THE EFFECT OF WORKING CAPITAL POLICY ON SYSTEMATIC RISKS OF MANUFACTURING FIRMS IN KENYA LISTED AT NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

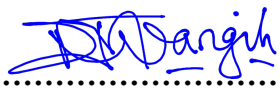
I affirm that this is my unique study and it has never been used as by other scholars to any other university for examination purposes, acknowledgements have been made where 1 have used other peoples' ideas. I take full responsibility for the unintended errors or any short comings that may be found in this proposal.

Signature……MOWESONGA…… **Date** ……2 December 2020……

Moses Wesonga Ogolla. D61/10262/2018

Supervisor's Approval.

This study project is submitted for examination with my approval as the student's supervisor.

Signature……  …… **Date** ……02 December 2020……

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DEDICATIONS

I devote this study project to my beloved wife Mildred and my children, dear parents Joel & Mildred and brethren.

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ABBREVIATIONS

ACP	Average Collection Period
APP	Average Payment Period
AWCP	Aggressive Working Capital Policy
CSE	Colombo Stock Exchange
CWCP	Conservative Working Capital Policy
DR	Debt Ratio
GDP	Gross Domestic Product
ITID	Inventory Turnover in Days
JSE	Johannesburg Securities Exchange
KSE	Karachi Stock Exchange
MS EXCEL	Microsoft excel
MVA	Market Value Addition
NSE	Nairobi securities exchange
OPM	Operating Profit Margin
RBA	Retirement benefits authority.
SPSS	Statistical package for social sciences.
TCA	Total Current Assets
TCL	Total Current Liabilities
VIF	Variance Inflation Factor

ABSTRACT

The intention of this study was to assess the effect of WCP on systematic risk of manufacturing firms registered at the NSE. Explicitly the objectives were; To look at the effect of AWCP on systematic risk of manufacturing firms listed in NSE; To assess the influence of CWCP on systematic risk. Descriptive research design is used where all the 8 manufacturing firms at NSE as at September 2020 were used. Secondary data that was obtained from NSE reports and the individual company's reports for a period of 5 years that is 2015-2019 was used. Both descriptive and inferential analysis were adopted in the data analysis. The descriptive statistics included the mean, the maximum, minimum and percentages. Correlation analysis used Pearson's correlations coefficient and regression analysis on the other hand helped in determining the statistical and significance effect of the independent variables. In regression analysis, the F statistics and the t-statistics was used where the p value was reported. A significance level of 5% was used. Correlations analysis results on the other hand revealed that AWCP was negatively and insignificantly correlated with systematic risk and the regression analysis revealed that AWCP is negatively and significantly related with systematic risk. The management of manufacturing firms is recommended to come up with strategies that will encourage a more AWCP in their firms which is negatively related with systematic risk meaning that the systematic risk will be minimal for such companies that adopt the policy. The government of Kenya through the Kenya Association for Manufacturers is also recommended put in place policies that guide the operations of manufacturing firms in terms of investment and that will encourage more investment of long-term assets.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to Smith (2018), WCP has a very important role in enhancing profitability of a firm and its value as well as in risk management. To achieve optimal working capital level, a firm must balance risk and efficiency (Filbeck & Krueger, 2015). Liquidity associated with high level of long-term assets that have been invested may pose a risk which can be reduced by maintaining high level of current assets (Afza & Nazir, 2017). Lower cost short term debt that is associated with AWCP financing policy lead to a high risk of short-term liquidity problem. On the other hand, a low profitability and a low risk are associated with a higher investment in CA. The liquidity risk linked with opportunity cost of funds that are invested as long-term assets is reduced through high level of CA (Panda & Nanda, 2018).

A number of theories support the concept of capital management policy. Portfolio theory was developed by Markowitz (1952) and was used to indicate the relationship between return and risk of an investment. Portfolio theory relates return and risk of an investment (Allen, Bhattacharya, Rajan & Schoar, 2008). According to Allen, Bhattacharya, Rajan & Schoar (2008) the link between risk and return in any investment should form the decision criteria. The two risk concepts of risk aversion and risk seeking are the prevalent conflicting behavior of investors (Brun & Tiegen, 1997). The tradeoff theory is a financial theory developed by Modigliani and Miller (1950). The tradeoff theory illustrates that businesses choose their optimal degree of cash holding by assessing the benefits of holding cash and the associated marginal cost. Large investments in current assets are associated with low returns even though it's done at high levels of certainty. Conversely, a lower investment in current assets will translate to discontinuity in production and sales as result of stock outs (Modigliani & Miller, 1950).

WC is the amount of short-term assets that a firm keeps in liquid that is meant to meet the financial obligations of a firm such as salaries, credits and supplies. A firm that has working capital that is not enough may experience liquidity problems even if the asset position and the profitability level are high (Atseye, Ugwu & Takon 2015). For manufacturing companies, WC challenges mainly arise since they require frequent flow of money to pay for supplies and production expenses several months even before the goods are bought by customers. (Bush, 2019). Hence, among the many challenges that manufacturing firms face, working capital challenges is among the top in the list. Accelerating cost which is the only issue rated as a more serious concern is also directly related with WC. Therefore, working capital policies by manufacturers are useful in anticipating such challenges so as to avoid delay inn normal payments (Sagner, 2014).

1.1.1 Working Capital Policy

WCP is described as the policy that concerns investment of current assets and decisions on financing that a family adopts and this can have effect on the magnitude of the effect of WC on the performance of the firm (Alavinasab & Davoudi, 2013). A firm may use any of two approaches in current assets investment and financing decision which include, aggressive and conservative. Firms choose any of these policies based on their relative benefits (Moyer, Mc Guigan & Kretlow, 2012). A company that chooses a CWCP maintains a high quantity of its total assets as current assets but a low quantity of current liabilities in relation to the total amount of capital. On the other hand, a high proportion of CA in relation to total capital and a low quantity of CA in relations to total assets is said to have adopted an AWCP.

According to Sekeroglu and Altan (2014) CP entails using planned funds to meet long term liabilities or using shareholder's equity while short term assets are only used in case of unexpected funding need. In this approach the firm holds large volumes of cash balances, inventories are held to high amounts and generous credit terms are advanced to customers.

This approach is beneficial in uncertain business environment where extra buffer of inventory is needed so as not to risk losing sales due to stock outs (Arnold, 2008).

Aggressive policy the firm prefers short term financial resources and this reduces slow moving inventories, avoid unnecessary supplies and expenses There is higher risk of default and bankruptcy in aggressive policy as much high returns are equally expected (Steinker, Pesch & Hoberg, 2016). Arnold (2008) describes aggressive policy as being suitable in stable business environment with high levels of certainty over the cash flow and operations. Minimal stocks are held and customers are pushed to pay early and therefore the risk and return are equally higher as contrasted to the conservative approach. Given the greater portion of CL as compared to CA there arises the risk of the inability to handle short terms commitments consequently increasing the risk of bankruptcy and business failure (Maaka, 2013).

Working capital is calculated by use of cash conversion cycle or working capital to total assets ratio (Pouraghajan & Emamgholipourarchi, 2012). Cycle of cash conversion is the time period between spending on raw materials and time of sales collection for the final products. The longer the time frame the more the capital is tied up the inventories and therefore less is available for long term investment (Deloof,2003). Longer cycle of cash conversion is likely to impact negatively on the business overall return if the cost of investment in operating capital goes above the advantages of holding more investments in the portfolio investment. This ratio will be used in this study since ignores the size and its scale free and therefore more viable for different sizes of companies listed. Previous studies have also used cash conversion cycle yet not very elaborative findings have been brought forth and so by use of working capital to total asset ratio more knowledge might be added in this field of study (Thuvarakan, 2013).

1.1.2 Systematic Risk

According to Chance and Brooks (2015) risk is the possibility of actual returns on investment varying from the expected return. Risk can be explained as the likelihood of incurring a financial loss on investment. According Phylaktis and Ravazzolo, (2015)) financial risk is possibility of variations in the cash flows, financial output and the overall firm value as influenced by market influences such as rates of foreign exchange, rates of interest or share prices. Risk can be classified into non-systematic and systematic risks in financial markets. Nonsystematic risks also known as business risk, financial risks, liquidity risk are inherent in each firm and it can be mitigated by diversification. Systematic risks are caused by factors such as wars, interest rates fluctuations or economic recessions they affect the entire market and cannot be minimized by diversification (Hull, 2012). Based on portfolio theory of Markowitz (1952), rational investors are expected to choose an investment that has high return and low risk combinations.

Total risk is statically determined by standard deviation measure (Beaver, Kettler & Scholes, 2017). This measure is significant since systematic risk is a subset of the total risk. According to Hull (2012), the deviation from the mean is explained by the standard deviation and therefore the greater the spread the more volatile the investment. Beta is the measure used to assess the degree of systematic risk. It measures the deviation in the returns of the investment to the deviation in return of the whole market. To determine the risk of individual manufacturing firm, the overall market risk has to be considered too. To calculate beta of a firm, the covariance of market return and stock return is divided by the piece index variance. Stocks having beta greater than 1.0 implies risky investments while beta of less than 1.0 are less volatile.

1.1.3 Working Capital Policy and Systematic Risk

Numerous empirical studies have been conducted to examine the relationship between WCP and systematic risk. Belkaoui (1978) and Dhingra (1982) in their study established that both current and long-term equity to common equity ratio are positively related with systematic risk. They also found a direct link between liquidity and systematic risk. According to Chun and Ramasamy (1989), financial leverage is directly related with systematic risk while the activity ratios are inversely related with systematic risk. Akhtar (2019) also showed that leverage, earnings variability, dividend payout, growth, liquidity, asset size, and ratios are significantly correlated with systematic risk.

Conversely, Mungai (2010) and Gateru (2015) showed a non-statistical and insignificant association between working capital policy and firms' beta. In addition, Carpenter and Johnson (1983) examined how current assets affect firms operating risks. The study used large industrial sector businesses in the US and used data for the period of four years. The study used regression analysis to analyze the data and established that the level of current assets and revenue lacked a significant relationship with systematic risk. However, the study established a possibility of some nonlinear relationship but it was not statistically significant.

1.1.4 Manufacturing Firms in Kenya

The Kenya manufacturing sector has a key role that it plays in national economic development though contribution to national output, job creation and through exports (Zalk, 2014). The manufacturing sector has a wide range of subsectors such as the agro processing, chemical, paper, the garments, electronics, assembling of automotive, metals, pharmaceuticals, engineering products which can be for export or for import (NSE 2020). Worldwide, the manufacturing sector is a key driver of economic development which it does through stimulating and sustaining high productive growth, employment creation for the semi-skilled and increasing the competitiveness of the countries through exports. It's only a

number of countries that have successfully industrialized without the leading role of the manufacturing sector (Coe & Yeung, 2015). In the Nairobi securities Exchange, 8 manufacturing firms have been listed at at 2020. These include; British American Tobacco Limited, BOC, EABL, Carbacid Investments Ltd, Kenya Orchards Ltd, Unga Group, MMS and Eveready East Africa (NSE, 2020).

The manufacturing sector in Kenya is greatly hampered by certain systematic risks such as tax policy and political instability (Were, 2016). Political instability affects the manufacturing sector since it becomes impossible to make prudent decisions when politics take over. For example, the profitability and management of Mumias Sugar company limited has greatly been affected by political instability for quite a duration.

1.2 Research Problem

According to Smith (2018), WCP has a very important role in enhancing profitability of a firm and its value as well as in risk management. Belkaoui (1978) and Dhingra (1982) in their study established that both current and long-term equity to common equity ratio are positively related with systematic risk. They also found a direct link between liquidity and systematic risk. According to Chun and Ramasamy (1989), financial leverage is directly related with systematic risk while activity ratios are inversely related with systematic risk. Akhtar (2019) also showed that leverage, earnings variability, dividend payout, growth, liquidity, asset size, and ratios are significantly correlated with systematic risk.

Manufacturing industry is greatly influential in any country's economy as it creates jobs and performs a role in alleviating poverty. The manufacturing sector plays a very great role in the economic development of any country through creation of jobs and poverty alleviation (Zalk, 2014). Worldwide, the manufacturing sector is a key driver of economic development which it does through stimulating and sustaining high productive growth, employment creation for the semi-skilled and increasing the competitiveness of the countries through exports (Coe &

Yeung, 2015). The manufacturing sector in Kenya is greatly hampered by certain systematic risks such as tax policy and political instability (Were, 2016). Political instability affects the manufacturing sector since it becomes impossible to make prudent decisions when politics take over. This leads to decision affecting the sector being made for political gain and not for the commercial and economic interest of the sector. For example, the profitability and management of Mumias Sugar Company limited has greatly been affected by political instability for long period (Michir, 2015). These risks pose a great challenge to the manufacturing firms and have contributed in the significant drop of its GDP contributions. As such, the sectors share of GDP stagnated at 10% for the last three decades with only a marginal rise to 13.6% between the years 1990-2007 (NSE, 2020).

Although a number of studies have been conducted both globally and locally on the concept of working capital policy, there have been gaps that have been observed in these studies. Globally, Nazir and Afza (2009), Tewodros (2010) and Kasozi (2017) assessed the AWCP and the impact it has on profitability. Bratland and Hornbrinck (2013) assessed the relationship between WCP and stock performance in Sweden for the years 2009- 2012. Bandara (2015) on the other hand conducted a study in Sri Lanka on value addition and working capital policy.

Locally, Mungai (2010) and Gateru (2015) sought to examine the systematic risk of NSE listed companies and how they are affected by working capital management. However, these studies failed to adopt the concept of working capital policy. Nyabuti and Alala (2014) also assessed the NSE listed companies' FP and sought to analyze the relationship with working capital management policy. Furthermore, Awunya and Ondigo (2018) did their research among firms that belonged to the services and commercial sector and sought to evaluate how working capital management policy impacted their financial performance. Finally, Mweta and Kipronoh (2019) carried out a research among firms in the construction and allied sector

seeking to examine how their financial performance is affected by working capital management. However, these studies assessed failed to assess relationship with systematic risk. The studies also differed in terms of the context and none focused on the manufacturing firms. In this research we seek to address this gap by answering the question. What is the effect of working capital policy on systematic risk in the manufacturing firms listed in the Nairobi Securities Exchange?

1.3 Research Objective

The general objective of the study was to assess the effect of WCP on systematic risk of manufacturing firms listed in NSE.

The specific objectives were;

1. To test the effect of AWCP on systematic risk of manufacturing firms listed in NSE.
2. To assess the effect of CWCP on systematic risk of manufacturing firms listed in NSE.

1.4 Value of the Study

The study findings will be very important to the financial advisors, stock brokers and investors at Nairobi Securities Exchange market and generally all stakeholders in investment fraternity. It will provide facts to improve the operations of the Capital Markets and the Economy in general to base their investment decisions from the discoveries of the correlation between WCP and the systematic risks that a unit trust firm might face.

The fund managers for manufacturing firms will benefit by aggressively adopting better working capital practices and risk levels that will result to balance between the company's earnings and liquidity goals of the firm. Businesses can minimize the financing costs by increasing the revenues to be set aside for project expansion by reducing the amount of investment that is held in current assets. This study will also aid fund managers who spent

most of their time and effort in trying to attain an optimal balance between current liabilities and current assets.

It will also add much to the finance theory of working capital and risk by backing the existing financial propositions and concepts and adding new discoveries to them. The scholars will therefore benefit from the study findings since they can use to base their theoretical review as well as the empirical review. The study will also offer recommendations for future research where future scholars can adopt for their studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this section, analysis is on the working capital policies, theories on working capital approaches and risk, local and global empirical reviews for the two variables. In addition, a summation of the literature assessment and a conceptual outline between the variables is also discussed.

2.2 Theoretical Review

Several finance theories can be used in demonstrating the correlation between working capital approaches and systematic risk in an organization. This study has used four theories namely: Portfolio theory, Trade off theory and Keynesian preference theory.

2.2.1 Portfolio Theory

Markowitz (1952) developed the portfolio theory to indicate the relationship between return and risk. The portfolio theory provides an investment framework that describes the way to the selection of best investment portfolio that would result in rerun maximization and risk minimization. The key assumptions of portfolio theory are; First, the theory assumes that investors are rational that is they seek for return maximization and risk minimization. Secondly, if a high risk is compensated with expected higher returns, then investors would be willing to invest in high risk portfolios. Thirdly, the theory assumes that pertinent information is provided to investors in a timely manner. The fourth assumption is that any unlimited amount of capital can be borrowed or lend to investors. Fifth, the theory assumes a perfectly efficient market. Sixth, it assumes no transaction costs and taxes in the market and seventh there exists securities whose performance does not depend on other investment portfolios (Reilly & Wecker, 1973).

According to Fabozzi and Grant (2001) an investor is after to maximizing the expected returns with only some level of risk that they can accept when constructing a portfolio. Such portfolios are referred to as efficient portfolios. In constructing an efficient portfolio, an assumption is made that risk averse. Such a risk averse investor would choose an investment with lower risk compared with an investment with higher risk but same expected returns. In a list of efficient portfolios, an investor would choose an optimal efficient portfolio.

A number of critics of portfolio theory however exist. The critics argue that the portfolio theory assumptions are different from the real-world financial markets modeling. Mangran (2013) critic all the assumptions and argues that none of the assumptions are entirely true and that to some degrees they compromise the portfolio theory. Morient (1997) criticize the assumption that investors are rational seeking to maximize returns but minimize risks and argues that in real world, observations have shown that market participants get swept away with herd behavior investment activity.

This theory is significant in the study due to the existence of tradeoff between earnings and liquidity goals of businesses. The liquidity level by a firm is indirectly related to the level of profits and vice versa. A shortage or a surplus of the working capital constituents is caused by the choice between profitability and liquidity (Takon & Atseye, 2015). Additionally, portfolio theory relates to working capital management in making a choice of the assets to be bought by the firm given that assets are acquired progressively and not at once (Bhattacharya, 2014). Therefore, the profitability goal and the components of the debtors and inventories all agree with portfolio theory.

2.2.2 Trade off Theory

The tradeoff theory was developed by Modigliani and Miller (1958). Trade off theory states that, financing of a firm does not have an effect on its value in a perfect market. In case of market imperfections, firms trade off the advantages of a debt at the expense of the

disadvantages in order to get optimal and value maximizing ratio of debt to equity. In this case, a firm sets a debt equity ratio that it targets and gradually moves to achieving it (Myers, 1984).

Modigliani and Miller (1958) in their theory assume no taxes exist. Modigliani and Miller's (1958) theory explains how firms choose an optimal debt level by manipulating profitability through taxation. High debt to equity ratio increases rate of bankruptcy since debt holders pay higher interest rates and the shareholders on the other hand fake high profitability for the investment they make (Brealey & Myers, 2003). According to Brealey and Myers (2003) the cost of financial distress and tax shields is traded off by financial mangers by use of debt equity decisions. High debt equity ratio should go with companies that have safe tangible assets and also a lot off taxable income. On the other hand, companies with risky and intangible income should go for equity financing rather than debt (Brealey & Myers, 2003).

Welch (2004) criticized the trade-off theory and argued that in the basic trade off theory, the impact of stock price shock should be undone so is the mechanical change in assets prices that make most of the capital structure. According to Sheikh and Wang (2010) no universal debt equity theory exists and there should be no reason to expect to get one. However, theories on conditions of debt equity do exist and would help understand the financial structure better.

This theory illustrates that firms decide their optimal measure of cash holding by assessing the benefits of holding cash and the associated marginal cost. Large investments in current assets are associated with low returns even though it's done at high levels of certainty. Conversely, a lower investment in current assets will translate to discontinuity in production and sales as result of stock outs. This study is therefore important in explaining the working capital policy variable.

2.2.3 Keynesian Liquidity Preference Theory

This theory came into existence after the work of Keynes (1936). The liquidity preference theory explains the interest rates level in relation to supply of money and savers willingness and desire to hold money in cash. According to Keynes (1936), the liquidity preference theory is not a reward of hoarding but for parting with cash for a period of time. According to Keynes (1936) further, interest rates determination is done in the money market. According to Koutsoyiannis (2003), balances kept as a result of speculations depends on the magnitude as well as the direction prospective market interest rates changes that is anticipated. Nzotta (2004) asserts that where firms or individuals expect an increase in market interest rates, they tend to hold more money in liquid so as to avoid long terms assets loss as a result of increased interest rates.

Keynes (1936), explained that people hold money for three motives; First, the t transactions motive that is meant to fill the income expenditure gap. Secondly, the motive can be precautionary that is aimed at keeping a reserve for financing expenditures that are not anticipated. The third motive is speculative used to satisfy the desire to keep money in liquid if a firm expects alternative assets and interest rates rise which causes loss of capital. Jhingan, (2004) asserts that individuals who prefer holding money believing that the money held will be more that the yield on invested assets are referred to as liquidity preference exhibitors. According to Amadi and Akani (2005) if the current interest rates are high more individuals or firms will hold money. Andabai (2007) also supports this notion confirming that demand to hold money is inversely related with interest rates level. Therefore, liquidity preference is the degree of risk aversion of individuals and firms' managers (Pandey, 2005).

However, the theory has been criticized by some theorists. Uchendu (2011) stressed that the theory rejects the notion that liquidity preference is as a result of many more variables some of which are complex. Pandey (2005) criticized the theory saying that it disguises the real

character of causation. Ankintoye (2000) also stated that income velocity is influenced by interest rates levels, income change, anticipated expenditures, liquidity preferences money substitutes availability and non- bank financial institutions. This theory will be useful in examining working capital policy and refer to how manufacturing firms choose their investment portfolio based on interest rates.

2.3 Determinants of Systematic Risk for Manufacturing Firms

Systematic risk is a risk that operates in the macro level and affects many assets to varying degrees (Ross, Westerfield, & Jaffe, 2002). Such risks can be interest rates, inflation, levels of unemployment, GDP levels, rates of exchange. Systematic risks affect all types of securities but differently. Dhingra (1982) established that both current and long-term equity to common equity ratio are positively related with systematic risk. Liquidity (current ratio) was also found to be directly related to the systematic risk. There are other various determinants that affect systematic risk, in this study will discuss five determinants namely: working capital policy, liquidity, profitability, leverage and operating efficiency.

2.3.1 Working Capital Policy

WCP is described as the policy that concerns investment of current assets and decisions on financing that a family adopts and this can have effect on the magnitude of the effect of WC on the performance of the firm (Alavinasab & Davoudi, 2013). Belkaoui (1978) and Dhingra (1982) in their study established that both current and long-term equity to common equity ratio are positively related with systematic risk. Conversely, Mungai (2010) and Gateru (2015) showed a non-statistical and insignificant association between WCP and firms' systematic risk and also Carpenter and Johnson (1983) established a possibility of some nonlinear relationship but were not statistically significant.

2.3.2 Liquidity

Liquidity in a business can be determined using quick ratio. Past studies have indicated that liquidity exhibits both negative and positive effects on systematic risk. Jensen (1987) revealed a positive correlation between the two parameters by contending increase in liquidity translates to increase in free cash flow agency costs thereby increasing the risk levels. However, most studies show an adverse correlation between beta and liquidity; as liquidity increases the magnitude of systematic risk is decreased.

2.3.3 Profitability

Merville and Logue (1972) discuss that the success of a firm is determined by the earnings levels and this reduces the degree of systematic risk. Rowe (2010) indicated an adverse correlation between productivity and systematic risk. Even though in some businesses like insurance the relationship is indicated to be positive as in case of Borde et al (1994) study in insurance firms, finance firms make more profit when they give out more credit which is associated with greater risk.

2.3.4 Leverage

Leverage is measured using the debt ratio. According to Modigliani and Miller (1958), the degree of risk is increased in the capital structure when the debt portion is increased. Lee, Kim and & Kim (2006) support this proposition by their assertion that greater degree of leverage translates to high financial risk. Shah (2012) found out a positive correlation between systematic risk and leverage when leverage was applied as a control variable.

2.3.5 Operating efficiency

This efficiency implies creating more returns and at given output level. It is determined by asset turnover ratio. According to Bikker and Vervliet (2018).) high efficiency leads to high profitability levels and this translates to low levels of systematic risk. Eldomiaty and Ismail, (2009) also found out a negative linkage between operating efficiency and systematic risk.

Generally most researchers show an adverse correlation between the beta factor and the operating efficiency.

2.4 Empirical Studies

Globally, Nazir and Afza (2009) conducted a study among non-financial firms to assess the effect of AWCP on the profitability of firms. The study used panel data that was collected from all the non-financial firms that had been listed in the Karachi Stock Exchange between year 1998 to 2004. The sample size was 204 non-financial firms producing where data was collected for 8 years. The study utilized regression analysis to analyze the data wher3 F statistics and t statistics were used. The study found that WCP is positively and significantly related with profitability measured suing return on assets and Tobin's q. The study however, only concentrated on AWCP and no other types of working capital policies and the dependent variable was profitability and not systematic risk.

A similar study was conducted by Tewodros (2010) among manufacturing private firms in Tigray Ethiopia to assess the effect of WCP on profitability. The data was obtained from a sample of 11 firms that had operated in Tigray region. Ethiopia. The data for the 11 firms was collected between 2005-2009. The study applied descriptive statistics which included the mean, standard deviation, minimum and maximum to analyze the data before proceeding to use correlation and regression analysis. The general model was: $Yi = \beta 0 + \Sigma\ \beta iXi + \varepsilon i$. The study established that aggressive policies are associated with lower profitability. On the other hand, conservative policies positively impacted on profitability. Apart from being conducted in Ethiopia, the study used profitability as the dependent variable other than systematic risk.

Bratland and Hornbrinck (2013) assessed the relationship between WCP and stock performance in Sweden for the years 2009- 2012. The study adopted a quantitative design and obtained data from companies listed in the SSE. Specifically, data was obtained from the company's annual reports while stock prices data was obtained from the Thomson Reuters

Datastream. Stock performance was measured using beta and standard deviation. The study used correlation analysis and specifically Pearson's correlation. The study findings showed no relationship between the variables. However, a significant correlation between working capital policy and risk was observed. The study was conducted in all companies listed in Swedish Stock Exchange so failed to narrow done to specific sectors as in manufacturing sector and also assessed relationship with stock performance and not systematic risk.

Bandara (2015) on the other hand conducted a study in Sri Lanka on value addition and working capital policy. The study target population was 74 Colombo Stock Exchange listed companies' investment policy. Market value addition was assessed through firm value. The data was collected for all the 74 firms and covered 7 sectors giving a total of 370 observations that was observed annually from 2009-2014. To analyze the data, the study utilized descriptive statistics, correlation analysis and panel data regression. The study findings revealed that both working capital investment policy and working capital financing policy are negatively related with firm value addition. The study covered the business sector other than manufacturing sector and also used market value addition as the dependent variable.

Furthermore, Kasozi (2017) assessed the manufacturing firms that were listed in JSE, South Africa. The study purposed to investigate the trends in WCM among manufacturing firms listed on JSE and its effect on the FP of the firms. The data was obtained from 69 manufacturing firms between 2007 and 2016. The study used panel regression analysis to analyze the relationship. The study findings revealed that the ACP and the APP are negatively and statistically significantly related with profitability. However, the number of days in inventory and profitability were positively statistically and significantly related. The study apart from being conducted in South Africa assessed working profitability other than systematic risk.

Locally, Mungai (2010) examined WCM of NSE listed firms and effect on systematic risk. Systematic risk was the dependent variable and was measured using stock beta. Secondary data was used and was obtained from the firms' annual financial reports from NSE Handbook for all 55 firms between 2003 to 2009. The study selected a sample of 22 firms from which data was obtained. The research applied descriptive and regression analysis to analyze the data. The general form of the model was: n Bit= βo + ∑βiXit + ε. The findings of the study revealed that no statistically and significant relationship existed between WCM and systematic risk. The study however, did not narrow down to specific sectors such as the manufacturing sector in this study.

Nduati (2014) similarly researched among NSE listed manufacturing firms on WCM and profitability. The study specifically investigated the sub variables of WC on profitability. Profitability was measured using gross operating profit of the firms. A descriptive design was utilized to conduct the study. The target population consisted of 9 manufacturing firms listed at NSE. The study findings revealed that a positive correlation existed between average collection period and profitability and profitability but no effect of inventory turnover in days. The study however related working capital management with profitability and not systematic risk.

Further, Gateru (2015) sought to examine the systematic risk of NSE listed companies and how they are affected by working capital management. The targeted companies were 64 companies listed at NSE between 2008 and 2014. Annual reports were used to provide the data for a sample of 20 companies. The general form of the model is: Bit= βo + + ε, where: Bit : firms Stock beta at times 1 year to 5 years. The β represented the intercepts which were variable coefficients. The study used descriptive analysis, Pearson's correlation and pooled least square regression analysis. The results established no statistically significant effect

existed between WCM and systematic risk. This study however failed to narrow down to a specific sector but was general on all listed companies.

Furthermore, Awunya and Ondigo (2018) did their research among firms that belonged to the services and commercial sector and sought to evaluate how working capital management policy impacted their FP. Using a descriptive design, the study targeted 11 firms listed in NSE and that were in the commercial and services sector in the period between 2012 and 2016. The data for the study was collected from the financial statements of the 11 listed firms. Panel data regression analysis was used to analyze the data. The regression model was; $Y = \alpha + \beta 1 + \beta 2 + \beta 3 + \beta 4 + \varepsilon$. The study established that a positive but insignificant relationship existed between the study variables. This study however, focused on the commercial and services sector and also used profitability as the dependent variable other than systematic risk.

Finally, Mweta and Kipronoh (2019) carried out a research among firms in the construction and allied sector seeking to examine how their FP is affected by WCP. The study chose an explanatory design to conduct the study. The target population for the study was 5 firms associated with the construction and allied sector and which were listed at NSE for the study period between 2012 to 2016. Secondary panel data was collected form the firms' annual financial statements published in the firms' websites and NSE books. Descriptive, correlation and multiple regression analysis were used to analyze the data. The study findings were that financial performance when measured using ROA is insignificantly affected by some working capital management variables. However, when FP was reported through gross profit margin, some of the variable reported a strong positive effect. The study however, used the construction and allied sector companies and focused on FP.

2.5 Conceptual Framework

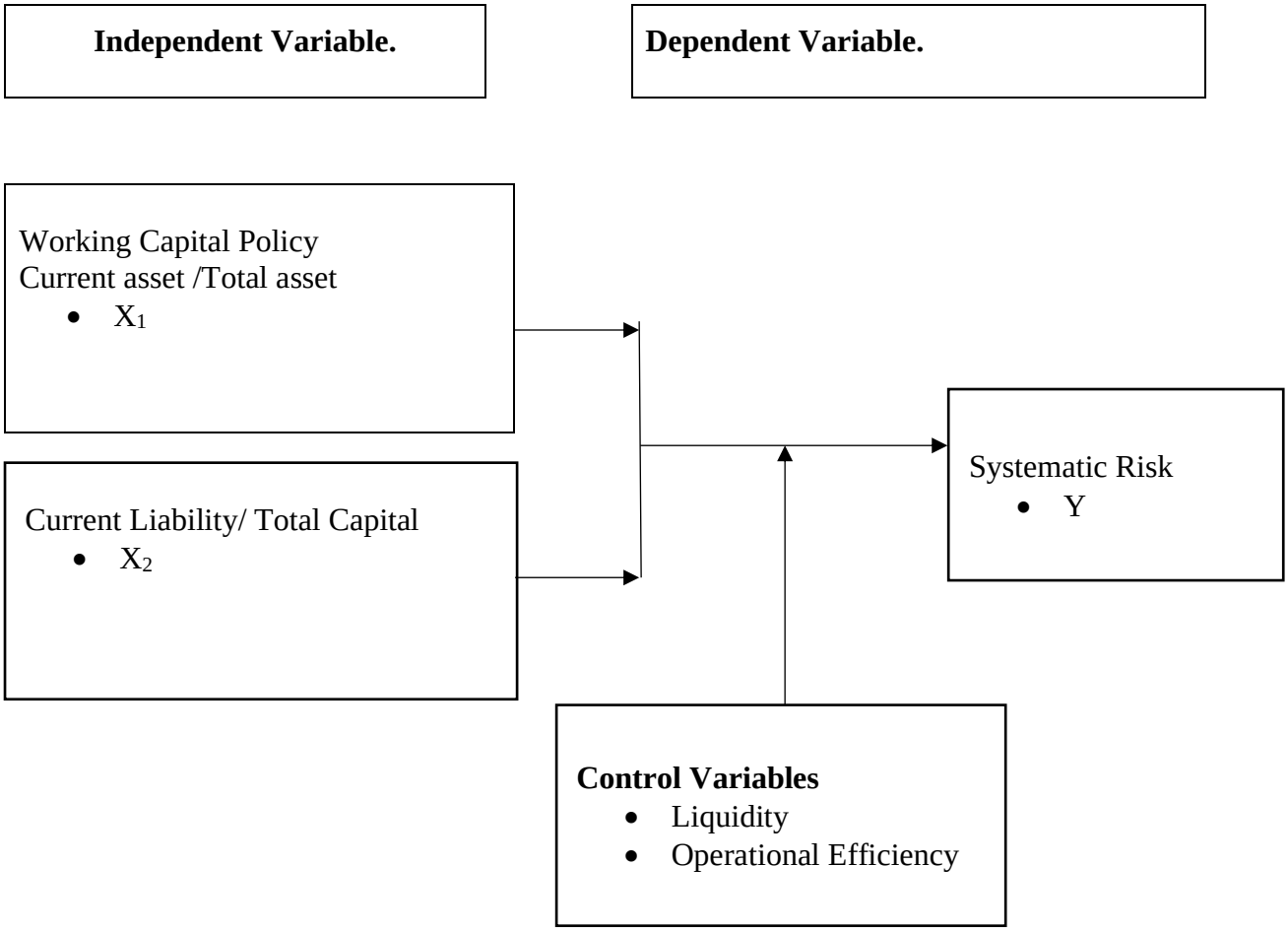

Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

The above studies conducted both globally and locally provide contradicting findings. The study by Nazir and Afza (2009) found that WCM policy is statistically and significantly related with profitability among non-financial firms while Nduati (2014) found no significant relationship between WCM and profitability. The study by Tewodros (2010) and Kasozi (2017) on the other hand found different findings on the effect of different variables.

The study by Nyabuti and Alala (2014) established a positive relationship between WCP and FP while Awunya and Ondigo (2018) found a negative relationship. No statistically significant relationship between WCP and stock performance was found (Bratland & Hornbrinck, 2013) and Bandara (2015) found no significant effect of WCP on market value. Mungai (2010) and Gateru (2015) established that WCM did not have a statistically significant relationship with systematic risk. However, there is no specific study that has directly lined working capital policy and systematic risk among manufacturing firms which is the gap this study seeks to address.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This subdivision looked at the framework to be used to meet the objectives highlighted in chapter one of this study. This entailed the research design, the population and the sample, the data instruments, data collection approaches, analysis of the data to give out findings, interpretation of the findings and conclusion thereof.

3.2 Research Design

A descriptive design was applied in the study. A descriptive research design involves collecting information as it is without influencing it in any way. Descriptive research design answers the what, where, when and how questions (Shona, 2019). This study adopted the descriptive research design since it did not involve manipulation of the variables rather the study seeks to use the data as it is to answer the question how working capital policy affect systematic risk and not why.

3.3 Population

Mugenda and Mugenda (2003), describe a population as a defined set of people, events and elements, households or a group of things that are under investigation. The target population of this study comprised all manufacturing companies listed in the NSE. According to NSE (2019), there were 8 manufacturing companies listed at the Nairobi Securities Exchange as at September 2020. The study applied a census for all the 8 manufacturing firms listed at NSE. A census involves a study of every unit, everyone or everything, in a population. A census was applied since there are only 8 firms and it was easier to cover all of them.

3.4 Data Collection

The study collected secondary data that was obtained from NSE reports and the individual companies reports. Data was obtained from NSE since the study was dealing with manufacturing firms listed in NSE. More so, the manufacturing firms have a compilation of individual firm's data and therefore are most effective in sourcing the data. A data collection sheet was designed that was used in recording the raw data as obtained from the sources. The data was collected for five years from 2015-2019. Total assets, current assets, current liabilities and total capital data was collected on annual basis for the 5 years to address working capital policy and the annual beta (market return and stock return) data was collected to address the systematic risk. The data was obtained from the NSE and manufacturing company's website and recorded in a data collection sheet.

3.5 Data Analysis

The raw data gathered was tabularized, coded and analyzed by Ms excel and SPSS. A low proportion of CA to TA or high portion of current liability to total capital was used as indicators of a firm practicing AWCP while those with a high proportion of CA to TA or low portion of current liability to total capital were using conservative policy. Under the period of study (2015-2019) conclusion was made that a particular firm has adopted a particular policy if it has been used consistently. A comparative analysis was also be done between the manufacturing firms using aggressive working capital policy and those using conservative policy.

Both descriptive and inferential analysis was utilized in the data analysis. The descriptive statistics included the mean, the maximum, minimum and percentages. These was conducted to provide a summary of the data and to ease in interpretation. Correlation analysis used Pearson's correlations coefficient and help in determining the direction and the strength of the relationship between the study variables. The regression analysis on the other hand helped

in determining the statistical and significance effect of the independent variables on the predicted variable. In regression analysis, the F statistics and the t-statistics was used where the p value was reported. A significance level of 5% was used.

3.5.1 Diagnostic Tests

Prior to conducting the inferential analysis, the data was subjected to diagnostic tests that tested the assumptions of normality and multicollinearity. Normality test was conducted using the kurtosis and skewness. In the case where one of the variables was not normally distributed it would be transformed and standardized using the logarithmic transformation method. Multicollinearity was tested using VIF. Any multicollinear variable would be dropped from the study and a new measure would be selected and substituted with the variable which exhibits co-linearity

3.5.2 Analytical Model

The regression model that was applied in estimating the effect of WCP on the systematic risk of manufacturing firms listed in NSE was:

$Y= \alpha_0+ \alpha_1X_1 + \alpha_2X_2 +\varepsilon$

Where

Y is the stock beta of the company

Beta was computed using the formula

Beta= Covariance (Rit, Rmt)/ variance of the market

Where

Rit- security returns over time t

Rmt- Return to the market portfolio over time t

α_0 is the equation's intercept,

X_1 is the ratio of current assets to total assets

X_2 is the ratio of current liability to total capital

t is time in years from 1, 2,…..5

ε is the error term.

3.5.3 Significance Test

In regression analysis, the F statistics and the t-statistics were used where the p value was reported. A significance level of 5% was used. A significance level of less than or equal to 0.05 was taken as significant and therefore the variable was reported to be significantly related with systematic risk. On the other hand, a significance level of above 0.05 was considered insignificant hence the variable was insignificantly related with systematic risk

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, presentation of the results of the analysis is provided. First, descriptive statistics for the data is conducted. Then the study provides the diagnostic test results and then correlation and regression analysis.

4.2 Descriptive Statistics

In this section, descriptive statistics such as mean, minimum, maximum, standard deviation are provided for the study variables.

Table 4.1: Descriptive Statistics for WCP and Systematic Risk

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Coefficient of Variation
Total assets	40	118848000	115163971000	24460348038	37148785	0.001519
Current Assets	40	194757000	71974614000	13857947458	21853531	0.001577
Total Capital	40	118848000	80516349000	19623111713	25546721	0.001302
Current Liabilities	40	14892000	36593026000	11551494483	13151619	0.001139
Stock Returns	40	-56780000	8726622000	2120929763	2960199	0.001396
Market Return	40	118848000	115163971000	24460348038	37148785	0.001519

The findings in Table 4.1 revealed that for total assets, the minimum recorded value among the 8 listed companies was 118848000 while the highest recorded value was 115163971000. The mean for the total assets was 24460348038 and a SD of 37148785. A CV of 0.001519 indicated that the deviation from the mean was low. The least recorded value for current assets on the other hand was 194757000 and the highest value was 71975614000. The mean was 138557947458 with a SD of 21853531. The deviation from the mean however was low as indicated by a coefficient of variation of 0.001577. The total capitals recorded a minimum of 118848888 and a maximum of 80516349000. The total capital mean was 19623111713 with a standard deviation of 25546721. However, the deviation was low as indicated by

coefficient of variation of 0.001302. Moreover, current liabilities recorded the lowest value as 14892000 and highest being 36593026000. The current liabilities had a mean of 11551494483 and a SD of 13151619 which was a low deviation as supported by a coefficient of variation of 0.001139. Further, the least stock return was -56780000 and maximum was 8726622000. Stock returns averaged at 2120929763 and deviated by 2960199 which was low deviation supported by coefficient of variation of 0.001396. Finally, market returns averaged at 24460348038 with deviation from mean being 37148785 with the lowest being 118848000 and highest at 115163971000.

4.3 Diagnostics Tests

Diagnostic tests were conducted prior to conducting inferential statistics in order to test the assumptions of regression analysis. The specific diagnostics that were conducted were multicollinearity tested using VIF and normality tested by skewness and kurtosis.

4.3.1 Normality Test

Kurtosis and Skewness were used to test the normality. For skewness a value that is smaller than -1 and or greater than 1 means the data is skewed highly and therefore not normally distributed. Values between -1 to -0.5 and between 0.5 to 1 means there's moderate skewness. The ranges that indicate normal distribution are between -0.5 and 0.5. The values for kurtosis between -2 and +2 are considered acceptable. Findings were as in Table 4.2.

Table 4.2: Skewness and Kurtosis for WCP and Systematic Risk

	Skewness Statistic	**Kurtosis Statistic**
X1	0.329	1.32
X2	-0.499	0.382

The skewness values of 0.329 and -0.499 showed that the data was normally distributed. Moreover, the kurtosis values of 1.32 and 0.382 also showed normal distribution as they were in the range of-2 to 2.

4.3.2 Multicollinearity Test

Multicollinearity was tested using variance inflation factor where a VIF value more than 10 indicated presence of multicollinearity. The results were presented in Table 4.3.

Table 4.3: Multicollinearity Test for WCP and Systematic Risk

Variable	VIF
X1	1.039
X2	1.039

As per the results in table 4.3, all the variables depicted a VIF of less than 10 indicating no multicollinearity and the study could continue with inferential statistics.

4.4 Correlation Analysis

Correlation analysis was conducted using Pearson's correlations coefficient. In order to determine an aggressive or conservative policy, companies with a low proportion of CA to TA or high portion of CL to TC was considered to be practicing AWCP while those with a high proportion of CA to TA or low portion of current liability to total capital are using conservative policy.

These were used to assess the correlations analysis which was presented in Table 4.4.

Table 4.4: Correlation Analysis for WCP and Systematic Risk

		X1	X2
Beta	Pearson Correlation	-.440*	.906**
	Sig. (2-tailed)	0.015	0.000
* 0.05 level significance (2-tailed).			
** 0.01 level significance (2-tailed).			

The findings indicated that AWCP was negatively and insignificantly correlated with systematic risk (rho=-0.440, sig=0.015)). However, CWCP depicted a positive and significant correlation with systematic risk (rho=0.906, sig=0.000). This implied that a unit increase in AWCP would result in a unit decrease in systematic risk but insignificantly. A unit increase in CWCP would result in a unit increase in systematic risk significantly. The findings agreed

with findings by Akhtar (2019) who showed that earnings variability, growth, leverage, dividend payout, liquidity, asset size, and earnings coverability ratios are significantly correlated with systematic risk.

4.5 Regression Analysis

Regression analysis was carried out in order to establish the relationship between AWCP and CWCP. Multiple linear regression analysis was conducted and findings presented in Table 4.5, Table 4.6 and Table 4.7.

Table 4.5: Model Fitness for WCP and Systematic Risk

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.941a	0.885	0.879	0.098974

The outcome revealed that the R square was 0.885 indicating that the variables X_1 and X_2 explained 88.5% of systematic risk. The remaining 11.5% could be explained by other factors not in the study.

Table 4.6: ANOVA for WCP and Systematic Risk

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.791	2	1.395	142.444	0.000
Residual	0.362	37	0.01		
Total	3.153	39			

The ANOVA showed that the whole model was statistically significant ($p=0.000<0.05$).

Table 4.7: Regression Coefficients for WCP and Systematic Risk

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.036	0.043		0.827	0.414
X1	-0.365	0.058	-0.349	-6.255	0.000
X2	0.47	0.031	0.854	15.297	0.000

The regression coefficients analysis results revealed that AWCP is negatively and significantly related with systematic risk ($\alpha=0.365$, $P=0.000$). These findings contrasted with the findings by Mungai (2010) and Gateru (2015) who showed that no relationship. The findings also disagreed with findings by Belkaoui (1978) and Dhingra (1982) who established that both current and long-term equity to common equity ratio are positively related with

systematic risk. On the other hand, conservative working capital policy was positively and significantly related with systematic risk (α=0.47, p=0.000). These findings concurred with Chun and Ramasamy (1989) who found that activity ratios are inversely related with systematic risk.

The model then was confirmed as

$$Y_{it} = -0.036 - 0.365(X_1) + 0.47(X_2) + \varepsilon$$

Where

Y_{it} is the stock beta of the company at a given time period t,

X_1 is the ratio of current assets to total assets

X_2 is the ratio of current liability to total capital

t is time in years from 1, 2,…..5

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, the discussions of the findings in previous chapter are presented. First, a summary of major findings related to the study objectives are provided, then the conclusions of the study and the recommendations for practice and for policy. Areas for further research are also provided for future scholars' references.

5.2 Summary of Major Findings

Based on the study findings, 5 companies out of the 8 NSE listed manufacturing firms had adopted an AWCP. Correlations analysis results revealed that AWCP was negatively and insignificantly correlated with systematic risk and the regression analysis revealed that AWCP is slightly positively but insignificantly related with systematic risk. These findings were in line with the findings by Mungai (2010) and Gateru (2015) who showed that no relationship. However, the findings disagreed with findings by Belkaoui (1978) and Dhingra (1982) who established that both current and long-term equity to common equity ratio are positively related with systematic risk.

Out of the 8 manufacturing companies listed in NSE, only one was seen to have adopted a conservative working capital policy. Correlations and regression analysis revealed that conservative working capital policy is positively and significantly correlated with systematic risk risk. These findings concurred with Chun and Ramasamy (1989) who found that activity ratios are inversely related with systematic risk. However, Mungai (2010) and Gateru (2015) showed that no relationship between the WCP and firms' beta.

5.3 Conclusions

Given the findings above, the study sum up that aggressive working capital policy is negatively but insignificantly related with systematic risk. This implied that manufacturing firms that adopts an AWCP are less likely to suffer systematic risk. Choosing to maintain a greater proportion of current liabilities and a low proportion of current assets increases the investment and hence higher returns. Manufacturing firms that choose this policy hence uses the high returns to finance the businesses in times of wars, interest rates fluctuations or economic recessions. The risk suffered is hence low as compared to the returns.

The findings were in line with the assertions by Padachi (2016) also argued that a high risk and a high return come about through more AWCP while low risk and lower profitability are associated with CWCP. More so, Panda and Nanda (2018) established that lower cost short term debt that is associated with aggressive working capital financing policy lead to a high risk of short-term liquidity problem. The findings however contrasted with those of Afza (2009) who found that AWCP is positively and significantly related with profitability and lower risk.

The study also concluded that conservative working capital policy and systematic risk are significantly related in a positive way. Maintaining a high proportion of assets as current and a low proportion of current liabilities reduce the risk associated with bankruptcy and loan default However, the firm will have made less investments and hence lower returns. This implies that the firm will not have enough to cater for the business during times of wars, economic recessions, political instability and interest rates fluctuations.

These findings concurred with Afza and Nazir (2017) who asserted that liquidity associated with high level of long-term assets that have been invested may pose a risk which can be reduced by maintaining high level of current assets. On the other hand, a low profitability and a low risk is associated with a higher investment in current assets. The findings however

disagreed with those by Carpenter and Johnson (1983) who established that the level of current assets and revenue do not have a significant relationship with systematic risk.

5.4 Recommendations

Based on the findings, the following recommendations are made to the government and the management of manufacturing firms. The management of manufacturing firms is recommended ton come up with strategies that will encourage a more AWCP in their firms which is negatively related with systematic risk meaning that the systematic risk will be minimal for such companies that adopt the policy. The management should therefore develop an investment portfolio in which they will be able to invest more of the long-term assets which will attract less risk.

The government of Kenya through the Kenya Association for Manufacturers is also advised to come up with guidelines on the operations of manufacturing firms in terms of investment and that will encourage more investment of long-term assets. The association is also encouraged to offer more support to the manufacturing firms in choosing the right investment portfolio that will attract more profits and less risk. The government is also recommended to provide favorable environment for manufacturing firms to run their businesses. This is because majority of the investment decisions by manufacturing firms also consider factors determined for by the government such as the interest rates for loans from commercial banks through CBK.

5.5 Limitations of the Study

The research was limited in a number of ways. First the study was limited in that the study only concentrated in those manufacturing firms that are listed in NSE. The environment as well as the polices that manufacturing firms operate in are different from other sectors and hence the study was limited for not covering all these other sectors. This limitation was

curbed by providing recommendations for further research that would cover other sectors of the economy.

The research was also limited in terms of the type of data that was collected. This is because only secondary data was collected. The used of secondary data for the study brought about the limitation of not reporting the specific information that may be needed in the study as it only covers specific years and may not be so in the future years. The researcher also did not have control over what the data contained and therefore was limited to what was in the data. This limitation was curbed by giving suggestions for further studies to use other sources of data.

5.6 Areas for Further Research

This study aimed at assessing the effect of WCP on systematic risk of manufacturing firms listed in NSE. Future scholars who wish to conduct their research in the area of WCP and systematic risk could consider conducting their studies among other firms in other sectors such as the financial sector, in order to relate the findings. The manufacturing firms operate under different environments and policies which may differ from the environment and the policies used in other sectors. While the manufacturing firms are mostly in the primary sector producing products through manufacturing, other firms deal are in the secondary and tertiary sectors where processing and provision of services is done. Conducting other studies in these other sectors would help compare and contrast the findings. In this case, better conclusion would be made on the relationship between aggressive and conservative WCP in these sectors.

Other studies still would consider using all manufacturing firms including those not listed in NSE. This is because the firms listed in NSE and those not listed in NSE have their advantages and disadvantages that would see them suffer differently when it comes to systematic risk. Firms listed in NSE are public property and hence are highly scrutinized and

run at a higher but are better positioned in the market cost than those not listed. On the other hand, firms not listed in NSE are less positioned in the market while on the other hand they are less scrutinized. As such, it would be important to include all manufacturing firms to see how each is affected by the decisions they make concerning working capital policy

Other studies could be conducted on working capital policy and competitive advantage or sustainability. The study was conducted to assess the relationship between WCP and systematic risk. Previously, majority of the studies had assessed effect of working capital policy on profitability and a measure of firm performance. Conducting future studies to relate working capital policy with other firms' deliverables such as competitive advantage and sustainability would therefore be useful in comparing the findings to see how working policy affect each of these firms' outputs.

Other studies could also use other methodologies that were not adopted in this study such as use. In this study, descriptive research design was used to carry out the study. Further, the data was collected from secondary sources and analyzed through descriptive, correlation and regression analysis. Future studies could consider using other research designs such as exploratory, using primary data through use of questionnaires or interview guides and using other methods of data analysis such as chi square tests.

Further, this study categorized WCP as AWCP and CWCP. Future studies could consider using other working capital policy approaches such as the moderate approach and matching working capital policy. This way, the findings would be considered as comprehensive as all the approaches are considered and comparisons can be made.

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Appendix I: Data Set

Company Name	Year	Total assets	Current Assets	Total Capital	Current Liabilities	X1 (CA/TA)	X2 (CL/TC)	Security Returns	Market Return	Return means
BOC	2015	2108002	1109374	2108002	548159	0.526268	0.260037	58576	2108002	1083
	2016	2032483	1086911	2032483	482278	0.53477	0.237285	58576	2032483	104552
	2017	2015587	1050390	2015587	523623	0.521134	0.259787	58576	2015587	103708
	2018	1951395	1017582	1951395	513954	0.521464	0.263378	55647	1951395	1003
	2019	1849543	940836	1848543	465616	0.508686	0.251883	57843.75	1849543	953693.
BTL	2015	12080481	9579205	12080481	6600703	0.792949	0.546394	4600000	12080481	834024
	2016	12153840	8968350	12153840	6345960	0.737903	0.522136	3950000	12153840	80519
	2017	11230945	8665252	11230945	6574643	0.771551	0.585404	2250000	11230945	674047
	2018	12546234	9215573	12546234	5792023	0.734529	0.461654	3150000	12546234	7848
	2019	11585849	11251283	11585849	10350513	0.971123	0.893375	3000000	11585849	729292
CIT	2015	2770715	1087234	2770715	98509	0.392402	0.035554	175551	2770715	1473
	2016	3081768	1188255	3081768	167632	0.385576	0.054395	186732	3081768	1634
	2017	3306974	1008052	3306974	14892	0.304826	0.004503	178396	3306974	1742
	2018	1923403	1065394	1923403	113003	0.553911	0.058752	180226.3	1923403	1051814.
	2019	2770715	1087234	2770715	98509	0.392402	0.035554	181784.8	2770715	1476249.
EEA	2015	282681	258511.5	282681	128466	0.914499	0.454456	6787	282681	144
	2016	282681	258511.5	282681	128466	0.914499	0.454456	6780	282681	14473
	2017	282681	258511.5	282681	128466	0.914499	0.454456	6783	282681	144
	2018	446514	322266	446514	127254	0.721738	0.284994	6698	446514	226
	2019	118848	194757	118848	129678	1.638707	1.091125	6578	118848	62
KOL	2015	114960922	67333373	76100792	35321193	0.585707	0.464137	7439690	114960922	61200
	2016	114757873	67333373	76100792	33996221.33	0.586743	0.446726	6349259	114757873	60553
	2017	114757873	62692132	71685235	36593026	0.546299	0.510468	8726622	114757873	6174224
	2018	115163971	71974614	80516349	34049360	0.624975	0.422888	7427242	115163971	6129560
	2019	114351775	67333373	76100792	31346278	0.588827	0.411905	8367080	114351775	6135942
MMS	2015	6902510	2568095	6902510	13670007	0.372052	1.98044	3855	6902510	345318
	2016	15975099	1956462	15975099	10826037	0.122469	0.677682	1749	15975099	7988
	2017	7069850	1860291	7069850	17021245	0.26313	2.407582	4376	7069850	3537
	2018	9982486.33	2128283	9982486.333	13839096.33	0.213202	1.386338	3326.667	9982486.333	499290
	2019	8526168.17	1994287	8526168.167	15430170.67	0.233902	1.809743	3326.667	8526168.167	4264747.
UG	2015	8,635,129	5,452,719	8,635,129	2,302,165	0.631458	0.631458	-56,780	8,635,129	1,151,
	2016	9,199,783	5,819,762	9,199,783	2,531,888	0.632598	0.632598	-56,780	9,199,783	1,265,
	2017	9,455,316	6,599,371	9,455,316	3,980,544	0.697954	0.697954	75,707	9,455,316	1,990,
	2018	9,932,664	6,595,822	9,932,664	3,079,519	0.664054	0.664054	-12,618	9,932,664	1,539,
	2019	10,646,066	2,752,081	10,646,066	34,413,608	0.258507	0.258507	75,707	10,646,066	17,206,
EAB	2015	42009009	25491155	42009009	24930769	0.606802	0.593462	5439690	42,009,009	12,465,
	2016	37714186	21556281	37714186	27969442	0.57157	0.741616	4349259	37,714,186	13,984,
	2017	44682598	22134600	44682599	21983714	0.495374	0.491997	6726622	44,682,598	10,991,
	2018	45463058	21525962	45463058	25783768	0.473482	0.567137	5427242	45,463,058	12,891,
	2019	53406246	29602381	53406246	33659381	0.554287	0.630252	6367080	53,406,246	16,829,