THE EXTENT TO WHICH FINANCIAL FACTORS AFFECT PROFITABILITY OF MANUFACTURING FIRMS LISTED IN THE NAIROBI STOCK EXCHANGE

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DECLARATION

This research project is my **ORIGINAL** work and has not been presented to any other institution of learning.

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DEDICATION

To my Lovely Wife Jennifer Muthini, and my two kids Chris and Emmy, Thank you all for your patience and understanding throughout these two years of my study. I may not be able to give back everything in return but I will do my best.

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ABSTRACT

Macroeconomic uncertainty, volatility and risk on manufacturing firms have adversely affected the profitability in developing countries and Kenya as well has not been spared. Various financial factors are said to influence profitability of manufacturing firms; fluctuation of exchange rate, interest rates and inflation affect the cost of production and the cost of raw material hence leading to low profits. This study sought to determine the financial factors that affect the profitability of manufacturing companies listed in the NSE in Kenya. The study specifically sought to determine the extent to which interest rate affects, tax regime/policy, exchange rates, inflation rates and cost of production affect the profitability in manufacturing companies listed in the NSE in Kenya.

This study was a descriptive research survey and it covered a period of the past 36 months. The target population was finance and procurement staff of 9 listed manufacturing firms at the NSE. Since the population was small and variable, no sampling was conducted. From a population of 9 manufacturing firms, a sample size of 9 respondents was chosen. Both primary and secondary data was used in this research. The primary data was collected using a questionnaire which had both open and closed ended questions. Secondary data was also collected from Management accounts of the companies and other parameters were collected from Kenya National Bureau of Statistics and Central Bank of Kenya records. The collected data was analyzed through descriptive and inferential statistics. Descriptive analysis included measures of association while regression analysis was used to examine the relationship between the independent and dependent variables. The analyzed data was presented in form of tables and charts for easy understanding and interpretation.

The study found out that Kenyan manufacturing firms are characterized with volatile business environment, high product market competition, inappropriate government policies, uncertainty and volatility of key macro economic factors which reduces profit margins and make future planning for firms very difficult or impossible. The study concludes that financial factors; exchange rates, tax regime, interest rates and inflation rates affects the profitability of manufacturing firms in Kenya. The study recommends that the government has to come up with strategies and policies to protect the manufacturing companies and give subsidies and incentives.
The government should also improve on its measures to curb counterfeits products that have brought an unfair competition to the local manufacturing firms.
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**ACRONYMS**

**COMESA** - Common Market for Eastern and Southern Africa

**EAC** – EAST Africa Community

**EU** - European Union

**GDP** - Gross Domestic Product

**KAM** - Kenya Association of Manufacturers

**MNCs** - Multinational Corporations

**NSE** - Nairobi Stock Exchange

**OECD** - Organisation for Economic Co-operation and Development

**UK** – United Kingdom

**UNCTAD** - United Nations Conference on Trade and Development

**USA** - United States of America
DEFINITIONS OF TERMS

**Emerging market economies** – is defined as an economy with low to middle per capita income. Such countries constitute approximately 80% of the global population, and represent about 20% of the world's economies (Agtmael, 1981).

**Globalisation** - is a process where an increased proportion of economic, social and cultural activity is carried out across national borders; and which has significant economic, business and social implications.

**Trade Liberalization** - The removal of or reduction in the trade practices that thwart free flow of goods and services from one nation to another. It includes dismantling of tariff (such as duties, surcharges, and export subsidies) as well as nontariff barriers (such as licensing regulations, quotas, and arbitrary standards).

**Macro-economic** - these are the factors which affect the wider economy; they summarize the picture of economy. For example, unemployment, inflation rates, GDP etc

**Volatility** - describes the speed and amount of price changes; it is the relative rate at which the price of a security moves up and down.
CHAPTER ONE

1.1 Introduction

Increased globalization, emerging markets and high competition has made the business environment to become turbulent and unpredictable. Macroeconomic uncertainty, volatility and risk on manufacturing firms are having an effect on their profitability and especially in developing countries. Financial factors such as hyper inflation/deflation, high interest rates and increasing exchange rates are some of the factors in the current business environment that are affecting the profitability of manufacturing firms. This section of the study will therefore look at these financial factors that have been causing fluctuations in the profitability of manufacturing companies in Kenya.

1.2 Background of the Study

Globalization and in particular the increasing role of emerging market economies in global trade have often been claimed to have various impacts, e.g. on labour market outcomes, inflation and markups in advanced economies. For instance, some sees the declining monopoly pricing power, which materializes in a reduction of markups, as one of the most important factors driving disinflation worldwide (Rogoff, 2003).

The determinants of firm-level profit variation, based on the nature of product market competition, economies of scale, and outside competitive forces, have long been an active topic of research (Porter, 1980; Slater and Olson, 2002). There is considerable work on the effects of macroeconomic uncertainty and volatility on firm profitability in developed countries. Jorion (1990), Amihud (1993), Bartov and Bodnar (1994), and Bartov, Bodnar and Kaul (1996) focusing on the US multinational firms, for example, find a negative effect of uncertainty and volatility on firm profitability.

Regarding volatility in global markets, there have been significant changes with major ramifications for firm profitability in developing countries. In particular, for a variety of reasons that are open to debate (including the role of goods and capital market openness, institutions, financial development, macro-economic factors etc.), macroeconomic volatility has been much
higher in developing countries than developed ones. In the case of growth volatility, while it declined in developed countries during the 1990s (McConnell and Perez-Quiros, 2000), Montiel and Serven (2004) report an increase in one third of 77 developing countries, with an overall volatility twice higher than the developed ones. Likewise, terms of trade volatility is found to be more than three times higher in developing countries (except in East Asia) during every decade since 1960 (Loayza et al., 2007). Furthermore, there is evidence that volatility has been on the rise during the 1980s and 1990s. Kose, Prasad and Terrones (2003) show an increase in consumption volatility in emerging markets during the 1990s.

The volatility of capital flows to developing countries is also found to be high, rising and unpredictable” during the 1990s compared to 70s and 80s (Gabriele, Boratav and Parikh, 2000, p.1051). The empirical evidence also shows an increase in the volatility of the earnings of firms in both developed and developing countries for the last three decades (Grabel, 1995; Comin and Mulani, 2006; Wei and Zhang, 2006).

Increasing exchange rate and capital flow volatility are also found to raise inflation uncertainty and encourage financial investments while discouraging fixed investments by manufacturing firms (Felix, 1998; UNCTAD, 2006; Demir, 2009a, 2009b). Furthermore, World Bank (2000) estimates that reducing consumption volatility may create welfare gains in the order of 4%-10% of consumption in 20 Latin American countries (with an overall mean of 20% and median of 7.7%) though such gains would be 1.2% on average in developed countries. In addition, despite comprehensive reform programs persistent capital market imperfections and high real interest rates in developing countries continue to hurt firms’ profitability. Moreover, despite large capital inflows, manufacturing firms continue to face strict credit rationing and are forced to finance their investments mostly from internal sources or short-term borrowing.

1.2.1 Kenya’s Manufacturing Sector
Manufacturing companies can be defined as firms that buy certain product as inputs and processes (transforms) these inputs to a value added final product for sale. Based on data from 2007 Kenya Association of Manufacturers (KAM), the manufacturing sector plays a significant role in the overall economic performance in the country contributing about 10% to the country’s GDP and contributing over 60% of government revenue through taxes with an output value
estimated at over Kshs. 502 billion in 2005. The sector like the rest of the economy stagnated in
the 90s had a low growth of 1.6% in 2001 but has experienced a recovery in the last few years
registering a growth of 4.9% in 2004, 5.8% in 2005 and 6.9% in 2006. This impressive growth
in the sector is closed aligned to the overall economic performance of 4.9% in 2004, 5.8% in
2005 and above 6% in 2006 thus creating some linkage on the impact of manufacturing to the
overall economic performance. KAM acknowledges that the growth in the sector has been driven
more by an increase in volumes supplied to the emerging markets of Southern Sudan, COMESA,
EAC and USA than efficiency and productivity improvements. In terms of external trade, the
manufacturing sector accounts for 34% of exports /foreign exchange earnings ahead of
horticulture, tea, coffee and tourism.

Despite recording significant presence in the early years of independence many MNCs moved
out of Kenya as government policy was not conducive to doing business here compared to other
friendly emerging markets especially the emergent Asian blocks. For fact, only 10% of the
current firms in the sector go back to 1960 and before, 45% were established between 1980 and
2000 and the rest after 2000. Most of the firms in the sector are very small in size, capital, and
turnover having an employee base of less than 50. In terms of ownership, 48% are privately
owned by Kenyan citizens, 46% privately owned through partnerships between Kenyans and non
Kenyans. The balance includes some of the few remaining foreign owned subsidiaries of MNCs
that are fairly large with Kenya as the regional base to serve the East African region. Local firms
are owned by indigenous Kenyans, Kenyans originating from other countries and majority being
Kenyans of Indian origin (Aosa, 1992). Despite the small number of firms, MNCs contribution
in the manufacturing industry is significant, employing 88 percent of total labour force in the
industry, with value added and value output of 74 percent and 88 percent respectively in
2005(Central Bureau of statistics 2006). This paper seeks to determine the financial factors
affecting Profitability in manufacturing company in Kenya, and specifically looking at NSE
listed manufacturing firms in Kenya.
1.3 Statement of the Problem

The aim of most companies is to create a sustainable business with profitable growth both now and in the future. Economic and financial conditions can materially affect the Company’s financial position and results of operations. A study investigating the impact of trade on prices, productivity and markups, using sectoral data for EU manufacturing sectors over the period 1988-2000, found that domestic openness acts to reduce profit margins, while the opposing is true of foreign openness (Chen et al., 2004, 2006). Furthermore, a study examined the determinants of price-cost margins for OECD countries in 1970-2003, finding an overall small and negative impact of trade on price-cost margins (Boulhol, 2005).

Manufacturing firms are viewed as an essential element of a healthy and vibrant economy. They are seen as vital to the promotion of an enterprise culture and to the creation of jobs within the economy (Opondo, 2004). Manufacturing firms are believed to provide an impetus to the economic progress of developing countries and its importance is gaining widespread recognition. Equally in Kenya they occupy a central place in the economy, accounting for 90% of business stock and employing approximately 25% of private sector employees (Wignaraja and O’Neil, 1999; CSO, 2003; NPF, 2004); hence their existence is vital and this can only be maintained through increased profits. Profitability always comes first in the minds of investors when they do consider investment decision. There have been documented determinants of a firm’s profitability and these include cost of capital, sources of funds, management style, availability of resources and the macro environment (Opondo, 2004).

Most manufacturing companies in Kenya and East Africa at large depend on the importation of their inputs that’s importation of raw materials, machinery, spare parts and sometimes specialized labour. This means that these companies rely heavily on the fluctuation of exchange rate, interest rates and inflation in the country. These companies cannot avoid the impact of fluctuating exchange rates as most of their inputs are imported which at the end of the day, the cost of production is affected that’s the cost of raw material will go up when the exchange rates goes up and that leads to high cost of sales leading to low profits. More so when the company
imports they need to borrow so that they can immediately pay for their imports and incase of fluctuating interest rates the profitability of the companies is affected.

Productivity growth in Kenyan manufacturing firms has been zero or negative over the last twelve years. Productivity declined by 0.5 per cent per year between 1991 and 1998. Regression analysis of recent firm data suggests that, between 1999/2000 and 2002/03, almost no productivity improvement is visible in the average firm. There has been virtually no change in labour productivity. Capital seems moderately more productive, but the increase is not statistically distinguishable from zero. Total factor productivity appears to have increased by 7% between 1999 and 2002, but again this estimate is not statistically different from zero; manufacturing currently accounts for only 14 percent of gross domestic product (GDP). On the other hand, the report revealed that inflation has been high and volatile, while the exchange rate has been similarly variable, and although it has been fairly stable against the US dollar in the last few years, has recently been in decline. The current account has more often than not been in deficit, but the magnitude has seldom been alarming (World Bank et al; 2004). It is against the above background that the study sought to determine the financial factors affecting profitability in NSE listed manufacturing company in Kenya.

1.4 Objective of the Study

1.4.1 General Objective
The main aim of the study was to determine the extent to which financial factors affecting profitability of manufacturing firms listed in the NSE in Kenya.

1.4.2 Specific Objectives
The specific objectives of the study were:

i. To determine the extent to which interest rate affects profitability of NSE listed manufacturing firms in Kenya.

ii. To establish the extent to which exchange rates affects profitability of NSE listed manufacturing firms in Kenya.
iii. To determine the extent to which inflation rates affects profitability of NSE listed manufacturing firms in Kenya.

iv. To establish the extent to which tax regime/policy affects profitability of NSE listed manufacturing firms in Kenya.

1.5 Research Questions

The study was guided by the following questions

i. To what extent does interest rate affect profitability of NSE listed manufacturing firms in Kenya?

ii. To what extent does exchange rates affect profitability of NSE listed manufacturing firms in Kenya?

iii. To what extent does inflation rates affect profitability of NSE listed manufacturing firms in Kenya?

iv. To what extent does tax regime affect profitability of NSE listed manufacturing firms in Kenya?

1.6 Significance

This study would be of significant to the following:

Management of Manufacturing Firms in Kenya

The study might help managers to indentify the financials factors that affect profitability and further know how each factor threatens profitability. This might help managers to design proper ways of managing or evading these threats to their capability and enable the firm maximize on their profits. Managers have a critical role to play in reconciling the shareholders objective of maximizing wealth therefore reducing agency conflict between them and the shareholders. The research would further help the manufacturing companies to know why their profitability keeps on changing.
Shareholders/ Investors
The study would be of importance to prospective shareholders/ investors since; proper management of these profit threatening financial factors is an indication to the investor that a firm is efficiently managed, hence gaining attraction from investors. This study could also guide prospective and current investors on the best companies to invest, since they would have information on properly managed companies which is a pointer to good returns. Just like the management, the existing investors could have an understanding why the profit keeps on changing year by year.

Researchers
The study is expected to increase the pool of knowledge by providing information on the financials factors affecting profitability of manufacturing companies. Further it will highlight the unresolved issues on the relationship between financial factors and profitability that require further research.

The Government
Manufacturing firms are viewed as an essential element of a vibrant economy hence the government should play a great role in the well being of manufacturing firms in Kenya. This study could help the government to indentify the actual financial factors that cause fluctuations in the firms’ profitability and further come up with strategies or policies to mitigate some threats such as inflation and increased exchange rates.

Potential Local and Foreign Investors
By local manufacturing companies performing well, most foreign and local investors could be attracted to invest in the industry and this would bring growth in GDP and thus loosen the hash economic conditions especially in the country.

1.7 Scope of the Study
The study sought to indentify the financial factors affecting profitability of manufacturing firms listed in the NSE, this study covered duration of 36 months. The study used both secondary and
primary data. The population was the manufacturing firms listed in the NSE. This targeted the management staff of NSE listed manufacturing firms in Kenya. Primary data was collected through questionnaires administered to the selected respondents while secondary data, that is, financial data was collected from monthly financial accounts for past thirty six months and interest rates were collected from Central Bank of Kenya for the same period. Regression analysis will be conducted to identify if the dependent variable and independent variables are positively related, negatively related or there is no relation at all between the variables.

1.8 Limitations of the Study

The researcher expected difficulties accessing information especially from from the senior management; some were suspicious of the researcher’s intentions and were not so cooperative, but the researcher assured confidentiality on information collected and no names were mentioned. The researcher also promised the respondents that the purpose of the research data was only be academic use only so as to improve co-operation from respondents and create confidence in them to give information more openly.

1.9 Assumptions of the Study

The study assumed that all the questionnaires would be returned and that the respondents would be sincere in their responses hence making the conclusions authentic and hopefully able to be applied by other manufacturing firms other than NSE listed manufacturing firms. The researcher also assumed that the population was representative of the whole population (other manufacturing firms) and that the questionnaire as an instrument for data collection was suitable to collect reliable data.

We assumed that all manufacturing companies are affected by the same financial factors as the way NSE listed manufacturing firms are affected. Thus NSE listed manufacturing firms represented true and fair picture of the whole manufacturing companies in Kenya and East Africa.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
This chapter was concerned with the review of literature related to the study. It covered the theoretical review, empirical review, the research gap and the conceptual framework. The literature touched on financial factors affecting profitability of manufacturing firms.

2.2 Theoretical Orientation

This section of the study dealt with the theoretical orientation. These theories explain the relationship between financial factors and profitability of manufacturing companies.

2.2.1 Physical Constraints and Policy Constraints

There are a number of constraint classifications, but in reality there are two main types; Physical Constraints and Policy Constraints

A physical constraint, might be a resource, either a person or a machine, or a material of some kind, time or quality, or supply issues. A policy constraint is almost everything else that is non-tangible. Be careful, don’t be mislead into believing that most constraints are physical – the bottlenecks that everyone seems to know about. Physical constraints merely become the expression of deeper underlying policy constraints. Goldratt considers that (2);

"We very rarely find a company with a real market constraint, but rather, with devastating marketing policy constraints. We very rarely find a true bottleneck on the shop floor, we usually find production policy constraints. We almost never find a vendor constraint, but we do find purchasing policy constraints. And in all cases the policies were very logical at the time they were instituted. Their original reasons have since long gone, but the old policies still remain with us."
If most constraints are, in reality, policy then this should be incredibly powerful. It means capacity in reality already exists, we are simply holding ourselves back based upon some internally held assumptions or convictions. It should be possible for an organization to change its own policies, and difficult for others to imitate. Such conditions give rise to powerful strategic advantages which we will address in the strategy section.

2.2.2 Transaction Cost Theory
Transaction cost theory tries to explain why companies exist, and why companies expand or source out activities to the external environment. The transaction cost theory supposes that companies try to minimize the costs of exchanging resources with the environment, and that companies try to minimize the bureaucratic costs of exchanges within the company. Companies are therefore weighing the costs of exchanging resources with the environment, against the bureaucratic costs of performing activities in-house. Ronald Coase (Coase, 1988) set out his transaction cost theory of the firm in 1937, making it one of the first (neo-classical) attempts to define the firm theoretically in relation to the market.

A firm’s interactions with the market may not be under its control (for instance because of sales taxes), but its internal allocation of resources is within a firm, market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur who directs production. Transaction cost theory concentrates on the relative efficiency of different exchange processes (Tirole, 1988). If for the firm-as-a-production-function view the internalization of one or more stages of production might generate technological economies (that is savings on the costs of physical inputs), for the firm-as-organization view it could lead also to transactional economies (that is savings on the costs of exchange inputs, when reduced amounts of resources are required to get the intermediate inputs). An intermediate step between pure market exchange and vertical integration is the use of short term and long term contracts.

The decision to enter durable contractual relationships by signing long term contracts and the alternative vertical integration strategy share the same motivation: the choice among these options is then a matter of degree. Unfortunately, this implies that it is difficult to distinguish between them empirically (Tirole, 1988). Following the transaction cost theory (Coase, 1937)
firms evaluate the relative costs of alternative governance structures (spot market transactions, short term contracts, long-term contracts, vertical integration) for managing transactions. Transaction costs could be defined as the costs of acquiring and handling the information about the quality of inputs, the relevant prices, the supplier’s reputation, and so on. The exchange relationship may be one-time, occasional or recurrent; a frequent transaction (especially in the presence of specific assets) is more likely to be internalized (Williamson, 1979), since expected damages from opportunistic behaviour are higher; As far as there is uncertainty, complete contracts cannot be foreseen and the firm making the specific investment is disadvantaged when future contingencies impose to re-negotiate the contract terms.

In assessing the developments of transaction cost theory and the contribution of the property rights theory in understanding firms’ boundaries, Bolton and Scharfstein (1998) recognize that Coase’s insights have been refined and extended to a great extent, but argue that the literature still fails to consider the principal agent relationship between shareholders (who formally own companies’ assets) and managers (who control their use). Transaction cost theory would predict opportunistic behaviour on the part of the auto makers. However, moral hazard problems are overcome in the presence of the repeated interactions between downstream and upstream firms, because a good reputation is required in order to obtain future gains.

2.3 Empirical Review

Collier and Gunning (1999a, b) in their two survey papers posed the question as to why success of manufacturing firms has been such a rarity in Africa. In their first paper they ask if macro and micro evidence give broadly similar answers to the question as to why Africa performed badly. In their second paper they consider whether it is policy or destiny, either internal or external, which the principle determinant of widespread failure in Africa is. Their answer in their first paper is that both macro and micro evidence point in the same direction - Africa suffers from low social capital, poor infrastructure and risk. Their second paper argues that it is policy not destiny that is the key to poor performance. Their analysis points to poor policy resulting in a nexus of constraints from which escape is difficult but not impossible.
Trade liberalization and macroeconomic stability are policies which have frequently been adopted at the same time as large nominal devaluations. In these areas of macroeconomic policy there have been divergent outcomes. Ghana is a good example of a country which has made substantial progress on trade liberalization but has had very much less success with macro stability. South Africa is a country which since 1994 has moved rapidly in both areas. In terms of export growth generally Ghana has been more successful than South Africa. In terms of manufacturing export growth South Africa has been the more successful economy of the two.

The second central area of policy failure, following the analysis of Collier and Gunning, has been that investment faces high risks in Africa. If there are substantial changes in the real exchange rate or the underlying rates of inflation this can make planning for firms very difficult or impossible. Another area of policy failure has been in the business environment. This is the issue which Collier (2000) has identified as the high transaction costs facing firms. Collier argues that manufactures are intensive users of services which are particularly expensive in Africa. Some of these costs are induced by inappropriate government policies; some are inherent in doing business in economies where the quality of the infrastructure services is often very poor. It needs to be noted that improving the business environment in Africa is essential for all sectors of the economy - not simply manufacturing. It is possible, as Collier argues that such improvements will disproportionately benefit the manufacturing sector.

Unlike the case in developing countries, there is growing research analyzing the determinants of firm-level profit variation in industrialized countries where one of the major issues has been the nature of product market competition and the role of concentration, economies of scale and the presence of outside competitive forces in the form of entry-exit barriers on firm profitability (Porter, 1980; Slater and Olson, 2002). As reviewed by Geroski (1990) and Goddard et al. (2005), a second issue that took considerable attention is the examination of the time-series behaviour of firm profitability using the so-called of persistence of profitability method. Accordingly, the central question is to what extent any divergence of a firm’s profitability rate from the market average is corrected through the presence of competitive forces.
In the case of developed countries, empirical evidence on the strength and duration of persistence of above the average profitability is presented by various papers including Godard et al. (2005) for four EU countries, McDonald (1999) for Australia, Goddard et al. (2006) for the UK, and by Mueller (1990)2, Ismail and Choi (1996), Waring (1996), McGahan and Porter (1999), and Gschwandtner (2005) for the USA. The overall findings of this literature suggest that there are differences between firms’ long-run equilibrium profit rates and changing degrees of yearly persistence, possibly reflecting the influence of both industry-level and firm-level factors.

The only research in this field that focused exclusively on developing country experiences are Glen et al. (2003) for a subset of emerging markets, Kambahampati and Mueller (1990) (ed) includes a collection of articles on persistence of profit analysis for USA, UK, Canada, Germany, France and Japan. Parikh (2003) for India, and Yurtoglu (2004) for Turkey. In particular, Glen et al. (2003) analyse the impact of competition in the product markets on firm profitability using the persistence of profitability methodology in the case of Brazil, India, Jordan, Korea, Malaysia, Mexico and Zimbabwe. Similarly, Kambhampati and Parikh (2003) and Yurtoglu (2004) conduct a similar analysis in the case of India and Turkey using panels of manufacturing firm data.

Regarding the changes in macroeconomic volatility following financial liberalization, there are contrasting findings in developed and developing countries. Accordingly, the existing empirical evidence shows a declining trend in macroeconomic volatility in developed countries. McConnell and Perez-Quiros (2000), for instance, found a declining GDP volatility in the US since mid 1980s. Similar results are reported for developing countries although with higher variance. Montiel and Serven (2004), for example, reported a decline in the standard deviation of per capita GDP growth from 4 percent in the 1970s and 1980s to about 3 percent in the 1990s, which even then remained well above the 1.5 percent in developed countries. Also, they reported that the reduction in volatility was not uniform and one third of 77 countries analyzed did actually see an increase in growth volatility in the 1990s relative to the 1980s. Among others, in Turkey the standard deviation of real GDP growth has steadily increased from 3.5 to 5.2 and 6.1 between 1980-89, 1990-1999, and 2000-2005 respectively. Also, Kose, Prasad, and Terrones (2003) found an increase in consumption volatility in emerging markets during the 1990s. In
contrast, there has been a general increase in the uncertainty and volatility of key macro prices as well as capital flows in developing countries in the post financial liberalization era that had a direct impact on firm profitability.

The determinants of firm-level profit variation, based on the nature of product market competition, economies of scale, and outside competitive forces in the form of entry-exit barriers, have long been an active topic of research (Porter, 1980; Slater and Olson, 2002). In this field, a major issue for both developed and developing countries has been the examination of time-series behavior of firm profitability using the persistence of profitability method, which suggest that there are differences between firms’ long-run equilibrium profit rates and changing degrees of strength and duration of yearly above the average profits reflecting the influence of both industry and firm level factors (Mueller, 1990; Waring, 1996; McGahan and Porter, 1999; Glen, Lee and Singh, 2001; Kambhampati and Parikh, 2003; Yurtoglu, 2004; Goddard, Tavakoli and Wilson, 2005). More recently, firm level heterogeneity in explaining profit variation through trade openness has also been at the center of a growing research along the lines of new trade theory (Melitz, 2003; Baldwin, 2005).

Likewise, there is considerable work on the effects of macroeconomic uncertainty and volatility on firm profitability in developed countries.1 Jorion (1990), Amihud (1993), Bartov and Bodnar (1994), and Bartov, Bodnar and Kaul (1996) focusing on the US multinational firms, for example, find a negative effect of uncertainty and volatility on firm profitability. On the theoretical front, Shapiro (1974) and Dumas (1978) show a negative effect of exchange rate uncertainty and volatility on firm profitability, while Baum, Caglayan and Barkoulas (2001) point out an indeterminate effect of volatility on profit growth rates.

Regarding volatility in global markets, there have been significant changes with major ramifications for firm profitability in developing countries. In particular, for a variety of reasons that are open to debate (including the role of goods and capital market openness, institutions, financial development, etc.), macroeconomic volatility has been much higher in developing countries than developed ones. In the case of growth volatility, while it declined in developed countries during the 1990s (McConnell and Perez-Quiros, 2000), Montiel and Serven (2004) report an increase in one third of 77 developing countries, with an overall volatility twice higher
than the developed ones. Likewise, terms of trade volatility is found to be more than three times higher in developing countries (except in East Asia) during every decade since 1960 (Loayza et al., 2007). Furthermore, there is evidence that volatility has been on the rise during the 1980s and 1990s. Kose, Prasad and Terrones (2003) show an increase in consumption volatility in emerging markets during the 1990s. The volatility of capital flows to developing countries is also found to be, high, rising and unpredictable” during the 1990s compared to 70s and 80s (Gabriele, Boratav and Parikh, 2000, p.1051).

2.3.1 Interest Rates and Profitability of Manufacturing Firms
Manufacturing companies in the developing countries have in the recent past gone through a lot of economic crisis, this includes: increasing prices of oil and raw materials, high interest rates, high advancement in innovation and technology as well as high customer expectation on the quality of products and services.

The empirical evidence also shows an increase in the volatility of stock markets and the earnings of firms in both developed and developing countries for the last three decades (Grabel, 1995; Comin and Mulani, 2006; Wei and Zhang, 2006). Increasing exchange rate and capital flow volatility are also found to raise inflation uncertainty and encourage financial investments while discouraging fixed investments by real sector firms (Felix, 1998; UNCTAD, 2006; Demir, 2009a, 2009b). Furthermore, World Bank (2000) estimates that reducing consumption volatility may create welfare gains in the order of 4%-10% of consumption in 20 Latin American countries (with an overall mean of 20% and median of 7.7%) though such gains would be 1.2% on average in developed countries. In addition, despite comprehensive reform programs persistent capital market imperfections and high real interest rates in developing countries continue to hurt firm profitability.

2.3.2 Exchange Rates and Profitability of Manufacturing Firms
A comparative study of firms across four African countries, but over a very short time period, found limited evidence that firms responded to real exchange rate changes (Bigsten et al.1999). Other evidence, based on macro data, suggests that changes in the real exchange rate can have a major impact on manufacturing exports from Africa, Sekkat and Varoudakis (2000). Macro
policy which changes the real exchange rate will benefit those firms which export; it will reduce the profitability of firms which are intensive users of imported inputs. So the effects of real exchange rate changes on exporting depend very much on the orientation of the sector. The limited response which has been observed in the micro data may reflect the short time period for which we have data. It may reflect the fact that firms remain oriented to the domestic market and import of much of their raw materials which will mean that real devaluation will adversely affect their profitability.

On policy failure, one has been macroeconomic policy. Overvalued exchange rates and constraints on imports can make exporting unprofitable for nearly all producers not only, or mainly, for manufacturing ones. A large real overvaluation is a common factor in the dramatic decline in exports volumes during the 1970s and early 1980s in Ghana, Uganda, Kenya and Tanzania. It was the reversal of these policies that was the key policy that enabled export volume growth to occur. The evidence seems clear that policies which avoid an overvaluation of the real exchange rate are a pre-condition for the growth of exports.

In terms of macro fluctuations, Calvo et al. (1993) concluded that foreign factors accounted for 30-60 per cent of the variance in real exchange rates and reserves in ten Latin American countries, which may help explain why Montiel and Serven (2004) found that developing countries faced much higher real exchange rate volatility than developed countries during the 1990s. Similarly, in the case of resource flows, Fernandez-Arias (1994) showed that external factors explained more than half of portfolio inflows to 13 developing countries during the 1990s.

2.3.3 Tax regime and profitability of Manufacturing Firms
In most countries, profit taxation is probably much more relevant nowadays than trade liberalisation when it comes to firm-level decisions about investment. Empirically, firms are quite heterogeneous with regard to fixed costs: the composition of assets (tangible versus intangible; machinery versus buildings; etc.) and the financing of investments. Then, even uniform changes in profit tax instruments cause heterogeneous responses of firm-level effective tax rates and, hence, after-tax profits. With similar profit margins, firms would then require pre-tax profits to differ as well. Governments change statutory profit tax rates and, by virtue of firms'
heterogeneity, they cause stark selection effects which are mainly related to heterogeneous fixed rather than variable costs.

The effects of corporate taxation on corporate income and fundamental value of the nonfinancial corporate sector were analyzed by Downs and Tehranian (1988). They focus on the Economic Recovery Act of 1981 and find that this act favored new capital, and the fundamental value of corporations suffered with an average 6.1 percent windfall loss. Collins and Kemsley (2000) extended Ohlson’s residual income model on an after tax basis, accounting for dividend taxes and capital gains, and found that dividend taxes were largely capitalized into share prices, and investors incurred additional taxes on capital gains in addition to dividend taxes. With accounting and capital structure decisions, Calegari (2000) investigated the effect of changes in tax accounting provisions on firm debt policy and on the magnitude of accounting accruals, and found that there were significant effects on both. From the viewpoint of investors, the effects of tax changes on investors’ portfolio decisions were investigated by Poterba (2001).

As to analyses on Japanese firms and the economy, Kubota, Saitou, and Takehara (2009) found a general equilibrium solution with corporate taxation and derived Tobin’s $q$ on an after tax basis. However, even though their model was multi-period, it was within a neo-classical framework, and firms and capital resolved every period. In another macroeconomic approach, Tajika and Yui (2000) analyzed the effects of corporate taxation by focusing on the optimal allocations of capital with tax neutrality in their infinite horizon model. However, their model was a certainty model.

### 2.3.4 Inflation Rates and Profitability of Manufacturing Firms

Inflation continues to be a fact of economic life in most countries. High inflation rates have seriously eroded monetary values in most developing countries over the past two decades, and have brought forth new patterns of economic behavior (Davidson & Weil, 1995). Inflation means rising prices and it shows the increase in cost of living. In economics, inflation is explained as rise in the general level of prices of goods and services in an economy over a period of time. With the rise in price levels a unit of currency will buy fewer goods and services. As a result, the purchasing power of money will be reduced with inflation. In other words the real value of money will be lost day by day along with inflation (Smith & Anderson, 1996).
A low inflation rate is beneficial to a country and zero or negative inflation is considered as bad. Also, a high inflation is harmful to an economy and it affects an economy in many ways. High inflation distorts consumer behavior. Because of the fear of price increases, people tend to purchase their requirements in advance as much as possible. This can destabilize markets creating unnecessary shortages. High inflation redistributes the income of people. The fixed income earners and those lacking bargaining power will become relatively worse off as their purchasing power falls. Trade unions may demand for higher wages at times of high inflation. If the claims are accepted by the employers, it may give rise to a wage-price spiral which may aggravate the inflation problem (Packer, 1997).

During a high inflation period, wide fluctuations in the inflation rate make it difficult for business organizations to predict the future and accurately calculate prices and returns from investments. Therefore, it can undermine business confidence. When inflation in a country is more than that in a competitive country, the exports from former country will be less attractive compared to the other country. This means there will be less sales for that country’s goods both at home and abroad and that will create a larger trade deficit. At the same time, high inflation in a country weakens its competitive position in the international market (Davidson & Weil, 1995).

2.3.5 Cost of Production and profitability of Manufacturing Firms
McGlaphren (2003) cites that production costs are expenses, such as materials and labor that a company incurs in the course of producing the product to sell to consumers. In general, the lower the production cost, the higher the profit, or the amount left over after subtracting expenses from sales revenue. However, low production costs do not necessarily guarantee a high profit. A business may have unsustainably high fixed costs, such as rent, or may cut production costs of producing an inferior product that nobody wants.

A firm maximizes profit by operating where marginal revenue equal marginal costs. A change in fixed costs has no effect on the profit maximizing output or price. The firm merely treats short term fixed costs as sunk costs and continues to operate as before. This can be confirmed graphically. Using the diagram illustrating the total cost–total revenue perspective, the firm maximizes profit at the point where the slopes of the total cost line and total revenue line are equal. An increase in fixed cost would cause the total cost curve to shift up by the amount of the
change. There would be no effect on the total revenue curve or the shape of the total cost curve. Consequently, the profit maximizing point would remain the same. This point can also be illustrated using the diagram for the marginal revenue–marginal cost perspective. A change in fixed cost would have no effect on the position or shape of these curves (Tajika and Yui 2000).

2.4 Conceptualization

Figure 2.1: Conceptual Framework

Independent Variables

- Interest rate
- Exchange Rates
- Inflation Rates
- Tax regime

Influences

Moderating factors
- Political Environment
- Management Decisions

Dependent Variable

Profitability

Source Author (2012)

The study will employ the regression model to establish the statistical relationship between the dependent and independent variables. The regression will take the following form:
\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \]

Where: \( Y \) = Profitability which is dependent variable.

\( \epsilon \) = error term-it represents the effects of the variables that were omitted from the equation, it’s also known as residual. When the actual \( Y \) differs from the \( Y \) in the model during an empirical test, then the error term will not be equal to 0, which means there are other factors that influence \( Y \).

\( \beta_0 \) - it’s a constant variable which does not change when other independent variables fluctuate.

\( X_1 \) - Interest rates- These are interest rates on bank loans for the past thirty six months collected from Central Bank of Kenya. The extent to which interest rates affect the profitability of manufacturing firms is explain by coefficient of determination \( \beta_1 \).

\( X_2 \) - Exchange Rates- These are exchange rates on imports for the past thirty six months, collected from Central Bank of Kenya for the same period. The extent to which exchange rates affect the profitability of manufacturing firms is explain by coefficient of determination \( \beta_2 \).

\( X_3 \) - Inflation Rates- Inflation rates used were collected from Central Bank of Kenya for the past thirty six months. The extent to which inflation rates affect the profitability of manufacturing firms is explain by coefficient of determination \( \beta_3 \).

\( X_4 \) - Tax regime- These include, corporate taxes, import taxes, VAT. The extent to which tax regime affect the profitability of manufacturing firms is explain by coefficient of determination \( \beta_4 \).
2.5 Research Gap

The literature reviewed shows that manufacturing firms in the emerging markets are affected by various factors. The determinants manufacturing firms profitability is mostly based on the nature of product market competition, economies of scale, and outside competitive forces in the form of entry-exit barriers among other factors. There is considerable work done by researchers on the effects of factors such as macroeconomic uncertainty and volatility on manufacturing firms profitability in developed countries; however very little research has been conducted in emerging markets for instance Africa where most manufacturing firms profitability and growth have been threatened by these factors. Moreover, there are contrasting findings in developed and developing countries in regard to the effect of various factors on profitability of manufacturing firms hence a need conduct a further research. It is from the above indentified gaps that the researcher seeks to conduct a study to determine the financial factors affecting profitability of manufacturing firms listed in the NSE in Kenya.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter outlines the general methodology used to conduct the study. It specifies the research design, target population, sampling design, data collection method and instruments, and data analysis and interpretation.

3.2 Research Design
The study used descriptive research design. Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research (Robson, 2002). In this study, the research problem was best studied through the use of a descriptive survey. Descriptive research portrays an accurate profile of persons, events, or situations (Saunders, Lewis and Thornhill, 2003). Descriptive research design was deemed fit for this study since it allowed the collection of data from a sizable population in a highly economical way. Therefore, the descriptive survey was deemed the best strategy to fulfill the objectives of this study. Generally this design deals with incidences of, distribution and relationships of variables.

3.3 Target Population
A population is defined as the total collection of elements about which we wish to make some inferences. A population element is the subject such as a person, an organization, customer database, or the amount of quantitative data on which the measurement is being taken (Cooper and Schindler, 2003). The target population was the staff of listed manufacturing firms at the NSE. There were 9 manufacturing firms listed at the NSE as shown below.
Table 3.1 Target Population

<table>
<thead>
<tr>
<th>NSE Listed Manufacturing Firms</th>
<th>Population (No. of staff)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.O.C Kenya Ltd</td>
<td>226</td>
</tr>
<tr>
<td>British American Tobacco Kenya Ltd</td>
<td>500</td>
</tr>
<tr>
<td>Carbacid Investments Ltd</td>
<td>69</td>
</tr>
<tr>
<td>East African Breweries Ltd</td>
<td>827</td>
</tr>
<tr>
<td>Mumias Sugar Co. Ltd</td>
<td>1,795</td>
</tr>
<tr>
<td>Unga Group Ltd</td>
<td>425</td>
</tr>
<tr>
<td>Eveready East Africa Ltd</td>
<td>205</td>
</tr>
<tr>
<td>Kenya Orchards Ltd</td>
<td>102</td>
</tr>
<tr>
<td>A.Baumann CO Ltd</td>
<td>100</td>
</tr>
</tbody>
</table>

3.4 Sampling Design

Cooper and Schindler (2003), state that the size of a sample should be a function of the variation in the population parameters under study and the estimating precision needed by the researcher. Sampling is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the large group from which they were selected (Mugenda and Mugenda 1999). The target population was staffs of all the 9 manufacturing firms listed at the NSE (see appendix III). Due to the nature of the study, the study considered the managers in specific departments and the actual targets will be Finance Officer, Senior Accountant and Risk management Officer in each of the 9 companies. Since the population was small and variable, no sampling was conducted. According to Cooper & Schindler (2007) when the population is small and variable, any sample we draw may not be representative of the population from which it is drawn; hence the whole population was considered for the study. From a population of 9 manufacturing firms, a sample size of 9 respondents was selected as shown in table 3.1 below.
Table 3.2: Sample Size

<table>
<thead>
<tr>
<th>Position</th>
<th>Population Frequency</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Officer</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Senior Accountant</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Risk management Officer</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

3.5 Data Collection Instruments

Primary data was used in this study. The data was collected using a questionnaire which had both open ended or closed questions. The questionnaires were divided into two parts. Part one of the questionnaire gathered bio-data of the respondents while second part obtained information on the employees’ opinions and perceptions in regard to the study. The questionnaires were administered by the researcher through direct interaction with the respondents to explain the motive of the study and for purposes of creating rapport that facilitated the carrying out of interviews with these respondents. However, incase collection of data through face to face proved difficult due to tight work schedules on the side of the respondents, the researcher used the drop and pick method. The researcher also sought help of research assistance to administer the questionnaires.

3.5.1 Reliability and Validity

Reliability is the consistency of a set of measurement items while validity indicates that the instrument is testing what it should (Cronbach, 1951). Reliability is the consistency of your measurement, or the degree to which an instrument measures the same way each time it is used under the same condition with the same subjects. In short, it is the probability of your measurement. A measure is considered reliable if a person’s score on the same test given twice is similar. It is important to remember that reliability is not measured, it is estimated. Reliability does not, however, imply validity because while a scale may be measuring something consistently, it may not necessarily be what it is supposed to be measuring. The researcher used the most common internal consistency measure known as Cronbach’s alpha (α). It indicates the extent to which a set of test items can be treated as measuring a single
latent variable (Cronbach, 1951). The recommended value of 0.7 was used as a cut-off of reliabilities.

Validity is the strength of our conclusions, inferences or propositions. More formally, Patton (2002) define it as the best available approximation to the truth or falsity of a given inference, proposition or conclusion.

3.5.2 Pilot Study
Cooper and Schindler (2003) indicated that a pilot test is conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection of a probability sample. According to Mugenda and Mugenda (2003), a pilot study is conducted when a questionnaire is given to just a few people with an intention of pre-testing the questions. Pilot test is an activity that assists the research in determining if there are flaws, limitations, or other weaknesses within the interview design and allows him or her to make necessary revisions prior to the implementation of the study (Ngechu, 2004). A pilot study was undertaken on at least (10) employees from the selected listed manufacturing firms to test the reliability and validity of the questionnaire. The purpose of a pilot test was to test the reliability and validity of the questionnaire and enabled the researcher to amend the questionnaire as appropriate so as to capture data accurately.

3.6 Data Analysis
The data collected, was first cleaned, sorted and coded using numerical numbers. Then, it was entered in the SPSS software, after which analysis was done. Descriptive statistics in the form of pie charts, contingency tables and bar graphs were used to describe the data. Measures of association were used to examine the relationship between the independent and dependent variables. The mean score for each attribute was calculated and the standard deviation used to interpret the respondents deviation from the mean. The results were presented on frequency distribution tables, pie charts and bar charts. Here the interest was focused on frequency of occurrence across attributes of measures. This was followed inferential analysis using regression analysis and Pearson correlation to examine the relationship between variables.
CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction
This chapter focuses on data analysis, interpretation and presentation of the data collected in the study. The purpose of the study was to determine the extent to which financial factors affect profitability of manufacturing firms listed in the NSE in Kenya. The findings from the data collected from the field were presented in form of tables and charts. The study had targeted a sample of 9 respondents one from each of the listed manufacturing firms of which 7 responses were obtained.

4.2 Background information
In this section, the research sought to find out the background information of the respondents that took part in the study; these include information such as gender, age, job category, level of education and years of service in their respective companies. The results are presents as below.

4.2.1 Gender of the Respondents

The study shows that, majority of the respondents who took part in the study were males representing 86% of the respondents while 14% were females.

4.2.2 Age of the Respondents
Figure 4.2 Age of the Respondents

Figure 4.2 above shows that majority of the respondents (57.1%) were between 36-45 years of age, 28.6% were between 25-35 years of age while 14.3% revealed that they were between 45-55 years of age.

4.2.3 Job Category

Table 4.1 Respondents Job Category

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance/Accounts</td>
<td>6</td>
<td>85.7</td>
</tr>
<tr>
<td>Procurement</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

On job category of the respondents, 85.7% of the respondents indicated that they were finance officers/ accountants while 14.3% were in the procurement department. The study targeted respondents in these departments since they well understood the area of study hence they were expected to give reliable and credible information.
4.2.4 Level of Education

![Education Level Graph]

**Figure 4.3 Level of Education**

Source: Author, 2012

On the level of education, the study established that 71% of the respondents were university undergraduates while 29% were university post graduates.

4.2.5 Years of Service

![Years of Service Graph]

**Figure 4.4 Years of Service**

Source: Author, 2012

The study established that majority of the respondents (71.4%) had worked in their respective manufacturing companies for 6-10 years while 14.3% of the respondents revealed that they had worked for less than 5 years and 11-15 years respectively.
4.3 Financial Factors and Profitability

In this section, the study sought to establish the extent to which various financial factors affect the profitability of manufacturing firms in Kenya.

4.3.1 Characteristics of Kenyan Manufacturing Firms Which Affects Their Profitability

Here, the study sought to establish the extent to which various characteristics of manufacturing firms in Kenya affect their profitability. A scale of 1-5 was used. The scores “Strongly disagree” and “Disagree” were represented by mean score, equivalent to 1 to 2.5 on the continuous Likert scale (1 ≤ Disagree ≤ 2.5). The scores of ‘Neutral’ were equivalent to 2.6 to 3.5 on the Likert scale (2.6 ≤ Neutral ≤ 3.5). The score of “Agree” and “Strongly agree” was equivalent to 3.6 to 5.0 on the Likert Scale (3.6 ≤ Agree ≤ 5.0).

Table 4.2 Characteristics of Kenyan Manufacturing Firms Which Affects Their Profitability

<table>
<thead>
<tr>
<th>Statements</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volatile business environment</td>
<td>7</td>
<td>4.43</td>
<td>0.787</td>
</tr>
<tr>
<td>High product market competition</td>
<td>7</td>
<td>4.29</td>
<td>0.756</td>
</tr>
<tr>
<td>Inappropriate government policies</td>
<td>7</td>
<td>4.14</td>
<td>1.069</td>
</tr>
<tr>
<td>Uncertainty and volatility of key macro prices</td>
<td>7</td>
<td>4.14</td>
<td>1.069</td>
</tr>
<tr>
<td>High transaction costs facing firms</td>
<td>7</td>
<td>4.00</td>
<td>1.000</td>
</tr>
<tr>
<td>Inflation rates that make planning for firms very difficult or impossible</td>
<td>7</td>
<td>4.00</td>
<td>0.577</td>
</tr>
<tr>
<td>Investments faces high risks</td>
<td>7</td>
<td>4.00</td>
<td>0.577</td>
</tr>
<tr>
<td>Substantial changes in the real exchange rates</td>
<td>7</td>
<td>3.71</td>
<td>0.756</td>
</tr>
<tr>
<td>Poor quality of the infrastructure services</td>
<td>7</td>
<td>3.43</td>
<td>0.787</td>
</tr>
</tbody>
</table>

Source: Author, 2012

Majority of the respondents agreed that manufacturing firms characteristics such as volatile business environment, high product market competition, inappropriate government policies, uncertainty and volatility of key macro prices, high transaction costs facing firms, inflation rates that make planning for firms very difficult or impossible, investments faces high risks and substantial changes in the real exchange rates affected their profitability to a very large extent; this is shown by means scores of 4.43, 4.29, 4.14, 4.14, 4.00, 4.00, 4.00, 3.71 respectively on the
continuous likert scale. However, the respondents were neutral on whether poor quality of the infrastructure services affects manufacturing firms profitability as shown by a mean score of 3.43 on the likert scale.

**Table 4.3 Other Challenges That Manufacturing Firms Encounter That Affect Their Profitability**

<table>
<thead>
<tr>
<th>Other Challenges</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High competition/ unfair competition</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td>High cost of equipments</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>High cost of labour</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td>Increase of counterfeit products</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Author, 2012

The respondents further revealed other challenges that manufacturing firms’ encounter that affect their profitability; according to most respondents, manufacturing firms encounter high and unfair competition, high cost of labour and increase of counterfeit products as revealed by 28.6% of the respondents respectively. Further, 14.3% indicated that high cost of equipments was another challenge that affects their profitability.

**4.3.2 Importation of Raw Materials/Productions Materials from Foreign Countries**

In this section, the study sought to find out whether the manufacturing firms under study imported any raw materials or productions materials from foreign countries with an aim to establish whether the exchange rates affects the price of those materials and subsequent profits.

![Figure 4.5 Importation of Raw Materials/Productions Materials from Foreign Countries](source: Author, 2012)
Majority of the respondents (85.7%) revealed that they do import either raw materials and/or productions materials from foreign countries; only 14.3% of the respondents that they didn’t import raw materials.

Majority of the respondents who revealed that they imported raw materials and/or productions materials further stated that exchange rates affects the product price and profitability in general. They explained that unpredictability and uncertainty in the fluctuation of exchange rates leads to high cost of raw materials and on equipments which further affects their profitability.

4.3.3 How Inflation Rates Affect the Profitability of the Manufacturing Firms

Table 4.4. Inflation Rates Affect the Profitability of the Manufacturing Firms

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced salaries hence low profit margins</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>With high inflation, prices of utilities goes up making production expensive thus reducing the profits</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>No response</td>
<td>5</td>
<td>71.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Author, 2012

On how the inflation affect the profitability of the manufacturing firms the respondents indicated that inflation reduced salaries hence low profit margins and that with high inflation, prices of utilities went up making production expensive thus reducing the profits; this is shown by 14.3% of the respondents respectively.

4.3.4 How interest rates affect the profitability in the Manufacturing Firms

On how the interest rates affect the profitability of the manufacturing firms, the respondents stated that the high interest rates of borrowings from the financial institutions led to high cost of borrowing which affect profitability. The respondents further stated that most of the foreign supplies are paid upfront and they make the company to borrow and with high interest hence the profit goes down.
4.3.5 How Tax Regime Impact on the Profitability of Manufacturing Firms

On how the tax regime affects the profitability of manufacturing firms, majority of the respondents indicated that high taxes levied led to high commodity prices. The respondents stated that high taxes were levied on imports and on inputs hence high production cost which further reduces the manufacturing firms profits.

4.3.6 Factors that has led to High Cost of Production in the Manufacturing Firms

The study also sought to find out the factors that lead to high cost of production in the manufacturing firms. The responses are as shown below:

Table 4.5 Factors that has Led to High Cost of Production in the Manufacturing Firms

<table>
<thead>
<tr>
<th>Factors</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Fuel cost</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>High cost of inputs</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>High taxation</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td>Inflation</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>High labour cost</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>Lack and low supply of raw materials</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7</td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Author, 2012

According to 28.6% of the respondents high taxation leads to high cost of production in the manufacturing firms. Further the respondents indicated that high Fuel cost, high cost of inputs, inflation, high labour cost, lack and low supply of raw materials also led to high cost of production as revealed by 14.3% of the respondents respectively.

4.3.7 Extent to which Financial Factors Affect the Profitability of Manufacturing Firms

In this section, the study sought to find out the extent to which financial factors: interest rates, exchange rates, inflation rates and tax regime affect profitability of manufacturing firms. A scale of 1-5 was used. The scores “No extent” and “Little extent” were represented by mean score, equivalent to 1 to 2.5 on the continuous Likert scale (1 ≤ Little extent ≤ 2.5). The scores of ‘Moderate extent’ were equivalent to 2.6 to 3.5 on the Likert scale (2.6 ≤ Moderate extent ≤ 3.5). The score of “Great extent” and “Very great extent” was equivalent to 3.6 to 5.0 on the Likert Scale (3.6 ≤ Great extent ≤ 5.0).
Table 4.6 Extent Financial Factors Affect the Profitability of Manufacturing Firms

<table>
<thead>
<tr>
<th>Factors</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exchange rates</td>
<td>7</td>
<td>4.71</td>
<td>0.488</td>
</tr>
<tr>
<td>Tax regime</td>
<td>7</td>
<td>4.57</td>
<td>0.787</td>
</tr>
<tr>
<td>Interest rates</td>
<td>7</td>
<td>4.57</td>
<td>0.535</td>
</tr>
<tr>
<td>Inflation rates</td>
<td>7</td>
<td>4.14</td>
<td>0.690</td>
</tr>
</tbody>
</table>

Source: Author, 2012

The study shows that the respondents agreed that all the four factors affected profitability of manufacturing firms to a great extent. The respondents ranked the factors as shown; exchange rates (4.71), tax regime (4.57), interest rates (4.57) and inflation rates (4.14). Further the respondents stated that other factors such as high labour turnout and lack of enough capital for expansion also affected profitability of manufacturing firms.
4.4 Regression Analysis

A multivariate regression model was applied to determine the relative relationship and significance of each of the four financial factors with respect to profitability of manufacturing firms registered in the NSE.

The regression model was as follows:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \]

Where:

\( Y = \) Profitability

\( \beta_0 = \) Constant Term

\( \beta_{1-4} = \) Beta coefficients

\( X_1 = \) Interest rates

\( X_2 = \) Exchange rates

\( X_3 = \) Inflation rates

\( X_4 = \) Tax regime

Table 4.7 Regression Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.875(a)</td>
<td>0.766</td>
<td>0.645</td>
<td>0.31207</td>
</tr>
</tbody>
</table>

\( a \) Predictors: (Constant), Interest rates, Exchange rates, Inflation rates, Tax regime

Source: Author, 2012

Adjusted \( R^2 \) is called the coefficient of determination and tells us how the profitability of manufacturing firms (Dependent variable) varied with the four financial factors interest rates, exchange rates, inflation rates, tax regime (independent variables). From the regression model summary above, the value of adjusted \( R^2 \) is 0.645. This implies that, there was a variation of 64.5% of profitability with interest rates, exchange rates, inflation rates, tax regime. This is to
say that the independent variables explained 64.5% of dependent variable (profitability); the remaining 35.5% is explained by other factors/variables not included in the study.

Table 4.8 ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>4</td>
<td>1.059</td>
<td>10.871</td>
<td>0.000(a)</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>3</td>
<td>0.097</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Interest rates, Exchange rates, Inflation rates, Tax regime

b Dependent Variable: Profitability

Source: Author, 2012

The study used ANOVA to establish the significance of the regression model from which an f-significance value of p<0.001 was established. This shows that the regression model has a less than 0.001 likelihood (probability) of giving a wrong prediction. Hence the regression model has a 99.9% confidence level.
Table 4.9 Coefficients Results

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>2.821</td>
<td>0.604</td>
<td>4.673</td>
<td>0.000</td>
</tr>
<tr>
<td>Interest rates</td>
<td>-0.157</td>
<td>0.110</td>
<td>1.424</td>
<td>0.015</td>
</tr>
<tr>
<td>Exchange rates</td>
<td>-0.332</td>
<td>0.067</td>
<td>4.946</td>
<td>0.000</td>
</tr>
<tr>
<td>Inflation rates</td>
<td>-0.284</td>
<td>0.072</td>
<td>-1.162</td>
<td>0.050</td>
</tr>
<tr>
<td>Tax regime</td>
<td>0.034</td>
<td>0.106</td>
<td>0.322</td>
<td>0.049</td>
</tr>
</tbody>
</table>

a Dependent Variable: Profitability

From the regression analysis, the following regression equation was established:

\[ Y = 2.821 - 0.157X_1 - 0.332X_2 - 0.284X_3 + 0.034X_4 \]

From the above regression model, holding all factors (Interest rates, Exchange rates, Inflation rates, Tax regime) constant profitability would be achieved at unit of 2.821. A unit increase in interest rates would cause a decrease in profitability in the manufacturing firms by a factor of 0.157, a unit increase in exchange rates would cause a decrease in profitability by a factor of 0.332, also a unit increase in inflation rates would cause a decrease in profitability by a factor of 0.284; however, a unit increase in tax regime would cause an increase in profitability by a factor of 0.034. In summary, the results depict that financial factors; interest rates, exchange rates and inflation rates would decrease profits in manufacturing firms. The study further shows that, there is a significant relationship between profitability and the financial factors studied as shown: interest rates p=0.015, exchange rates, p= 0.000<0.005, inflation rates p= 0.050 and tax regime p=0.049.

Source: Author, 2012
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This chapter is a synthesis of the entire report and contains summary of findings, conclusions arrived at and policy recommendations and recommendations for further study.

5.2 Summary of Findings

The study established that manufacturing firms characteristics such as volatile business environment, high product market competition, inappropriate government policies, uncertainty and volatility of key macro prices, high transaction costs facing firms, inflation rates that make planning for firms very difficult or impossible, investments faces high risks and substantial changes in the real exchange rates affected their profitability to a great extent; however, poor quality of the infrastructure services was found to affect manufacturing firms profitability to a moderate extent. The respondents further revealed that other challenges such as high and unfair competition, high cost of labour and increase of counterfeit products, high cost of equipments affects manufacturing firms’ profitability.

The study also found out that majority of the manufacturing firms imports either raw materials and/or productions materials from foreign countries. According to respondents, exchange rates affect the product price and profitability in general. They explained that unpredictability and uncertainty in the fluctuation of exchange rates leads to high cost of raw materials and on equipments which further affects their profitability.

On how the inflation affect the profitability of the manufacturing firms the respondents indicated that inflation reduced spending powers and volume of basket hence low profit margins and that with high inflation, prices of utilities went up making production expensive thus reducing the profits. On how the interest rates affect the profitability of the manufacturing firms, the respondents stated that the high interest rates of borrowings from the financial institutions led to high cost of borrowing which affect profitability. The respondents further stated that most of the
foreign supplies are paid upfront and they force companies to borrow and with high interest hence the profit goes down. On how the tax regime affects the profitability of manufacturing firms, majority of the respondents indicated that high taxes levied led to high commodity prices. High taxes are levied on imports and on inputs hence high production cost which further reduces the manufacturing firms’ profits. On the factors that lead to high cost of production in the manufacturing firms, most respondents indicated that high taxation, high Fuel cost, high cost of inputs, inflation, high labour cost, lack and low supply of raw materials led to high cost of production.

On the extent to which the financial factors affected profitability of manufacturing firms the respondents revealed that all the four factors; exchange rates, tax regime, interest rates and inflation rates affected firms’ profitability to a great extent. The respondents further indentified high labour turnover and lack of enough capital for expansion as other factors that affect profitability of manufacturing firms.

5.3 Conclusions
The study concludes that manufacturing firms are exposed to a turbulent business environment that makes planning for firms very difficult or impossible. The firms are characterized by volatile business environment, high product market competition, inappropriate government policies, uncertainty and volatility of key macro prices, high transaction costs and high risks on investments.

The study also concludes that financial factors; exchange rates, tax regime, interest rates and inflation rates affects the profitability of manufacturing firms in Kenya. From the findings it is apparent that exchange rates are volatile and unpredictable while the high interest rates has led to high cost of borrowings from financial institution hence reducing firms profits. On the other hand, inflation was found to have an impact on prices of inputs making production costs go up while high taxes levied on imports and on inputs leads to high production cost thus low profit margins. The regression analysis also confirms this as it shows that there was a significant relationship between the financial factors; exchange rates, tax regime, interest rates and inflation rates of manufacturing firms.
5.4 Recommendations of the Study

The following recommendations were made based on the findings and conclusions of the study:

The study recommends that the government has to come up with strategies and policies to protect the manufacturing companies in Kenya since they largely contribute to the country’s national growth. The government should give subsidies and incentives to the manufacturing firms and especially those that manufacturer products essential to the citizens.

The tax regime should favour local manufacturing firms so that they can get profits to repatriate back for expansion and more investments. Also, through the agencies such as Central bank, the government should try and control the volatile macro-economic factors such as inflation rates and others that affect manufacturing firms’ costs of production. Moreover, the government should improve on its measures to curb counterfeits products that have brought an unhealthier competition to manufacturing firms, who are already struggling to reduce the high production costs experienced due to high cost of inputs and labour.
REFERENCES


Appendix I: Introduction Letter

Kenyatta University
Faculty of Accounting and Finance
School of Business Department
Nairobi

Dear Respondents,
I am a Masters of Business Administration student at Kenyatta University. I am conducting a Research Study to determine the financial factors affecting profitability of NSE listed manufacturing firms in Kenya. You have been selected to take part in this study. I would be grateful if you would assist me by responding to all items in the attached questionnaire.

Your name does not need to appear anywhere in this guide. The information will be kept confidential and will be used for academic research purpose only. Your cooperation will be greatly appreciated.

Thanks in advance.

Yours Sincerely,

Stanley Nandwa Amariati
Appendix II: Questionnaire

Please fill in all parts as sincerely as possible by putting a tick on one of the options given, where applicable. For those that require your opinion, please use the space provided.

SECTION A: Demographic Questions

1. Name of your organization …………………………………………………………………

2. Gender: Male [ ] Female [ ]

3. Indicate your age bracket. (tick)
   a) 25-35 yrs [ ] b) 36-45 yrs [ ] c) 46-55 yrs [ ]
   Above 55 years [ ]

4. Please indicate your job category
   Finance / Accounts [ ] Procurement [ ]
   Risk manager [ ] Factory Operations [ ]
   b). Any other (specify)………………………………………………………………

5. What is your highest level of education?
   a. Tertiary college [ ]
   b. University graduate [ ]
   c. University postgraduate [ ]
   d. Other (please specify )____________________

6. Years of service/working period (Tick as applicable)
   0-5 yrs [ ] 6-10 yrs [ ]
   11-15 yrs [ ] Above 15 yrs [ ]
Section B: Financial Factors Affecting Profitability

7. To what extent do you agree with the following statements on characteristics of manufacturing firms which affects their profitability? Use a scale of 1-5, where 1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment faces high risks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation rates that make planning for firms very difficult or impossible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substantial changes in the real exchange rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volatile business environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High transaction costs facing firms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inappropriate government policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor quality of the infrastructure services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High product market competition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty and volatility of key macro prices</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

b). What other challenges do manufacturing firms encounter that affects their profitability

..............................................................................................................................................................................................
..............................................................................................................................................................................................

8. Do you import any raw materials or productions materials from foreign countries?

Yes [ ] No [ ]

b). If yes, how does exchange rates affects the product price and profitability in general? Explain

..............................................................................................................................................................................................
..............................................................................................................................................................................................

9. How do inflation rates affect the profitability of your organization? Explain

..............................................................................................................................................................................................
..............................................................................................................................................................................................
10. How do high interest rates affect the profitability of your organization?

...........................................................................................................................................
...........................................................................................................................................
...........................................................................................................................................

11. How do tax regime impact on the profitability of your organization

...........................................................................................................................................
...........................................................................................................................................
...........................................................................................................................................

12. What factors has led to high cost of production in your organization?

...........................................................................................................................................
...........................................................................................................................................
...........................................................................................................................................

13. To what extent do the following financial factors affect the profitability of your organization?
Rate them using a scale of 1-5 where: 5- Very great extent, 4- Great extent, 3- Moderate extent, 2- Little extent, 1- No extent

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchange rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax regime</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. What other financial factors do you think affects their profitability of manufacturing firms

...........................................................................................................................................
...........................................................................................................................................
...........................................................................................................................................

Thank you
Appendix III: Firms Listed At The NSE

Agriculture

• Rea Vipingo Ltd
• Sasini Tea and Coffee Ltd
• Kakuzi Ltd

Commercial and Services

• Access Kenya
• Marshal’s EA
• Car and General
• Hutchings Biemer (suspended)
• Kenya Airways
• CMC Holdings
• Uchumi Supermarkets (suspended)
• Nation Media Group
• TPS (Serena)
• Scan Group
• Standard Group
• Safaricom

Finance and Investment

• Barclays Bank of Kenya
• CFC Stanbic Bank
• Housing Finance
• Centum Investment
• Kenya Commercial Bank
• National Bank of Kenya
• Pan Africa Insurance Holding
• Diamond Trust Bank of Kenya
• Jubilee Insurance
• Standard Bank
• NIC Bank
• Equity Bank
• Olympia Capital
• Co-operative Bank of Kenya
• Kenya Re-Insurance

**Industrial and Allied**
• Athi River Mining Ltd
• BOC Kenya
• British American Tobacco Kenya
• Carbacid Investments
• EA Cables
• EA Breweries
• Sameer Africa
• Kenya Oil
• Mumias Sugar Company
• Unga Group
• Bamburi Cement
• Crown Berger (K)
• EA Portland Cement
• Kenya Power & Lighting Company
• Total Kenya
• Eveready East Africa
• KenGen

**Alternative Market Segment**
• A Baumann & Company
• City Trust
• Eaagads
• Express
• Williamson Tea Kenya
• Kapchorua Tea
• Kenya Orchards
• Limuru Tea Company

**Targeted Manufacturing Firms Listed At The NSE**

<table>
<thead>
<tr>
<th></th>
<th>NSE Listed Manufacturing Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B.O.C Kenya Ltd</td>
</tr>
<tr>
<td>2</td>
<td>British American Tobacco Kenya Ltd</td>
</tr>
<tr>
<td>3</td>
<td>Carbacid Investments Ltd</td>
</tr>
<tr>
<td>4</td>
<td>East African Breweries Ltd</td>
</tr>
<tr>
<td>5</td>
<td>Mumias Sugar Co. Ltd</td>
</tr>
<tr>
<td>6</td>
<td>Unga Group Ltd</td>
</tr>
<tr>
<td>7</td>
<td>Eveready East Africa Ltd</td>
</tr>
<tr>
<td>8</td>
<td>Kenya Orchards Ltd</td>
</tr>
<tr>
<td>9</td>
<td>A. Baumann CO Ltd</td>
</tr>
</tbody>
</table>
Appendix IV: Time Frame

The following is the research project work plan that was followed for this work:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Research Proposal Writing</td>
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<tr>
<td>Defence</td>
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<tr>
<td>Data Collection Process</td>
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<tr>
<td>Analysis of data and Report</td>
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<td></td>
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</table>

Source: Author (2012)
Appendix V: Budget

<table>
<thead>
<tr>
<th>N.</th>
<th>DESCRIPTION</th>
<th>AMOUNT (KSHS.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 Research Assistants @ 500 for 12 days</td>
<td>12,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Typing and Typesetting and Printing</td>
<td>9,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Photocopying and Binding</td>
<td>6,000.00</td>
</tr>
<tr>
<td>4</td>
<td>Travel and Subsistence Expense</td>
<td>5,000.00</td>
</tr>
<tr>
<td>5</td>
<td>Miscellaneous Expenses</td>
<td>3,750.00</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL EXPENSES</strong></td>
<td><strong>35,750.00</strong></td>
</tr>
</tbody>
</table>