THE EFFECTS OF FINANCIAL RISK MANAGEMENT ON THE PERFORMANCE OF AGRICULTURAL COMPANIES LISTED AT NAIROBI SECURITIES EXCHANGE (NSE)

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DECLARATION

I declare that this research proposal contains no material previously published or written by another person except where the information is referenced.

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The research project has been submitted for examination with my approval as the supervisor.

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DEDICATION

To my family for the support and encouragement as I pursued my course. God bless you.

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ABSTRACT

The effects of financial risks has been one of the major challenges that companies are facing today. This is due to the changing business environment, globalization and increase in competitors among many others. The study examines the effects of financial risk management on the performance of agricultural firms listed in the Nairobi Securities Exchange. Descriptive research design was used to examine the effects of financial risk management on the performance of agricultural firms listed at the NSE. Data was collected from 10 consecutive years (2010-2019). Secondary data was collected and analyzed using descriptive statistics. Out of the six agricultural companies data from only five was obtained thus a response rate of 80%. Data was collected from annual reports and financial statements of the companies from the year 2010-2019. From the results of the descriptive statistics, liquidity risk management depicted a positive effect on the performance. The companies maintained high level of liquidity through sustainable level of current liabilities, current ratios above zero and higher levels of operating cash. This improves the level of production levels hence a higher level of net income. Credit risk management also has a positive impact on performance. From the results of descriptive statistics, the companies maintained low levels of bad debts which will reduce their provisions for bad debts. This in turn results to higher profits and a higher net income. In addition, operational risk management depicts a positive impact on performance. Higher sales to working capital ratios increases the ability of the company to generate higher level of sales from utilizing their working capital ratios. This results to higher level of income and hence higher return on equity ratios. The study concluded that companies should adopt risk managements practices that are effective in order to manage liquidity, credit and operational risk as their occurrence can negatively affect performance. In addition, the study concluded that further studies be done which will be inclusive of market risks, interest rates risk and commodity price risks.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Performance refers to the ability of a company to gain and manage resources to develop competitive advantage (Omondi, 2013). In addition, performance is defined as: the ability of a company to transform raw materials into finished products; companies' profit being greater than costs and the market value exceeding the book value (Almajali et al., 2012). A firm that is able to allocate resources effectively reflects high performance (Almajali et. al, 2012). Survival is what every organization fight for and thus the company need to perform well to survive (Elbenna &Naguib, 2008). Failure to perform well leads to liquidation of companies and closure of businesses. Some of the companies that have collapsed include Blue Shield and Invesco in the insurance industry (Chepkoech & Rotich, 2017).

Globalization has affected the performance of many developing countries. It has exposed countries to a wide range of competition within and outside the country and foreign exchange rates through access to international trade. It is this fact that has led companies to reason on risk management (Noor & Abdalla, 2014). The developed countries mostly are affecting the performance of less developed countries by imposition of tariffs which in turn leads to lower trade. According to (Hida, 2018), firms are required to take into consideration risk when developing the company strategy. Although most companies stress in managing financial risks, there is a growing urge to also control non-financial risks such as reputation, customer satisfaction and protection of companies' data. The improvement in technology is also vital tool in risk management. Most of the tools used by companies include: cloud computing, big data and analytics and business process modeling (Hida, 2018).

According to studies done in the banking sector, credit risk management is a major risk affecting banks (Zeng, 2012). Risks such as the level of non-performing loans affects the bank ability to invest in new well performing investments (Zeng, 2012). In Uganda, a credit reference bureau was established in 2005.This provided lenders with information on debtors which enabled them assess the debtors risk profile. In an effort to minimize the risks in the banking sector, the central bank of the east African community has a mandatory capital requirement of 10% which was introduced in 2016 (Zeng, 2012). Based on a case study done on financial performance of supermarkets in Tanzania, most of them has closed done due to low returns and low performance (Mirondo, 2017). In order to save the companies from the financial crisis, Uchumi supermarket closed down it operations in Tanzania while

Nakumatt was left with only a single outlet (Olingo, 2017). In addition, all outlets belonging to Nakumatt in Uganda were closed down to prevent further losses and expenses. On another study done on factors affecting the performance and competitive advantage of small and medium enterprises in Tanzania, underperformance was a challenge to the sector. In an effort to boost performance, the tax system was simplified and improved access to financial institution (Kumburu et. al, 2019).

Kenya is venturing into international trade which exposes it to exchange rates. These fluctuations affect the cash flows of company affecting its financial and competitive advantage. Unlike the developed countries which are more equipped to handle financial risks, Kenya which is a developing country may not be able to do so due to lack of proper equipment and finances (Noor & Abdalla,2014). Management of financial risk is still a great challenge faced by many companies in Kenya (Wanyama, 2016). Some companies have collapsed. An example is the Webuye Pan paper which had financial challenges in the capital structure (Wanyama, 2016).The changes in interest rates and foreign exchange rates also affect the performance of companies. The Nairobi stock exchange is mandated with the responsibility of ensuring that securities exchange take place fairly and in the right way. It also provides a platform where companies can be able to access capital. The capital market authority is responsible for regulating the Nairobi stock exchange ensuring that it is operating efficiently (Wanyama, 2016).

1.1.1 Agricultural firms listed at the NSE

A population refers to the total number of elements studied by the researcher (Kenton, 2020). In this study, the population was the five agricultural firms listed at NSE. These were Kapchorua Tea Company limited, Kakuzi limited, Limuru Tea Company limited, Sasini limited and Williamson Tea Kenya (Nairobi securities exchange, 2020). Kakuzi limited farms on tea, avocados, macadamia nuts, and pineapples (Kakuzi, 2020). Sasini produces tea, coffee, avocado, macadamia and dairy products (Sasini, 2020). Its main aim is to ensure that that there is a balance between social, environmental and economic sustainability. Kapchorua tea Kenya public limited companies. Formerly known as Kapchorua Tea Company limited majorly focuses on tea growing and manufacturing (Africa financials, 2020). The brand name for their tea is Williamson Kenya (African financials, 2020). Limuru Tea Company is managed through Unilever Tea Kenya limited (UTKL).The produce is only sold for export (Africa financials, 2020). Williamson Tea Company is a subsidiary of Ngong Tea Holdings Limited. It grows, manufactures and sells its produce both in locally and internationally. Apart from tea growing, the company is actively involved in property investment and has a department that deals with servicing and selling of generators (Africa Financials, 2020).

Company	Share price (2020)
Kakuzi	375
Sasini	16.9
Limuru Tea	385
Kapchorua Tea Limited	-
Williamson	142

Table 1: Share prices in 2020

1.2 Problem statement.

The agricultural sector is the backbone of Kenya's economy and the means of livelihood for most of the people living in the rural areas. In Kenya, it contributes to about 80% of the exports and 40% on employment (FAO, 2011). According to the new agricultural development strategy, it is expected to generate higher income and provide high levels of employment especially in the rural areas where 70% of the population relies on agriculture (FAO, 2011). High productivity and performance should be upheld to ensure all the objectives set are accomplished.

Although the performance of the agricultural sector is key, it is not the case on the ground. Many companies globally and locally are underperforming. Little improvement on productivity has been experienced. Exports of products such as coffee, cocoa, peanut and palm oil are experiencing obstacles such as variation in selling prices and high competition (Nepad, 2013). Moreover, investments in other sectors such as oil, manufacturing and mining are being preferred more to agriculture (Nepad, 2013). In Kenya, factors such as poor roads, climate change, lack of skilled labor and lack of capital are a big challenge in the performance of the agricultural firms (FAO, 2011).

According to Gizycki (2001), firms are required to incorporate the relevant risks management techniques to perform higher. Institutions that embrace risk management are at a better position since they are able to analyze and increase their level of awareness on the opportunities available for improvement (Ezelibe &Aniefor, 2016). According to Shah (2014), the value of assets and investments is affected by financial risks. An enterprise that is continuously experiencing financial risks without any measure to carry out risks management is at risk. This is because this risks affect the cost of production and the system performance of a company. However, a firm that

engages in risk management is able to improve in the efficiency of operations and minimize the costs of financial risks (Wangalwa & Muturi, 2018). Risks management positively affects performance of a company by ensuring there is proper allocation of funds. Despite the positive relationship, there are other researchers who argue that a negative relationship between risk management and financial performance exists: India (Shetty and Yadav, 2019); Kenya (Muteti, 2014; Juma and Atheru, 2018). In addition, most studies have focused on either liquidity, credit or operational risk management. This study therefore, tries to prove whether a negative or a positive relationship exist between financial risk management and performance of companies.

1.3 Research objectives

1.3.1 General research objectives

The main objective of this study is to investigate the effects of financial risks management on the performance of agricultural companies listed at NSE.

1.3.2 Specific research objectives

i. To evaluate the effect of liquidity risk management on the performance of agricultural companies listed at Nairobi securities exchange.
ii. To assess the effect of operational risk management on the performance of agricultural companies listed at Nairobi securities exchange.
iii. To determine the impact of credit risk management on the performance of the agricultural companies listed at Nairobi securities exchange.

1.3.3 Research questions

i. What is the effect of liquidity risk management on the performance of agricultural companies listed at Nairobi securities exchange?
ii. What is the impact of credit risk management on the performance of agricultural companies listed at Nairobi securities exchange?
iii. What is the effect of operational risk management on the performance of agricultural companies listed at Nairobi securities exchange?

1.4 Scope of the study

This study, the effects of financial risks management on the performance of the company, focused on determining the effects of liquidity, operational and credit risks management on the performance of the agricultural companies listed at NSE. The population will be all the 6 listed companies quoted at NSE. However, only recent financial statements (2010-2019) were be looked at to obtain accurate information relevant for the study within the limited time of seven months.

1.5 Significance of the study

1.4.1 Companies

The study will enable companies understand the severe effects caused by financial risks on the performance of the company. In addition, companies will be able to know the different techniques they can use to hedge against risks.

1.4.2 Academicians

This study will act as reference for other students who will be willing to conduct a research on the same topic.

1.4.3 Investors

Investors will be able to understand the severe impact of financial risks on the performance of companies. Therefore, they will be able to make sound decisions on which companies to invest in. In addition, they can be able to determine whether the companies' will be able to pay them higher or lower returns.

1.4.4 Financial institutions

Banks and other financial institutions will be able to evaluate the ability of the company to repay the principals together with the interest. In addition, they will be able to adjust the cost of capital of to ensure that only credit worthy companies can be able to obtain loans.

1.4.5 Insurance companies

This study will enable insurance companies evaluate the risk associated with a company based on the financial performance. The riskier the company, the higher the premiums charged and vice versa.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature from other scholars which helps in understanding more about the effects of financial risk management on the performance of agricultural firms listed at NSE. It starts with explaining the different concepts of financial risk management which is then followed by the theoretical foundation. Empirical review on the effects of credit, liquidity and operational risk management is discussed followed by the conceptual framework. Lastly, a summary of the literature reviewed is discussed.

2.2 Concepts

2.2.1 Credit risk management

Credit risk is the risk that arises when a borrower is unable to repay the amount when if falls due (Labare, 2020). The lender is forced to provide for the loss by having a separate amount aside. In addition, the cost of collection is increased. Companies must be able to assess the credit worthiness of a person before offering a loan or goods in credit terms. According to santomero and babble (1997) and Lindergreen (1987), there are several principles underlying credit risk management. These include; establishment of clear risk policy and a reporting structure, having a loan limit, allocation of responsibility and accountability, prioritization of the lending process and systems and timely communication of risk information to top managers. These principles are set up to measure risk exposure, define procedures to manage these risks, limit exposure to acceptable levels and encourage decision makers to manage risk.

One of the methods used to reduce credit risk is the credit default swaps (CDS).These contracts allow investors to trade default risk directly (Chistoffersen, 2012). They give a view of the default probability and market price. In these contracts, the buyer pays quarterly amounts to the seller. If the underlying co-operation defaults, the protection seller pays the protection buyer an amount equal to the face value of the bond less the recovered value. The protection buyer is allowed to hedge against default (Christoffersen, 2012). In addition, the CDS allows investors to speculate default and also to hedge against mispricing between equity and bond prices (Christoffernsen, 2012).

2.2.2 Liquidity risk management

Liquidity refers to how fast a company can convert its assets and investments to cash to meet its current obligations (Chen, 2020). Cash is more liquid since a company can invest in various opportunities presented to them. Assets

such as buildings and mining sites are illiquid compared to cash. Liquidity can be measured in terms of the market or accounting (Chen, 2020). Market liquidity is defined as the extent to which the market allows asset to be sold or bought at fair prices. The market is said to be more liquid when the difference between the true value and the market value is very small. Accounting liquidity refers to the ability of the company to meet its financial obligations. It is determined by comparing the liquid assets and current liabilities (Chen, 2020).

A moderate liquidity is better than excess liquidity (Omondi, 2013). Sufficient liquidity is encouraged as it prevents a company from selling the asset at very low prices. In addition, companies are able to pay their obligations hence the risk of insolvency is mitigated (Santomero, 2014). According to previous studies, some companies have controlled this risk by measuring the net cash flows under different interest rate scenarios. In addition, constraints on investments was also another measure undertaken (Santomero, 2014). According to a study done on risk management in banks, several principles were formulated in managing liquidity risk (Adusei, 2015). These are: Defining the tolerable liquidity levels; formulation of plans and strategies to maintain adequate liquidity; integration of liquidity benefits, cost and risks in measuring performance and internal pricing; sourcing for funds from different sources to ensure they have enough to meet their obligations; keeping high quality liquid assets as insurance to be used in times of liquidity constraints and the entire process of liquidity risks management should be supervised and information should be communicated on a timely manner in case there is a deficiency.

2.2.3 Operational risk management

This refers to risk that arises from inefficiencies in the internal operations of the company (Segal, 2019). This could be attributed by failures of the internal control system of an organization. It is also defined as company specific risks that affect the financial performance of a company. Operational risks may results into high operational cost and inefficiencies in the control system which may result to fraud (Segal, 2019). The risks is mostly associated with the decisions made by the top managers. An example would be a decision made on the right candidate to recruit based on favoritism. The staff could be under skilled and this will eventually affect the performance of the company (Segal, 2019). A company can be able to mitigate the risk well since it arises from the internal operations compared to credit and liquidity risks management.

To deal with operational risks, several techniques have been put into place. One, complying with the financial reporting standards (IFRS) enables a company to ensure that it is operating efficiently (Sapovadia, 2008). According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework, the requirements of an efficient internal control system has been outlined. This enables a company to ensure that the system is able to detect and correct any misstatements on the values entered in the system. The internal or an

external auditor is able to obtain all the relevant information which enables him/her assess the efficiency of the operations of the company and advice accordingly. Secondly, outsourcing should be minimized to enable firms minimize risks such as strategic, reputation, and compliance. When outsourcing, the firm losses the confidentiality of its information (Sapovadia, 2008). To reduce the risk of outsourcing, the firm should ensure that the person providing the services is highly qualified (Sapovadia, 2008).

2.3 Theoretical foundation

2.3.1 Agency theory

The agency theory was developed by Jensen and meckling in 1972. They were trying to model the relationship between managers and the shareholders of a company. According to this theory, managers are the agents of the shareholders whose main duty is to maximize the interests of the principals. The directors of the company are mandated with the role of ensuring that they monitor the efficiency of the top managers' decisions. This enables the managers to undertake activities that maximizes the profits of the company hence increasing the value of shareholders (Omware et. al, 2019). Similar studies have also been done. According to Berle and Means (1932), the problem of separation of ownership and control are caused by outsider ownership (Omware et. al, 2019).

Conflicts of interest arises due to goal incongruence, different priorities of the principal and the agent and information asymmetry (Omware et. al, 2019). Due to the conflicts of interest, managers undertakes activities that ensures they maximize income and bonuses that accrue from their performance. Therefore, they undertake activities that boost the current profits other than those that contribute to the growth of the business (Omware et. al, 2019). To counter this risk, shareholders undertake policies that ensure managers are focused on the profitability and the growth of the company (Omware et. al, 2019). Such measures include designing managers pay in accordance with the financial performance of the company and giving them incentives to reduce the desire for a higher pay (Omware et. al, 2019). The agency theory is faced with different critics. First, every process and decisions of the board are directed towards maximizing the value of shareholders ignoring other stakeholders of the company (Omware et. al, 2019). Secondly, the theory assumes that all managers are self-interested and that only monetary incentives can align the interests of both the managers and the principal. Lastly, the theory failed to determine the reaction of top managers subjected to pay-for-performance.

This theory emphasizes on matching the interest of agents and principals and secondly to provide a solution to the problem of conflicts of interest. In addition, it emphasizes on risk management by undertaking policies that ensure managers are focused on the profitability and the growth of the company (Omware et. al, 2019).This theory

contributes to the study by emphasizing that a positive relationship exist between risk management and performance of companies.

2.3.2 Credit risk theory

Credit risk theory was developed by Anderson, Salas and Saurina in 2002. According to this theory, credit risk refers to the risk that occurs when a lender is unable to repay the principle and the interest on debt (Taiwo et. al, 2017). Risk of default may arise as a result of insolvency. Credit risk can be mitigated by companies to reduce the cost associated with it (Taiwo et. al, 2017). The lender can perform an analysis of the borrower's credit worthiness before issue of any credit. This gives the lender an opportunity to reduce the risk of default by issuing loans on credit worthy customers alone (Taiwo et. al, 2017). Internal ratings may be used to estimate the probability of default, loss given default and exposure at default (Choudhry,2018).When developing credit risk management models companies should take into consideration potential future exposure (Choudhry,2018). In a situation where the lender determines that a borrower has a higher risk of default a corresponding higher interest rate is charged (Owojori et. al, 2011). Secondly, the lender can advise the borrower to undertake insurance coverage, pledge assets to act as securities in case of default or seek guarantees of third parties. This improves the ability of the customer to pay the obligations in the case of lack of cash to repay (Taiwo et. al, 2017).

Credit risk can be mitigated by companies to reduce the cost associated with it (Taiwo et. al, 2017). Credit risk management enables a company to reduce the risk of default associated with risky customers. This results to less provision for losses. Therefore, this theory contributes to the study by emphasizing that a positive relationship exists between credit risk management and performance of companies.

2.3.3 Liquidity preference theory

This theory was developed by Keynes in 1936. In this theory he outlined the three main factors that influence the need to hold cash. These factors are speculative, precautionary and transaction motives. The transaction motives argues that individuals hold liquidity to deal with day to day transactions. Precautionary motives indicate that more liquidity is needed to meet unexpected demand. On the other hand, speculative motives allow companies to hold more capital with an aim of investing in better opportunities when they arise (Dassie, 2018).The aggregate demand for liquidity is formed by the three factors. Liquidity preference is defined as the amount of cash a

company would be required to hold at a given point in time (Dassie, 2018). According to Dassie (2018), the rate of interest is the payment made for releasing cash. A higher interest rate is charged on medium and long-term securities since the liquidity of a company is at risk compared to short term securities (Chen, 2019). Investors prefer cash and other liquid assets which can be easily converted to cash (Chen, 2019).

According to this theory, holding enough liquid assets enables the company meet its transactive, precautionary and speculative motives. A higher interest is charged on medium and long term securities to provide for the time the company gives out its cash. Holding enough cash ensures there is smooth running of operations since the companies is able to meet unexpected expenses and there are enough resources to meet every day obligations. In addition, the company is able to invest in high profitable opportunities as there is enough liquid resources held. This theory contributes to the study by emphasizing that a positive relationship exist between liquidity risk management and performance of companies. According to Dassie (2018), interest rate proposed by liquidity preference theory lacks consistency. He further explains that the concept of exchange relations is disregarded in the concept of interest rates and the demand for money.

2.4 Empirical review

2.4.1 Relationship between a successful enterprise risk management system and firms performance

The enterprise risk management system was developed by COSO to enable a company to identify any potential risk and managing risks to an acceptable level (Laisasikorn & Nopadol, 2019). When risks are managed successfully, the organization is able to achieve its objectives and goals. A successful ERM enables company to undertake preventive measures which prevents the company from experiencing unexpected and costly failures arising from disasters and inefficiencies in operation. This improves the earnings of a company by reducing the costs (Kenton, 2019). Moreover, it assists a company in detecting risk arising from exchange rate fluctuations, interest rates and losses such as cyber-attacks which may ruin the information technology of a company. Companies are able to obtain this information and make sure they retain enough liquidity to avoid selling the assets at prices affected by the above factors (Kenton, 2019).

A successful ERM must consider four main factors (Laisasikorn & Nopadol, 2019). The first factor is the culture of the organization. Culture is also defined as the internal environment. For the ERM to be successful the environment should be favorable by ensuring there is support from the top management. Managers should be in a position to formulate the risk management policy and communicate it to the employees to ensure that they are also aware of relevance of risk management (Laisasikorn & Nopadol, 2019). The second factor is the process.

ERMS must be regularly checked and improved to ensure they remain viable. The process is developed in seven steps: setting objectives; identify events; performing a risk assessment; responding to risk; activities for risk control; communication to employees and monitoring (Laisasikorn & Nopadol, 2019).

In addition, a structure has to be designed in coming up with a successful ERMS. All employees should be involved to ensure they participate in coming up with new ideas for an efficient system (Laisasikorn & Nopadol, 2019). Lastly, the company has to ensure that it has competent employees, a proper system for evaluating performance, proper training is offered to employees and there is efficient communication between the top managers and the employees (Laisasikorn & Nopadol, 2019). In conclusion, every company must design a system that is efficient to properly manage risk and actively involve employees to ensure that they are motivated and willing to support the process (Laisasikorn & Nopadol, 2019).

2.4.2 Financial risk management and firm's performance

Financial risk management refers to the process of identifying and coming up with methods of eliminating uncertainties in investments (Kenton, 2020). The process improves the performance of a company by reducing the cost relating to the volatility of cash flows. In a study done on banks, it was concluded that risk management enables a company to reduce the level of risk exposure and improve on its competitive advantage. Successful risk management increases the level of profit while failure to mitigate risk leads to high cost and low profitability (Obwogi & Lelgo, 2018). According to Gizycki (2001), an efficient risk management system enables a company to improve performance by reducing the challenges faced in planning, operating and control of the business. In addition, it enhances better management of funds (Sathyamoorthi et. al, 2019). However, other researchers conclude that risk management could negatively affect performance. This could be contributed by the tightening of risk management practices (Sathyamoorthi et. al, 2019).

The macro environmental factors are very vital when it comes to risk management. This is due to the fact that companies are not able to control them and they can adversely affect the performance of companies in different ways (Wanyama, 2016)). Examples of these factors include: expected levels of inflation, general economic conditions, monetary policies, the state of the central bank and the exchange rates (Wanyama, 2016). Market interest rates are determined by these factors. When there is a high interest rate, the performance of the company is affected as the cost of interest repayment increases (Wanyama, 2016). Therefore, companies are required to incorporate financial risk management strategies to reduce the level of exposure to such risks (Wanyama, 2016). Interest rate swaps are a better hedging strategy which enable a company to change the payment dates and the pricing intervals (Wanyama, 2016).

In Kenya, the Nairobi stock exchange was developed in 1990 with an aim of supporting trade, clearing settlement of equity, debt derivatives and other associated instruments. It is entitled to listing and facilitating trading of company securities (Wanyama, 2016). All the transactions of the NSE are regulated by the capital markets authority ensuring that securities are traded fairly. Companies whose securities are traded in the stock exchange are able to obtain high capital improving their liquidity position (Wanyama, 2016).

2.4.3 Operational risk management and firm's performance

Internal controls refers to procedures applied by companies to enhance the integrity of financial and accounting information, promote accountability and prevent fraud. It provides assurance of efficiency in operations of a company by providing timely and accurate information (Gakure et. al, 2015). Preventive measures enables a company to predict problems, find ways of adjusting and prevent errors from occurring. On the other hand, detective measures ensure that the system is able to detect any error such as misstatements contained in financial information. Lastly, the corrective measures helps in correcting errors thus improving the efficiency of the system (Gakure et. al, 2015). The performance of managers is evaluated to determine whether they undertake activities that will improve revenue generation. Controls such as; review of the reliability of financial and accounting information, compliance with rules and an evaluation of effectiveness in achieving objectives of the organization ensures higher revenue generation (Gakure et. al, 2015).

Corporate governance refers to the process by which the activities of a company are managed and controlled to ensure that the interests of all stakeholders are equally represented (Chen, 2020). A well-established corporate governance ensures that there is reliability and transparency in the operations and decisions of the top managers. The role of corporate governance in a company is to promote accountability and implementation of mechanisms that promote good behavior (Awino, 2011). Rules contained in corporate governance ensures that the top managers entrusted with the decision making process undertake activities associated with the wellbeing of all the stakeholders. Factors such as management quality are key in determining the level of performance of companies. If the management comprise of high skilled managers, then better investment decisions will be made improving the performance of the company (Al-Tamimi, 2010).

Interest refers to the amount charged on the use of an asset (Banton, 2020). Usually assets with higher risk will be offered at high interest compared to those with low interest. Changes in interest rates can affect the demand patterns of a company's product consequently affecting the cash flows of the company (Wanyama, 2016). In addition, a higher interest rates increases the finance cost of a company. When the finance cost is higher, the level of earnings decreases. Interest risk management by use of swap options enable companies to convert fixed rate

cash flows to floating rate cash flows (Wanyama, 2016). Moreover, companies that undertake interest rate risk management are able to reduce their level of financial distress associated with high cost of debt (Wanyama, 2016). A company's cost of debt is therefore low and this gives it an opportunity to obtain more capital for growth at a lower rate.

2.4.4 Liquidity risk management and firms' performance

Liquidity risk management refers to the techniques applied by companies to ensure that they are able to meet its financial obligations when they fall due (Sean Ross, 2019). A moderate liquidity is better than an abundance of liquidity (Omondi, 2013). Excess liquidity results to lower profitability and increase in speculation. On the other hand, lower liquidity means that the company will not be able to meet its financial obligations when they fall due (Omondi, 2013). A company that undertakes liquidity risk management reduces the high cost of borrowing in the market when the company does not enough cash to meet its financial obligations (Omondi, 2013). As a result they are able to save on their profits leading to high retained earnings. In addition, the company is able to protect its assets from being sold at lower prices compared to their current prices in the market. Since liquidity risk leads to reduction in the performance of a company, its management will therefore improve profitability (Ejoh et. al, 2014).

Liquidity risk management in agriculture is very crucial as it involves a lot of uncertainty. Firms may have to include reserve for unknown emergencies when coming up with a budget. According to Patrick (2005), leasing of assets other than purchasing is a way of maintaining higher liquidity. In addition, companies can hire instead of purchasing a very expensive machine. This enables the company to preserve cash to meet other obligations instead of investing all the cash in one project (Patrick, 2005). Moreover, companies can engage in activities outside the farm whether they are related to agriculture or not to ensure they have a reserve which can be used to finance obligations in case the company cannot raise enough money (Patrick, 2005). Firms can also use the pacing investment method to ensure they do not run out of cash to meet other expenses. Pacing investments include postponing capital expenditure and replacement of durable assets of a company. A company that is able to preserve greater liquidity reduces risk of insolvency and also boosts the ability of the company to invest in profitable projects improving the performance (Patrick, 2005).

A firm that has problems with its liquidity prefers to hold cash other than taking the risk to invest (Arif & Anees, 2012). This is a situation where firms prefer to not invest in a business opportunity available with an aim of protecting its liquidity. When opportunities pass by without being invested on, the firm losses earnings that would

have been earned if it took the opportunity. Where a firm is located in a highly competitive environment, other firms gain competitive advantage since they are able to take up that opportunity.

2.4.5 Credit risk management and firm's performance

Firms that offer loans or products on credit are exposed to the risk of default. This is a situation where a borrower is unable to pay the principal and the interest (Kithinji, 2010). The company is forced to create a provision for the loss reducing the level of earnings of the company (Kithinji, 2010). A firm with high credit risk is exposed to high bankruptcy risk. A bank is highly exposed to bankruptcy as its main business is receiving money from depositors and lending loans. If a large number fails to repay their loan, the bank will not have enough funds to repay the depositors. The company's reputation is damaged and this results to low customer loyalty (Hamisu, 2011). Effective credit risk management enables the company to minimize the provision for bad debts resulting to higher profits (Kithinji, 2010). Moreover, the organization will be able to reduce the risk of bankruptcy and improve the level of customers' loyalty (Hamisu, 2011).

Agricultural investments are very risky as they are exposed to natural factors which are beyond human control (Wenner, 2010). Examples of these factors are drought, heavy rains which sweep away crops, strong winds and soil erosion. The results to variability in the profits of the companies. Mostly, agricultural firms have limited access to capital as investors are afraid the company may not be able to make profits (Wenner, 2010). In addition, agricultural firms located in Kenya have limited access to modern risk management strategies which exposes them to extreme financial risk. Most lenders prefer immovable loan securities to cover for default especially the land titles (Wenner, 2010). However, small and medium farmers may not have the land titles. Those that have the titles are not able to fully secure the loan as the value of the land may be less than the loan value (Wenner, 2010). Lenders usually offer loans at very high interest rates which becomes costly to the agricultural firms. To avoid the burden of the high cost of interest they prefer to use their savings which may not be enough hindering growth and high profitability (Wenner, 2010).

Farmers differ in terms of credit risk sensitivity due to factors such as use of crop insurance, forward contracting, choice of lender, financing instruments, income variability, asset structure and enterprise mix (Barry & Robinson, 2008). Farm businesses have a less complex capital structure compared to large corporate firms (Zhao et. al, 2008). In agricultural capital markets, information asymmetry prevents lenders from determining the right borrowers to offer credit to (Zhao et. al, 2008). Credit signaling refers to a situation where the lender prefers to give credit to high quality borrowers who have lower credit risk. Lenders analyze the credit worthiness of a

borrower by examining credible and meaningful signals. This reduces the risk of default thus reducing the level of provision to cover it (Zhao et. al, 2008).

2.5 Conceptual framework

The conceptual framework is a model that shows the relationship between the dependent and the independent variable (Grant & Osanloo, 2014). This paper aims at investigating the effects of financial risk management on the performance of agricultural firms listed at NSE. Various effects of financial risk management will be identified and their effects on performance. In this study, the independent variable will include; liquidity risk management, credit risk management and operational risk management while the dependent variable will be performance of the agricultural firms listed at NSE.

Independent variables **dependent variable**

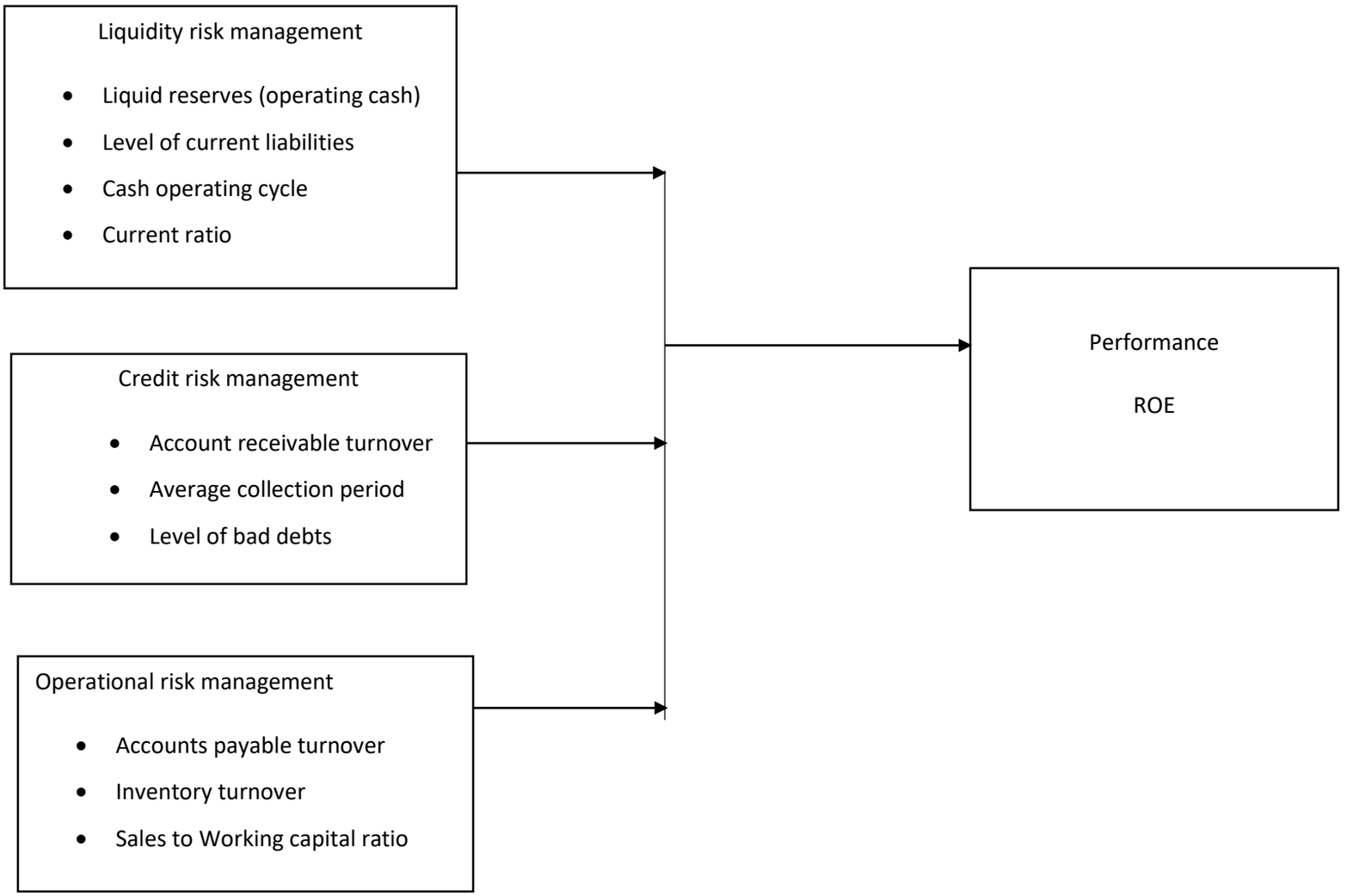


Figure 1: A model showing the relationship between financial risk management and firms' performance

2.6 Operationalization of variables

2.6.1 Credit risk management and firm's performance

This is risk associated with the borrower being unable to pay the principal and the interest. The company therefore is forced to create a provision for the loss reducing the level of earnings of the company (Kithinji, 2010). In addition, companies which solely relies in the business of receiving deposits and lending are highly exposed to such risks. This is due to the fact they become solvent and finally this may lead to liquidation. Effective credit risk management enables the company to minimize the provision for bad debts resulting to higher profits (Kithinji, 2010). Moreover the organization will be able to reduce the risk of bankruptcy and improve the level of customers' loyalty (Hamisu, 2011). Loss provision is a measure which is used to measure the level of credit risk management (Mudanya & Muturi, 2018).The level of non-performing loans is also a measure of credit risk in a company (Hosna et al., 2009). In this study, account receivable turnover ratio, average collection period and the level of bad debts were used to determine how efficient the credit policies of the agricultural companies are.

2.6.2 Liquidity risk management and firm's performance

Liquidity risk management refers to the techniques applied by companies to ensure that they are able to meet its financial obligations when they fall due (Sean Ross, 2019). A company that undertakes liquidity risk management reduces the high cost of borrowing in the market when the company does not enough cash to meet its financial obligations. As a result, they are able to save on their profits leading to high retained earnings. According to Arif, (2012), liquidity risk management enables a bank to reduce its dependence on the central bank in meeting the obligations of the customers. This is done by increasing the amount of deposits which increase profitability.

In a company a liquidity mismatch is a way of measuring the level of liquidity risk (Brunnermeir & Yogo, 2011). A liquidity match is the difference between the assets and liabilities of a company (Plochan, 2013). According to Dassie (2018) and Ibe (2013), liquid assets ratio can be used to measure liquidity risk management. In addition, the cash reserve ratio can be used to measure liquidity risk in companies. In this study, cash from operating activities, cash ratio, current liabilities and cash operating lifecycle were used to measure how well the company

is able to meet its obligations when they fall due. The level of current liabilities shed light on whether the company is holding a sustainable level of current liabilities or not. The cash operating cycle compares the number of days it takes to pay suppliers and the number of days to receive cash (Pwc, 2015). This enables a company to determine whether they will have enough money to pay the amount due on time.

2.6.3 Operational risk management and firm's performance

It ensures there efficiency in operations of a company by providing timely and accurate information (Gakure et. al, 2015). Preventive measures enables a company to predict problems, find ways of adjusting and prevent errors from occurring. On the other hand, detective measures ensures that the system is able to detect any error such as misstatements contained in financial information. Lastly, the corrective measures helps in correcting errors thus improving the efficiency of the system (Gakure et. al, 2015). Controls such as; review of the reliability of financial and accounting information, employees compliance with the rules and an evaluation of effectiveness in achieving objectives of the organization ensures higher revenue generation (Gakure et. al, 2015).

According to Tripe (2014), cost associated with operational risk can adversely affect the cost to income ratio of a company. Therefore the cost to income ratio can be used to determine how well the organization has taken care of production efficiency. In addition, a study done on the effects of financial risk on profitability of commercial banks used the cost income ratio to measure operational risk (Mudanya & Muturi, 2018).This study used the accounts payable turnover ratio, working capital ratio and inventory turnover ratio. The accounts payable turnover ratio was used to determine how well the company manages its own bills while the inventory turnover helps in determining how well the company is able to manage its inventory reducing the cost of overstocking. The sales to working capital ratio was be used to determine how well the company is utilizing the working capital to generate sales.

2.6.4 Performance

Performance of a company reflects a company's ability to undertake risks and expand on its activities. In most companies performance is measured in terms of the level of profitability (Ceylan, 2014). Some of the main indicators of profitability include: Return on assets (net income/total assets) and return on equity (net income/ average equity).The return on equity is a better measure compared to return on assets as it takes into consideration the risk associated with the assets of a company. This risks include the risk of the underlying transactions and growth of off-balance sheet activities (Hosna et. al, 2009). According to Imail (2016), a higher current ratio contributes to a higher performance in terms of returns on assets. Operating cash flow ratio is deemed to

significantly relate to return on equity and return on assets (Priya & Nimathalasan, 2013). In this study, the return on equity was used to measure the performance of companies.

2.7 Research gap

Generally, financial risk management has a positive impact on the performance of companies (Noor & Abdalla, 2014). According to Wenner (2010) and Kithinji (2010), there is a positive relationship between credit risk management and performance. This is evidenced by high profitability levels of companies and high growth rates (Wenner, 2010). According to Dassie (2018), there is a positive significant relationship between financial risk management and performance. There is a weak positive relationship between financial returns and liquidity (Dassie, 2018). Holding more current assets as compared to total assets leads to lower returns of companies with a significance of 5% (Shukla & Muchem, 2017). In other studies liquidity risk management exhibits a negative relationship with performance of companies (Mwangi, 2014). However according to Nyabateh (2013) and Dassie (2018), liquidity risk management depicts a positive relationship with performance of companies. Operational risk management exhibits a positive relationship with performance of companies (Maatwa, 2016). Due to the conflicting evidences, this study aimed at determining whether credit, liquidity and operational risk management will have a positive or negative effect on the performance of agricultural companies listed at NSE.

2.8 Research summary

Previous studies have been reviewed in this chapter regarding liquidity, credit risks, operational risks, foreign exchange risks and the different techniques used to mitigate them. Several theories have also been discussed to support the study. These include the agency theory and credit risk theory and the liquidity preference theory. The first theory aims at emphasizing on the need to undertake risks management to increase on the value of stakeholders. Based on the various study done, financial risks management is very important as it affects the performance of the company either positively or negatively. Liquidity preference theory emphasizes on the amount of liquidity that a company should have based on three assumptions whole credit risk theory directs on how a company can be able to reduce credit risk based on analysis of credit worthiness. Empirical review is discussed on the effects of financial risk management on the performance of companies. The conceptual framework is formulated showing the different measurements under liquidity, credit and operational risk management and the relationship between the independent and the dependent variable. Lastly, the research gap is formulated based on the conflicting evidences arising from previous studies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the logical path applied in conducting the study. The research design, population, the sample, data collection methods, data analysis and data presentation techniques that were applied are clearly explained.

3.2 Research design

A research design refers to the framework that guides the researcher during data collection, analysis and presentation (Akhtar, 2016). The different designs include exploratory, descriptive, explanatory and experimental. This study aim at determining the effects of financial risk management on agricultural firm's performance. A descriptive research design was adopted since the study aimed at finding facts about the effects of financial risk management on agricultural firm's performance.

3.3 Population

A population is defined as the entire group of people, objects or events (Kenton, 2020). Moreover, it is defined as the total number of characteristics within a group which researchers used to derive conclusions about the subject in the study. The main advantage of using the whole population is that the researcher gets the actual information required and that every characteristic is represented. The target population for this study is the five agricultural companies quoted at the NSE. In Kenya, the agricultural sector is one of the most crucial sectors of the economy as it contributes to a large percentage of exports (80%), employment (40%) and food security (FAO, 2011). Companies quoted at NSE have access to a wide source of capital and a regulated market. However, their performance is not as promising as it should be. The study therefore focused on the agricultural firms listed at NSE in order to determine the effects of financial risk management on their performance.

3.4 Sample design

A sample refers to a portion representing each characteristic of the total population. It is most appropriate when the population is too large and the researcher cannot be able to collect data for the whole group. In this study, the sample was selected from the whole population due to unavailability of financial statements relating to EAAGADS Public limited company. Convenience sampling method was used. In addition, biasness in the sampling process was reduced as the sample represents 83% of the population.

3.5 Data collection methods

Data collection methods are techniques applied in collecting and measuring data (Bhat, 2020). They are divided into primary and secondary data collection methods. In this study, secondary data collection methods was applied since the financial statements and other relevant published materials were available online. Depending on the study done, secondary data collection can be qualitative or quantitative. The study followed the quantitative method of secondary data collection since it involved an analysis of financial records contained in the financial statements and other relevant publications of the agricultural firms listed at NSE. Excel was used to extract relevant information which was used in the analysis model. Examples of data extracted include relevant ratios and the mean of data collected. Data on operating cash flows, level of current liabilities, credit sales, credit purchases, account receivables, current assets, accounts payables, inventory balances, level of bad debts and operating income of the agricultural companies for the period of ten years (2010-2019) was be collected.

3.6 Data analysis

Data analysis refers to the process of analyzing data and drawing conclusions out of that data. It enables a researcher to identify trends and other relevant information which is used in decision making (Frankenfield, 2019). The data collected was grouped accordingly and codes were be assigned to ensure that it is easier to analyze. Descriptive statistics was be used to identify the relationship between financial risk management and performance.

3.6 Data presentation

Data presentation is inform of tables. The tables have been arranged in a way that data can be compared across. This is performed after data has been clearly analyzed. A pie chart has been used to represent the collection rate.

3.7 Research validity

Information validity refers to the extent in which the data collected is relevant to the study (Essendi, 2013). In this study, knowledge from the accounting profession was applied to determine the relevant measures of performance, liquidity risk management, credit risk management and operational risk management. In addition, scholarly articles were used to derive information relevant to the study. According to Hox and Boeije (2005), the framework to evaluate the quality of secondary data collected include: the purpose of the study, sampling criteria, data collection details and the companies that were studied. In this study, the framework was applied together

with other criteria such as relevance, time, author, target and target audience. Guidance from the supervisor on the relevance of information used for the study, performance measures and the theories were sought.

3.8 Research Ethics

Ethics can be defined in many ways. According to Oliver (2010), ethics in research can be expressed in the way the researcher carries out his research. First, the sample must be a representation of the whole population. Secondly, the findings of the research must be explained clearly so that other people can be able to interpret. This study used information relevant to the topic to ensure that results reflects what the purpose of the study was. All information used is cited and referenced as a way of respecting other peoples' ideas. Company financial results was used for the right purpose and that is to calculate the ratios which act as the dependent and the independent variables. In addition, the study tried as much as possible to produce accurate results which can be used by other people in their studies. The findings have been expressed in a manner that the public can be able to understand.

CHAPTER FOUR

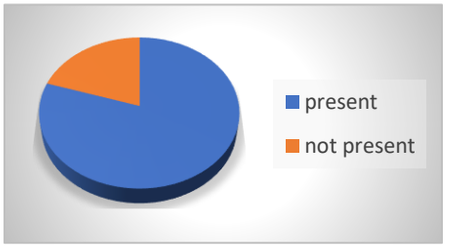
DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

The chapter highlights on the data collected during the research study. The findings of the study are presented in tables, charts and explanations are discussed. Descriptive statistics is used to indicate which methods are emphasized on in mitigating risk management and how well the company has been able to carry out risk management. To conclude the chapter, the effects of financial risk management have been discussed based on the results of the descriptive statistics.

4.2 Collection rate

The study targeted the six agricultural companies listed at NSE. However, information from only five companies was available. From the five companies, information for only two years were missing that is Kapchorua (2019) and Limuru (2014)**.** The rate is presented in the chart below.



(Author, 2020)

4.3 Descriptive statistics

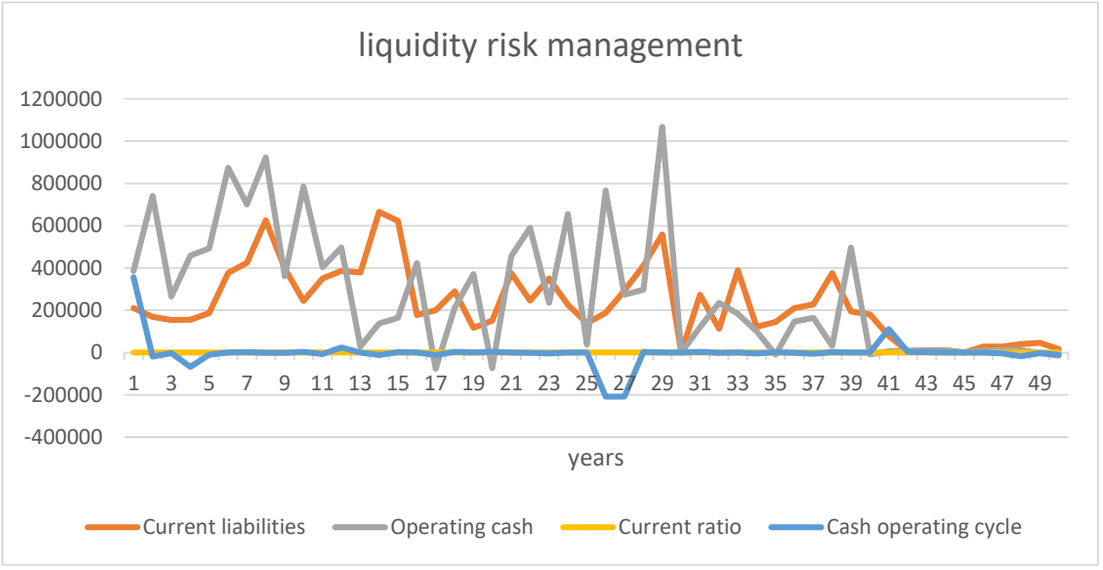
4.3.1 Liquidity risk management and performance

Kakuzi

Years	Current liabilities	Operating cash	Current ratio	Cash operating cycle
2010	210807	385805	2.933669	356565.4
2011	168588	741266	4.562614	-18792.8
2012	154459	264612	8.01166	-2941.02
2013	155617	458472	7.522668	-68173.1
2014	185857	492762	6.354805	-10296.2
2015	377646	873775	4.051607	366.5315
2016	425121	701637	4.820496	822.8351
2017	625336	923574	3.849457	-1746.82
2018	398347	361190	5.816195	-1087.64
2019	244099	785578	10.62282	2757.546
SASINI				
Years	**Current liabilities**	**Operating cash**	**Current ratio**	**Cash operating cycle**
2010	351076	404374	1.82027	-7707.68
2011	385755	497029	1.325305	24389.31
2012	378114	28446	1.396492	651.712
2013	666157	137112	1.13926	-12445
2014	623231	164150	1.230627	1634.524
2015	177972	422463	3.657828	212.3362
2016	200240	-76956	6.801733	-11150.7
2017	289487	212606	5.18873	2631.094
2018	116604	370996	13.09197	77.56785
2019	150969	-74290	8.829011	3010.202
WILLIAMSON				
Years	**Current liabilities**	**Operating cash**	**Current ratio**	**Cash operating cycle**
2010	376255	456667	2.611242376	-186.0517202
2011	245385	590563	5.861605233	-1459.346726
2012	350854	234560	3.813150199	-4631.308247
2013	226991	654572	0.703913371	-338.6404536
2014	138557	37659	10.18687749	188.9065799
2015	187647	766474	10.18687749	-208554.306
2016	293225	273484	6.685047319	-208554.306
2017	411664	297690	4.297657799	3054.076057
2018	558616	1067212	3.519720166	324.9585964
2019	-	-	-	-
KAPCHORUA				
Years	**Current liabilities**	**Operating cash**	**Current ratio**	**Cash operating cycle**
2010	274093	120219	2.101264899	3404.94786
2011	112743	234568	12.22123768	-1931.527208
2012	388985	182856	2.116629176	467.6809428
2013	121855	100550	5.101308933	-4234.735618
2014	144444	-10646	4.460302955	1138.61036
2015	210297	146829	4.219461048	-1276.907461
2016	227766	163896	3.462781978	-5972.916351
2017	375599	31361	2.919688285	1153.940349
2018	193329	496529	4.512458038	799.8993972
2019	180948	-9114	4.840771934	-84.17822088
LIMURU				
Years	**Current liabilities**	**Operating cash**	**Current ratio**	**Cash operating cycle**
2010	78031	6040	1.14348144	111055.021
2011	5487	8954	18.2868599	2815.4348
2012	10537	9875	12.4097941	1879.28253
2013	8221	11515	16.8692373	-632.32085
2014	-	-	-	-
2015	28187	9611	5.80285238	0.5079889
2016	27920	12238	5.16540115	-3907.2159

2017	39439	11732	3.55680925	-16967.637
2018	45550	2291	3.50210757	-2466.054
2019	16671	-1091	8.37472257	-10028.311

Table 2: Liquidity risk management measures



Key

1-10 represents (2010-2019) - Kakuzi

11-20(2010-2019)-Sasini

21-30(2010-2019)-Williamson

31-40(2010-2019)-Kapchorua

41-50(2010-2019)-Limuru

Figure 2: Liquidity risk management line graph

Throughout the years, the companies maintained a higher value of current assets compared to the current liabilities as indicated by the current ratios. The value are above 0. This is an indication that the companies' ability to pay their financial obligations is very high. From the line graph, a sustainable level of current liabilities have been maintained as indicated by higher operating cash compared to current liabilities. Generally, the companies are able to meet their financial obligation as the level of current assets, operating cash and current liabilities at an

advantageous position as observed from the trend. In all the five companies, there were years with a negative cash operating lifecycle. The cash operating lifecycle for Kakuzi was very high in 2010. This was attributed by higher payable days compared to the receivable and inventory days. This clearly showed that the company took a longer period to collect their debts and a shorter period in paying their financial obligations. This is risky for a business. However, the company maintained other sources to support during crisis including higher level of operating cash and current assets which can be sold off to pay the financial obligations.

4.3.2 Credit risk management

Kakuzi plc

Years	Level of bad debts	Receivable turnover	Collection period
2010	0	0.440153	829.2579
2011	0	-0.42246	-863.987
2012	0	0.377274	967.4658
2013	0	0.168481	2166.417
2014	0	-0.03152	-11580.9
2015	0	0.423049	862.7835
2016	0	0.280317	1302.098
2017	0	0.345031	1057.876
2018	4834	-0.59931	-609.032
2019	4934	0.300556	1214.414
SASINI			
Years	Level of bad debts	Receivable turnover	Collection period
2010	2494	-0.07873	-4635.96
2011	874	0.015534	23496.21
2012	8278	0.318959	1144.349
2013	707	-0.02682	-13611.2
2014	707	0.183614	1987.86
2015	0	-0.3586	-1017.84
2016	0	-0.04315	-8458.76
2017	13437	1.106436	329.8879
2018	106	-0.39223	-930.577
2019	66771	-0.50367	-724.68
WILLIAMSON			
Years	Level of bad debts	Receivable turnover	Collection period
2010	0	0.488322871	747.4562869
2011	0	-0.156919705	-2326.030372
2012	7158	0.189579112	1925.317592
2013	12792	-0.240517721	-1517.559697
2014	o	0.755373364	483.2047534
2015	4519	0.755373364	483.2047534
2016	838	-0.001805106	-202204.2345
2017	1326	0.185955993	1962.829993
2018	2367	0.350384015	1041.71419
2019	-	-	-

KAPCHORUA			
Years	Level of bad debts	Receivable turnover	Collection period
2010	0	-0.225196596	-1620.806025
2011	0	0.32312657	1129.588324
2012	0	-0.178900777	-2040.237089
2013	0	-0.110634451	-3299.153163
2014	369	0.267119615	1366.429045
2015	0	0.146847493	2485.571891
2016	957	-0.060487904	-6034.264286
2017	0	0.436992715	835.2541978
2018	0	-0.852890926	-427.9562475
2019	0	0.52059013	701.1273922
LIMURU			
Years	Level of bad debts	Receivable turnover	Collection period
2010	0	0.274583	1329.289
2011	0	0.056159	6499.38
2012	0	0.174393	2092.976
2013	0	-0.69029	-528.764
2014	0	0	0
2015	0	2	182.5
2016	0	-0.15102	-2416.89
2017	0	-0.02297	-15893.5
2018	0	0.106923	3413.68
2019	0	-0.06078	-6005.39

Table 3: Credit risk management measures

Key

1-10 represents (2010-2019) - Kakuzi

11-20(2010-2019)-Sasini

21-30(2010-2019)-Williamson

31-40(2010-2019)-Kapchorua

41-50(2010-2019)-Limuru

Figure 3: Credit risk management line graph

Kakuzi, Kapchorua and Limuru performed very well in terms of debt management as indicated by low levels of bad debts. However, Sasini had the highest level of bad debts which are incurred in 2019. The high levels of bad debts could be as a result of customers' bankruptcy .The receivable turnover for Limuru (2015) was 2. This indicates that the company is really doing well in terms of debt collection. This could be attributed by high level of credit sales for that year. The collection period for the companies was very high in almost all the years. Williamson has the lowest collection period among all the five companies. The collection period is at -200,000. This was attributed by high level of negative credit sales. From the trend above, the level of bad debts were low meaning the companies have installed effective measures in terms of debt recovery. However, the receivable turnover ratios were low for all the companies as indicated on the line graph. This means that the companies' could be selling products to non-credit worthy customers leading to high levels of average receivables due to the long period it takes for payment to take place. As the level of average receivables accumulate, the credit sales for the year becomes low compared to the average receivables.

4.3.3 Operational risk management

Kakuzi

Years	**Sales to working capital**	**Accounts payable turnover**	**Inventory turnover**
2010	5.185508	-0.00103	18.41118
2011	3.957387	0.020338	20.24211
2012	1.444849	0.092513	9.885918
2013	1.363865	0.005186	9.340278
2014	1.69802	-0.29206	10.44549
2015	2.15358	0.693468	12.13106
2016	1.632338	0.69833	8.407822
2017	1.584812	0.127541	6.388379
2018	1.643369	0.692577	7.540271
2019	1.229783	-0.00103	4.202823
SASINI			
Years	**Sales to working capital**	**Accounts payable turnover**	**Inventory turnover**
2010	1.96041	0.114408	3.076953
2011	21.24408	-0.42503	10.63046
2012	18.54257	0.690068	10.05601
2013	5.162252	-0.35528	2.627984
2014	19.21986	0.9896	23.54995
2015	5.890093	-0.30223	16.22918
2016	1.116011	0.132937	6.791385
2017	1.406545	-0.16088	11.24623
2018	0.763198	-0.37939	7.921973

2019	0.835929	0.114408	4.893149
WILLIAMSON			
Years	**Sales to working capital**	**Accounts payable turnover**	**Inventory turnover**
2010	5.418513851	0.36085699	4.681106253
2011	3.023901791	-0.434677386	13.52832494
2012	3.536639632	0.055426872	12.74990648
2013	-52.25618593	-0.3190379	10.47209297
2014	1.964171148	1.044610575	6.622596616
2015	1.964171148	0.056511844	3.356272534
2016	0.671319342	-0.385564871	3.356272534
2017	1.080162678	0.440526081	2.524500475
2018	0.867441153	0.083749699	3.264781585
2019	-	-	-
KAPCHORUA			
Years	**Sales to working capital**	**Accounts payable turnover**	**Inventory turnover**
2010	10.88262343	-0.073179582	9.599242303
2011	2.851445243	0.117457044	7.865784649
2012	3.115459351	-0.157479179	1.919523893
2013	2.386099467	0.349661364	3.370745142
2014	2.148651515	1.079215964	3.306464791
2015	1.785902816	0.094080916	3.115404346
2016	2.303504131	8.639790845	3.523358948
2017	1.982351709	-1.551527245	4.374711217
2018	2.092993255	-0.316420088	4.91080858
2019	1.632136177	-0.073179582	3.357728179
LIMURU			
Years	**Sales to working capital**	**Accounts payable turnover**	**Inventory turnover**
2010	11.06279	-0.00333	0
2011	1.080662	0.099078	0
2012	0.964957	1.707317	3977.368
2013	0.798645	3.514822	1261.634
2014	0	0	0
2015	0.903943	2	718.5196
2016	0.893524	0.244678	255.4785
2017	0.797021	0.338659	100.0635
2018	0.954348	0.06197	35.8542
2019	0.740573	-0.00333	16.87351

Table 4: Operational risk management measures

Key

1-10 represents (2010-2019) - Kakuzi

11-20(2010-2019)-Sasini

21-30(2010-2019)-Williamson

31-40(2010-2019)-Kapchorua

41-50(2010-2019)-Limuru

Figure 4: Operational risk management line graph

From the descriptive table, the sales to working capital ratios were quite high in the first three years. Sasini performed very well in 2011 and 2012 as evidenced by high sales to working capital ratios of 21.24 and 18.54 respectively. This showed that the company are really utilizing the working capital appropriately to generate sales. In 2013, the ratio was negative. This was attributed by a negative working capital where the current liabilities were higher compared to the current assets. This is an indication that the companies' working capital cannot be able to support the sales level. It was contributed by a higher level of credit purchases and lower average payables compared to other years. From the trend observed the companies' are taking too long to pay their obligations as

indicated by the low payable turnover ratios. From the line graph, Limuru Company had high inventory turnover ratios compared to the other companies. This was due to low average inventories and high cost of sales. The companies' inventory turnover ratios were very high indicating that they are quick in replacing inventories. Limuru public limited company appears to have higher account payable turnover ratios. This means that the companies' ability to pay their obligations is higher compared to the other companies.

4.4 Discussions of findings

Liquidity risk management has a positive effect on performance. This is indicated by current ratios which are above zero. This is a clear indication that the companies have maintained higher level of current assets compared to current liabilities. However, Williamson had a lower cash ratio of 0.703913371 in 2013. The operating cash of the companies are higher compared to the current liabilities indicating that the companies can be able to pay their obligations from the liquid cash they have. From the line graph, Kakuzi seemed to be performing very well in terms of liquidity compared to the other companies. This is evidenced by higher operating cash and low levels of current liabilities compared to the current assets. As the ability of the companies to pay their obligations on time rises, the supplier's willingness to offer goods on credit improves. A smooth production leads to high level of production hence high sales and increased income. In addition, liquid companies have enough cash to meet their obligations, hence assets are being protected from being sold at a lower prices reducing losses and protecting the income of the companies. The findings of the study are consistent with the findings of Nyabateh (2013) and Dassie (2018).

In addition, credit risk management depicted to have a positive effect on the performance of the companies. The results of this study are consistent with the findings of the studies by Wenner (2010) and Kithinji (2010). From the tables, the results showed that the higher the account receivable turnover ratio, the lower the collection period. Kakuzi, Kapchorua and Limuru public listed companies have seemed to be performing very well in dealing with debt collection. This is evidenced by low levels of bad debts compared to the other two companies. From the line graph, the three companies seemed to be performing very well as indicated by the low levels of bad debts and the collection period. However, the receivable turnover ratios are very low. This indicates that the companies were selling their products to non-credit worthy customers who are taking long to pay their debts. Though the receivable turnover ratios are low, the companies have put in place effective debt collection methods to ensure there are less or no provisions for bad debts. This is evidenced by low levels of bed debts. The amount of bad levels incurred

by the company affects the income of the company through the provision for bad debts. Low level of bad debts indicates low provision for debts and higher profits. Higher profits results to higher return on equity ratios.

The five companies performed well in terms sales to working capital ratios only in the first three years. Kakuzi maintained higher sales to working capital ratio. This means that the company had really utilized the sales to working capital ratios to generate sales. This in turn positively affects the return on equity ratios as the net income of the companies' are higher. The accounts payable turnover ratios for Limuru are higher compared to the other companies. This indicates that the companies are able to pay their obligations on time. When companies are able to pay their obligations on time, suppliers are ready to offer them credit purchases or goods at a discount rate hence ensuring that the operations of the company run smoothly hence higher level of sales leading to higher net income. This results to higher return on equity ratios. In addition, the inventory turnover ratios are high indicating that the inventories quickly sold off. Higher inventory turnover ratios means less perishing goods and low cost of storage. This reduces the cost of production hence higher profits. It leads to higher income and higher return on equity ratios. The findings are consistent with the results of the studies by (Maatwa, 2016).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives the findings summary, conclusions and recommendation of the research project. The study sought to find out the effects of financial risk management on performance of agricultural companies listed at the Nairobi Securities exchange.

5.2 Summary

From the results of the descriptive statistics, Liquidity risk management has a positive impact on the performance of the companies. The companies are able to pay their obligations without much struggle. This is indicated by current ratios which are above 0. The operating cash is higher compared to the current liabilities indicating that the company is able to use its cash in paying their obligations hence reducing the rate of running out of production materials. From the line graph, the companies were really doing well in terms of liquidity risk management. This was evidenced by higher operating cash, sustainable level of current liabilities and current ratios which are above zero. The higher the level of liquidity risk management, the higher the ability of the company to improve on their profits and increase the level of net income.

Credit risk management has a positive impact on performance. A higher receivable turnover ratio is better as it indicates that the customers are paying on time and that the company is doing well in terms of debt collection. From the descriptive statistics tables, the higher the receivable turnover ratios, the lower the collection period. Low collection period indicates that the risk of high level of bed debts is low. When customers pay their debt as early as possible, the company is able to obtain raw materials for production hence smooth production. In addition, companies are able to invest in high profitable projects which leads to a higher net income.

Operational risk management indicates a positive relationship with performance. As the level of working capital increases, the ability to generate sales from it increases. Kakuzi has maintained a higher sales to working capital ratios. The other four companies have indicated the low sales to working capital ratios. This could be attributed by higher level of liabilities resulting from credit purchases of production materials, inventory in the balance sheet and low sales generated by the companies. Limuru public limited company has maintained higher accounts payable turnover ratios. This indicated that its ability to pay its obligations is very high compared to the other four companies. In addition, it has maintained higher inventory turnover ratios. Higher inventory turnover ratios

reduces the cost of production through reduction of storage costs and perishable goods increasing the level of income.

5.3 Conclusion

The study has contributed to the continued discussion on the effects of financial risk management on performance by indicating the effects of liquidity, credit and operational risk management on performance of agricultural companies listed at the Nairobi Securities Exchange.

The study found out that liquidity risk management and credit risk management had a positive effect on performance of agricultural firms listed at the Nairobi Securities Exchange. In addition, the study established that operational risk management had a positive relationship with performance.

This study concluded that liquidity risk management has a positive effect on performance of companies. The results are consistent with the studies by Nyabateh (2013) and Dassie (2018). In addition, credit risk management has a positive effect on performance of companies. The results are in line with the studies by Wenner (2010) and Kithinji (2010). Moreover, the study concludes that operational risk management has a positive effect on performance. The findings are in line with the results of the study done by (Maatwa, 2016) which depicts a positive effect of operational risk management on performance.

5.4 Recommendation

The study recommends that agricultural companies should manage their liquidity through having enough operating cash, sustainable level of current liabilities and higher current assets which can be converted to cash in case the cash is not able to meet their obligations. This will help in reducing the cost incurred in raising capital through loans and selling assets at low prices to meet their obligations.

In addition, the study recommends that company manage their credit risks as they affect the earnings of the company through provision for bad debts, lack of enough cash to meet the companies' obligations at the required time. This could be done through effective methods of debt collection and issuing credit to credit-worthy customers.

This study also recommends that companies should take effective measures in controlling operational risks. This improves the profit levels due to maximum utilization of resources to generate sales, paying suppliers on time and reducing storage cost through maintaining high inventory turnover ratios.

5.5 Limitations of the study

The findings of the study can only apply to agricultural companies in Kenya as their performance is affected by weather conditions and government policies imposed by the government of Kenya. The study cannot be generalized as different countries have different weather patterns, interest rates, and government support and inflation rates.

The sample size of the study consisted of only five companies. This is a small sample and the results cannot be generalized to larger sample sizes as the results would be different.

5.6 Recommendation for further studies

The study only considered effects of some factors of financial risk management on performance. Further studies could be done considering factors such as market risk, interest rate risks, foreign exchange risks, commodity price risks. This could more reliable results as they would cover more aspects.

A similar study could be conducted on a larger sample size which may include companies not quoted at the Nairobi Securities Exchange. This could give more reliable results which may be used to compare the performance of quoted and unquoted companies. This could be used to determine whether the quoted companies are at an advantage in terms of raising capital and efficiency of operations compared to the unlisted companies.

The study used secondary data to conclude on the effects of financial risk management on performance of agricultural companies listed at the Nairobi Securities Exchange. A similar study could be done and primary data should be used in order to determine the exact value of some data such as the credit sales and credit purchases. This will offer more reliable results as they will be firsthand information. In addition, other criteria could be used to measure credit, liquidity and operational risk management which can only use secondary data. These may include effectiveness of credit policies.

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APPENDIX 1: Summary of secondary data from Annual reports and financial statements

YEARS	ACCOUNT RECEIVABLE	ACCOUNT PAYABLES	CREDIT SALES	CREDIT PURCHASES	CURRENT LIABILITIES	INVENTORY	OPERATING CASH	CURRENT ASSETS	LEVEL OF BAD DEBTS	EQUITY	NET INCOME
2010	24160	44784	11076	-169666	210807	41568	385805	618438	0	1882604	385379
2011	11520	60399	-12640	16276	168588	57844	741266	769202	0	2443795	644397
2012	19555	69187	8035	8788	154459	65428	264612	1237473	0	2797084	349566
2013	14997	54444	4558	500	155617	77365	458472	1170655	0	2899887	165028
2014	14299	33632	-698	-20812	185857	62122	492762	1181085	0	2980587	160205
2015	25807	31910	11508	34387	377646	83562	873775	1530073	0	3371756	459714
2016	38427	83268	12620	51358	425121	171112	701637	2049294	0	3842117	562425
2017	62461	42605	24034	13337	625336	146324	923574	2407204	0	481594	4322036
2018	95651	110312	-66096	67707	398347	169476	361190	2316864	4834	4665335	481594
2019	29555	73458	33190	-36854	244099	401693	785578	2593020	4934	5214184	713439

Table 5: Kakuzi PLC (Kakuzi PLC, 2010-2019)

YEARS	ACCOUNT RECEIVABLE	ACCOUNT PAYABLE	CREDIT SALES	CREDIT PURCHSES	CURRENT LIABILITIES	INVENTORY	OPERATING CASH	CURRENT ASSETS	LEVEL OF BAD DEBTS	EQUITY	NET INCOME
2010	76222	93478	-9771	14395	351076	85128	404374	639053	2494	2619695	993729
2011	78012	44327	1790	-49151	385755	127651	497029	511243	874	3003066	559130
2012	122846	53477	44474	49040	378114	116520	28446	528033	8278	2780348	851
2013	117970	29277	-4876	-24200	666157	49120	137112	758926	707	2708642	73962
2014	153746	115300	35776	86023	623231	78192	164150	766965	707	7426195	306181
2015	83619	69891	-70127	-45409	177972	96595	422463	650991	0	7818301	504204
2016	78321	84820	-5298	14929	200240	94723	-76956	1361979	0	8324049	805113
2017	369259	65875	290938	-18945	289487	73426	212606	1502070	13437	7064333	282139
2018	187628	34364	-181631	-31511	116604	79558	370996	1526576	106	7197797	448977
2019	74391	29468	-113237	-4896	150969	197073	-74290	1332907	66771	8518752	52762

Table 3: Sasini PLC (Sasini PLC, 2010-2019)

YEARS	ACCOUNT RECEIVSBLES	ACCOUNT PAYABLES	CREDIT SALES	CREDIT PURCHAES	CURRENT LIABILITIES	INVENTORY	OPERATING CASH	CURRENT ASSETS	LEVEL OF BAD DEBTS	EQUITY	NET INCOME
2010	82979	275	26831	-38	78031	0	6040	89227	0	119327	74840
2011	90171	318	7192	43	5487	0	8954	100340	0	149710	40484
2012	116012	3956	25841	3920	10537	36	9875	130762	0	242233	101834
2013	104102	184	-116012	14228	8221	59	11515	138682	0	260346	28513
2014	-	-	-	-	-	-	-	-	-	-	-
2015	154406	3202	154406	3202	28187	331	9611	163565	0	229868	2547
2016	121884	4541	-32522	1339	27920	431	12238	144218	0	205712	-19074
2017	117733	7318	-4151	2777	39439	1375	11732	140277	0	187778	-22134
2018	137682	8020	19949	702	45550	3656	2291	159521	0	193126	2548
2019	125500	16671	-12182	1476	16671	2918	-1091	139615	0	194026	1900

Table 6: Limuru plc. (Limuru PLC, 2010-2019)

YEARS	ACCOUNT RECEIVSBLES	ACCOUNT PAYABLES	CREDIT SALES	CREDIT PURCHAES	CURRENT LIABILITIES	INVENTORY	OPERATING CASH	CURRENT ASSETS	LEVEL OF BAD DEBTS	EQUITY	NET INCOME
2010	359863	59355	263594	32128	376255	133433	456667	982493	0	1951647	876055
2011	281321	27564	-78542	-31791	245385	137442	590563	1438350	0	2694999	854740
2012	369697	29921	88376	2357	350854	112743	234560	1337859	7158	3245939	855659
2013	250637	17572	-	-	226991	260198	654572	159782	12792	3748226	740721
2014	-	-	250637	17572	138557	199731	-	1802753	-	3644111	-227636
2015	304227	38426	304227	38426	187647	202907	37659	1911537	4519	3792125	738209
2016	303404	41778	-823	3352	293225	256255	766474	1960223	838	3349510	39911
2017	396709	21521	93305	-20257	411664	196313	273484	1769191	1326	6847357	294695
2018	649496	39759	252787	18238	558616	267080	297690	1966172	2367	3268362	-172362
2019	-	-	-	-	-	-	-	-	-	-	-

Table 7: Williamson tea company (Williamson PLC, 2010-2019)

YEARS	ACCOUNT RECEIVSBLES	ACCOUNT PAYABLES	CREDIT SALES	CREDIT PURCHAES	CURRENT LIABILITIES	INVENTORY	OPERATING CASH	CURRENT ASSETS	LEVEL OF BAD DEBTS	EQUITY	NET INCOME
2010	234269	25284	-113703	-26016	274093	113196	120219	575942	0	976397	187005
2011	369697	29921	-	-	112743	468983	234568	1377859	0	2694999	854740
2012	278634	23369	-91063	-6552	388985	193376	182856	823337	0	1284013	179718
2013	234818	35799	-43816	14430	121855	194936	100550	621620	0	1380665	125991
2014	343408	24418	108590	51811	144444	163340	-10646	644264	369	1427679	-22785
2015	425045	28034	81637	3616	210297	302941	146829	887340	0	1642441	234322
2016	387612	17753	-37433	318899	227766	138351	163896	788704	957	1415502	-51769
2017	712723	29644	325111	-50541	375599	169567	31361	1096632	0	1671619	166405
2018	73503	17496	-639220	-12148	193329	195099	496529	872389	0	1467714	-125665
2019	21190	44972	-628306	5213	362484	283447	1067212	1525356	1690	1426891	19437

Table 8: Kapchorua limited company

APPENDIX 2: List of agricultural companies listed at NSE

Kakuzi public limited company

Sasini public limited company

Eaagads public limited company

Kapchorua public limited company

Limuru tea public limited company

Williamson public limited company

APPENDIX 3: List of agricultural companies studied

Kakuzi public limited company

Sasini public limited company

Kapchorua public limited company

Limuru tea public limited company

Williamson public limited company