysis' Working Capital Management, (Deep & Deep Publications Pvt. Ltd., New Delhi), 239–59.

Raheman, A & Nass ,M (2007). Working capital management and profitability-case of Pakistani firms, International Review of Business Research Papers 3 (1), 279-300

Richards, V.D. & Laughlin, E.J. (1980). A cash conversion cycle approach to liquidity analysis. Finance Manage., 9, 32-38.

Smith, K. V. (1973). State of the art of working capital management. *Financial Management, Autumn*, 50-55.

Smith, K. (1980). Profitability Versus Liquidity Tradeoffs in Working Capital Management, Readings on the Management of Working Capital. West Publishing Company, New York, St. Paul.

Smith, M.B. & Begemann, E. (1997). Measuring association between working capital and return on investment. South Afr. J. Bus. Manage., 28, 1-5.

Shin, H. H. & Soenen, L. (1998). "Efficiency of working capital management and

corporate profitability", *Financial Practice and Education*, 8(2), 37-45.

Shin, H., H. & Soenen, L. 1998. Efficiency of working capital management in the profitability of Hindalco Industries Limited, Icfai University Journal of Financial Economics, 6(4), 62-72

Soenen, L. A. (1993), "Cash Conversion Cycle and Corporate Profitability", *Journal of Cash Management,* 13(4), 53-58.

Stancu, I. (1996). FinanŃe, Economica Publishing House, Bucharest, pp. 326

Toma, M. (1994). FinanŃe şi gestiune financiară de întreprinderi, Economica Publishing House, Bucharest, p.204

Van Horne, J.C. (1977). A risk-return analysis of a firm's working capital position. Eng.Econ., 71-88.

Waweru, H. (2011). The relationship between working capital management and profitability of insurance companies in Kenya. Unpublished MBA project, University of Nairobi.

Wilner, B.S. (2000). The exploitation of relationships in financial distress: The case of trade credit. J. Finance, 55, 153-178.

APPENDICES

APPENDIX 1: LIST OF REINSURANCE COMPANIES IN EAST AFRICA

1. Africa Reinsurance Corporation(ARC)

2. Zep-Re(PTA Reinsurance Company)(ZRC)

3. Kenya Reinsurance Corporation(KRC)

4. East Africa Reinsurance Corporation(EARC)

5. Continental Reinsurance Company(CRC)

6. Tanzania Reinsurance Corporation(TRC)

   Source: Association of Kenya Insurers

APPENDIX II: FINANCIAL DATA EXTRACT ($)

Zep-Re(PTA Reinsurance Corporation(1993)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	55,748,911	87,128,548	6,427,440	71,173,496	42,654,368	3,334,757	5,756,317	16	11,482,295
2010	59,843,116	103,110,370	5,247,262	85,228,176	53,123,098	4,033,648	8,070,459	17	13,800,348
2011	63,536,571	130,337,123	8,776,828	112,885,742	63,681,104	5,042,438	10,956,838	18	13,690,212
2012	81,714,820	154,088,372	11,681,683	170,991,752	75,313,533	3,876,849	14,693,128	19	15,407,236
2013	100,181,402	201,843,403	15,363,153	132,460,368	96,114,538	3,720,953	16,598,636	20	16,216,441

East Africa Reinsurance Company(1995)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	16,493,000	34,518,000	1,583,000	17,080,315	20,304,782	1,000,883	2,825,689	14	4,050,251
2010	18,722,000	39,035,000	1,993,000	20,219,851	23,675,866	1,382,772	4,014,220	15	4,112,525
2011	25,290,000	44,688,000	1,204,000	27,726,957	29,244,266	1,126,627	5,655,311	16	3,142,949
2012	28,613,000	54,627,000	3,286,000	32,309,919	35,137,349	988,686	6,466,616	17	1,567,721
2013	32,643,000	62,669,000	4,033,000	36,237,694	39,683,534	637,068	8,044,148	18	1,205,574

Africa Reinsurance Corporation(1976)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	514,483,000	836,017,000	44,301,000	814,241,000	555,618,000	9,398,000	98,821,000	33	48,067,000
2010	616,909,000	958,367,000	64,863,000	937,255,000	614,693,000	10,660,000	111,001,000	34	53,126,000
2011	602,502,000	1,137,383,000	69,199,000	1,116,415,000	655,253,000	21,693,000	141,841,000	35	68,922,000
2012	619,949,000	1,314,306,000	92,646,000	1,293,771,000	705,693,000	13,780,000	131,176,000	36	60,367,000
2013	652,145,000	1,377,831,000	84,801,000	1,354,115,000	700,292,000	17,250,000	152,262,000	37	96,083,000

Tanzania Reinsurance Corporation(2004)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	27,431,349	23,998,475	2,371,792	23,835,352	13,992,757	0	11,689,941	5	3,962,309
2010	28,869,066	27,881,942	2,432,725	27,013,633	15,616,312	1,824,983	11,828,504	6	2,972,355
2011	34,252,345	33,145,716	3,226,811	32,212,912	15,070,630	426,209	11,482,325	7	3,218,749
2012	43,872,279	35,479,085	2,607,690	31,980,630	16,051,681	996,355	13,793,020	8	5,332,271
2013	43,790,561	40,698,368	1,405,605	33,789,621	16,939,656	2,366,562	14,909,611	9	5,103,236

Continental Reinsurance Corporation(1987)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	43,493,652	104,647,552	4,689,846	73,805,599	29,934,395	918,736	22,404,783	22	1,570,007
2010	67,974,650	124,568,141	6,023,911	76,409,983	47,541,584	1,576,553	27,113,769	23	5,753,762
2011	69,912,699	132,827,277	8,888,349	115,810,419	56,947,560	1,089,082	28,356,679	24	7,979,649
2012	76,504,995	154,014,979	11,097,624	136,129,805	69,254,384	952,757	34,759,731	25	9,953,385
2013	86,577,862	156,563,276	9,918,456	129,698,181	68,114,792	1,997,843	35,096,449	26	9,943,145

Kenya Reinsurance Corporation(1971)

Year	GPI(sales)	Total Assets	Net Profit	Current Assets	Current Liabilities	Accounts Payable	Accounts recievable	Age	Retrocession premiums
2009	50,709,103	197,897,533	17,531,715	119,638,470	77,845,752	1,647,718	20,102,639	38	3,300,475
2010	61,644,802	213,377,834	19,076,621	135,524,443	82,517,661	1,916,522	15,200,916	39	3,465,260
2011	77,718,966	224,400,012	22,498,049	139,875,734	88,622,291	2,478,085	14,676,557	40	4,300,000
2012	92,374,221	276,604,151	32,580,140	183,468,047	105,841,174	6,336,802	17,657,000	41	4,469,012
2013	111,763,048	327,028,818	34,767,451	221,339,815	119,353,476	2,991,460	23,209,224	42	5,131,854

Source: Reinsurance company's financial statements

APPENDIX III: CURRENCY EXCHANGE PER DOLLAR ($)

Year	Naira	Currency	
		Tanzania Shillings(Tzs)	Kenya Shillings(Kshs)
2009	149.5	1,338.5	75.8
2010	150.9	1,480.0	80.8
2011	162.3	1,575.0	85.1
2012	156.2	1,578.5	86.0
2013	160.0	1,591.5	86.3

Source: Reinsurance company's financial statements