

**A SURVEY OF WORKING CAPITAL MANAGEMENT POLICIES AMONG
PUBLIC COMPANIES IN KENYA.**

BY

NYAKUNDI MOGERE

**A PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE
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DEDICATION

This research project is dedicated to my dear wife Florence, my lovely children Violet and Michael who were very supportive whenever I needed time to carry out this project.

My sincere gratitude also goes to the staff at Nairobi Stock Exchange library who were of great help when I was collecting data for this project.

I cannot forget my parents, classmates and friends for their love and encouragement that took me through the long hours I spent working on the project.

Most of all I give my glory to God who answered my prayer that I successfully complete the project.

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ABSTRACT

There are many and varying views on the effect of the amount of long-term financing of current assets on the profitability of companies. There are also views that public companies in different sectors in Kenya follow different working capital management policies. The objective of this research study was to establish the working capital management policies of companies in Kenya. The research also addressed the question as to whether there is any significant relationship between working capital management policy and the profitability of a company as measured by the return on equity.

The population of interest for the study was all public companies as listed at the Nairobi stock exchange. These companies were fifty one as at 31st December 2002. A random sample of these companies was used. The classification of the companies was based on the categorization as done by the Nairobi stock exchange.

The secondary data for the research was extracted from the audited financial statements of the companies sampled. For each firm sampled annual data on the assets (split between current and non-current assets), liabilities (split between current and non-current liabilities), total shareholders' equity and the profit after tax were collected for the period 1998 to 2002.

The data collected was analyzed to determine the individual company's annual working capital management policy as measured by the long-term financing of current assets (net assets) and also the profitability of the company. The annual working capital management policy and profitability was averaged using simple arithmetic mean to get the five year average for each of the company in the sample. The companies were then grouped into three categories depending on their working capital management policy. The statistical significance of the differences between the three working capital management policies was done using the student 't' statistic. Simple regression analysis was also done to establish the relationship between working capital policy and the return on equity.

The results of the analysis showed that the commonly practiced working capital management policy among the public companies in Kenya is the aggressive policy. The findings of the research did not show any significant differences between the working capital management policies across the five sectors. Further the research findings show that there are no significant differences in return on equity among companies that practice different working capital management policies. The regression analysis also showed that the working capital management policy explained only fifty three per cent of the variation in return on equity.

Current assets include inventory, accounts receivable, marketable securities and cash.

On the other hand fixed assets are the resources of the firm that are not expected to be converted into cash within the next one year. Examples of fixed assets are plant and machinery, land and buildings, motor-vehicles, computer hardware and software, and furniture and fittings.

1.1.1 Working capital concepts

There are two major concepts of working capital - net working capital and gross working capital. When accountants use the term working capital, they are generally referring to net working capital, which is the shilling difference between current assets and current liabilities. Financial analysts on the other hand, mean current assets when they speak of working capital. Therefore their focus is on gross working capital (Van Horne 1995). This is the concept which is adopted in this research study.

Working capital is the investment which a business needs to make in its day-to-day operations. It is the level of investment necessary to:

- Carry adequate stocks;
- Allow trade credit to debtors;
- Pay creditors (without default).

Working capital management is the process of planning and controlling the level and mix of the current assets of the company as well as financing these assets. Specifically, working capital management requires financial managers to decide what quantities of cash, other liquid assets, accounts receivable and inventories the company will hold at any point in

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

All firms require resources in order to produce goods and services to be sold to the customers. These resources are the assets of the firm. The assets are further divided into two classes namely fixed assets and current assets. The current assets are those resources that are expected to be converted into cash within the next one year. Examples of current assets include inventory, accounts receivable, marketable securities and cash.

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time. In addition financial managers must decide how these current assets are to be financed.

1.1.2 Significance of working capital

The management of working capital is important for several reasons. For one thing, the current assets of a typical manufacturing firm account for over half of its total assets. For a distribution firm they account for even more. If a company is to operate efficiently, receivables and inventories must be tightly monitored and controlled. This is particularly important for a fast growing firm because the investment in such assets can quickly mushroom out of control.

Excessive levels of current assets can easily result in realizing a low return on investment. However, firms with too few current assets may incur shortages and difficulties in maintaining smooth operations.

For small companies, current liabilities are the principal source of external financing. These firms do not have access to the long-term capital markets, other than to acquire a mortgage on a building. The fast-growing but larger company also makes use of current liability financing.

More fundamental, however, is the effect that working capital decisions have on the company's risk, return, and share price. Having an adequate level of working capital is therefore vitally important for the survival of any business. Like the oil required to keep a motor car engine continually working smoothly and efficiently, working capital is required to keep the business engine constantly lubricated. (Mcmenamin 1999).

The key task for the financial manager is to determine the level of working capital which balances risk and return and maximizes shareholder wealth. Over-investing in working capital, while it may reduce the firm's illiquidity risk simultaneously reduces profits and therefore shareholder wealth. Conversely under-investing in working capital, while it may increase risk of not being able to pay creditors, increases profits through reducing the cost

of funds tied up in current assets. Thus too much working capital reduces risk and return, too little working capital increases risk and return (Ross and Jaffe 1990).

1.2 STATEMENT OF THE PROBLEM

In relation to shareholder value the firm's investment in working capital should produce cash returns that add to the market value of the firm and thus to the wealth of its shareholders. However excessive investment in working capital will depress returns by increasing the opportunity costs of having funds unnecessarily tied up in current assets (Mcmenamin 1999).

Alternatively, insufficient investment in working capital increases the firm's risk of financial distress or insolvency by not having sufficient funds available to pay creditors when the bills become due. It is worth noting that while working capital management accentuates short-term financial decisions and policies, these will however, be framed in the context of the firm's overall corporate strategy, with the aim of realizing its strategic objectives and the primary goal of maximizing shareholder value. A firm can identify extremely valuable essential investment opportunities, find the precise optimal debt ratio, follow the perfect dividend policy and yet fail because no one bothers to raise the cash to pay this year's bills. Hence the need for short term planning. (Arnold 1998)

Working capital is a basic requirement for all firms as it is what keeps the business running smoothly. Having sufficient funds invested in working capital reduces the chances of the firm running into liquidity problems besides ensuring uninterrupted operation of the business. However, the funds invested in working capital generate lower returns than those invested in long-term assets. Firm Managers are thus faced with the problem of determining the optimal working capital levels as well as the critical issue of how to finance the working capital.

1.3 OBJECTIVE OF THE STUDY

The following objectives for the research have been identified:

1) To establish the current working capital management policies by public companies in Kenya,

2) To establish if there are any significant differences in working capital management policies across different sectors in Kenya.

3) To establish if companies that follow different working capital policies report significantly different profit levels.

1.4 SIGNIFICANCE OF THE STUDY

Companies are faced with the undoubtedly difficult task of determining the appropriate working capital policies while sustaining good returns to their shareholders. The research will seek to point out the current working capital practices by public companies in Kenya. By studying the working capital management practices across the sectors, the researcher will highlight and document the differences as well as the effect such differences have on company performance. This will contribute to research in this field and future researchers and consultants may use the research to advise interested parties on working capital management policies.

Companies will also benefit from the research by using the working capital management policies that will be identified as appropriate, for each sector in Kenya, in the study.

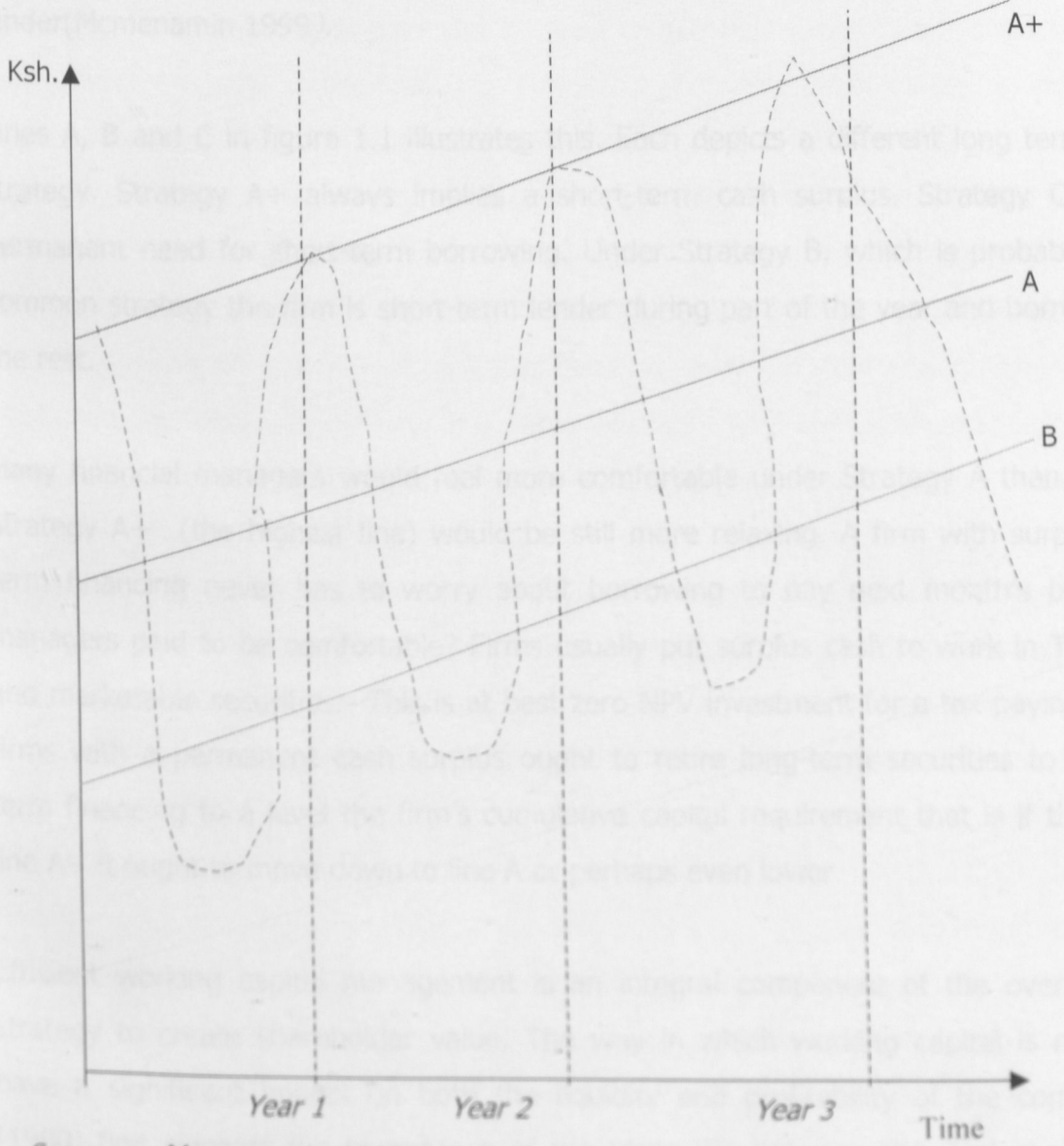
Regulatory bodies like Central Bank, Commissioner of Insurance and Capital Markets Authority can use the study to improve on the framework for regulation. The research findings will also be of significant importance to academicians and students, as it will increase the available knowledge on working capital management policies.

CHAPTER TWO: LITERATURE REVIEW

2.1 AN OVERVIEW OF WORKING CAPITAL

All businesses require capital – that is money invested in plant, machinery, inventories, accounts receivable and all the other assets it takes to run a business efficiently. Typically, these assets are not purchased all at once but obtained gradually over time. Let us call the total of these assets the firm’s cumulative capital requirement. Most firm’s cumulative capital requirements grows irregularly like the broken line in figure in figure 1.1 below:-

Figure 1.1: Working capital policies



Source Mcmenamin 1999

This line shows a clear upward trend, as the firm's business grows. But there is also seasoned variation around the trend. In the figure, the capital requirement line breaks late in each year.

The cumulative capital requirement can be met from either long term or short term financing. When long term financing does not cover the cumulative capital requirements, the firm must raise short-term capital to make up the difference. When long term financing more than covers the cumulative capital requirement the firm has surplus cash available for short-term investment. Thus the amount of long term financing raised, given the cumulative capital requirement determines whether the firm is short-term borrower or lender (McMenamin 1999).

Lines A, B and C in figure 1.1 illustrates this. Each depicts a different long term financing strategy. Strategy A+ always implies a short-term cash surplus. Strategy C, implies a permanent need for short-term borrowing. Under Strategy B, which is probably the most common strategy the firm is short-term lender during part of the year and borrower during the rest.

Many financial managers would feel more comfortable under Strategy A than Strategy C. Strategy A+ (the highest line) would be still more relaxing. A firm with surplus of long-term financing never has to worry about borrowing to pay next month's bills. But are managers paid to be comfortable? Firms usually put surplus cash to work in Treasury bills and marketable securities. This is at best zero NPV investment for a tax paying firm. Thus firms with a permanent cash surplus ought to retire long-term securities to reduce long term financing to a level the firm's cumulative capital requirement that is if the firm is on line A+ it ought to move down to line A or perhaps even lower.

Efficient working capital management is an integral component of the overall corporate strategy to create shareholder value. The way in which working capital is managed can have a significant impact on both the liquidity and profitability of the company. Smith (1980) first signaled the importance of the trade-offs between the dual goals of working capital management, i.e., liquidity and profitability. In other words, decisions that tend to maximize profitability tend not to maximize the chances of adequate liquidity. Conversely,

focusing almost entirely on liquidity will tend to reduce the potential profitability of the company.

The main components of a firm's working capital are accounts receivable, inventory, cash and marketable securities. These elements are discussed below.

2.1.1 Accounts receivable

One important Current asset is accounts receivable. When one company sells goods or services to another company it does not usually expect to be paid immediately. These unpaid bills or trade credit make up the bulk of accounts receivable. Companies also sell some goods on credit to the final consumer. This consumer credit makes up the remainder of accounts receivable. Debtors are people or other firms who owe money to the firm. This will usually happen where the firm has sold goods with a period of credit. The firm sells the good or service but allows the purchaser a period of credit to pay - usually a month. During this month the purchaser owes the firm the money and is therefore a debtor. If the firm has debts these are considered an asset, because when the debtors pay the firm will have converted the debt into cash in the bank. Because most debts are relatively short-term they are considered current assets. The other current assets are stocks and cash.

The amount of accounts receivable a firm has depends on the line of business they are in. If most of their business is with trade customers where they have to offer credit then the level of accounts receivable may be high. For many retail businesses, however, the level of accounts receivable will tend to be relatively low as most of their sales are cash sales.

2.1.2 Inventory

Another important current asset is inventory. Inventories may consist of raw materials, work in progress or finished goods, awaiting sale and shipment. The cost of holding inventory includes not only storage costs and risk of spoilage or obsolescence but also the opportunity cost of capital - that is the rate of return offered by other, equivalent risk investment opportunities (Srivastva 2001).

The benefits to holding inventory are often indirect. For example a large inventory of finished goods (large relative to expected sales) reduces the chance of a "stock out" if demand is unexpectedly high. A producer holding a small finished goods inventory is more likely to be caught short, unable to fill orders promptly. Similarly, large raw material inventories reduce the chance that unexpected shortage would force the firm to shut down production or use a costly substitute material. (Arnold 1998)

Bulk orders for raw materials although they lead to large average inventories may be worthwhile if the firm can obtain lower prices from suppliers. (that is, bulk orders may yield a quantity discount).

The task of inventory management is to assess these benefits and costs and to strike a sensible balance. In manufacturing companies the production manager is best placed to make this judgment. Obviously, average stock-holding periods will be influenced by the nature of the business. For example, a fresh vegetable shop might turn over its entire stock every few days while a motor dealer would be much slower as it may carry a wide range of rarely-used spare parts in case somebody needs them. Nowadays, many large manufacturers operate on a just-in-time (JIT) basis whereby all the components to be assembled on a particular day, arrive at the factory early that morning, no earlier - no later. This helps to minimize manufacturing costs as JIT stocks take up little space, minimize stock-holding and virtually eliminate the risks of obsolete or damaged stock. Because JIT manufacturers hold stock for a very short time, they are able to conserve substantial cash. JIT is a good model to strive for as it embraces all the principles of prudent stock management.

The key issue for a business is to identify the fast and slow stock movers with the objectives of establishing optimum stock levels for each category and, thereby, minimize the cash tied up in stocks. Factors to be considered when determining optimum stock levels include:

- What are the projected sales of each product?
- How widely available are raw materials, components etc.?
- How long does it take for delivery by suppliers?

- Can you remove slow movers from your product range without compromising best sellers?

Equity

2.1.3 Cash and marketable securities

The remaining current assets are cash and marketable securities. The cash consists of currency, demand deposits and time deposits. The principal marketable security is commercial paper (short-term, unsecured notes sold by other firms). The other security is the government of Kenya Treasury bills and Bonds.

Cash flows in a cycle into, around and out of a business. It is the business's life blood and every manager's primary task is to help keep it flowing and to use the cash flow to generate profits. If a business is operating profitably, then it should, in theory, generate cash surpluses. If it doesn't generate surpluses, the business will eventually run out of cash and expire. The faster a business expands, the more cash it will need for working capital and investment. The cheapest and best sources of cash exist as working capital right within business. Good management of working capital will generate cash, will help improve profits and reduce risks. Bear in mind that the cost of providing credit to customers and holding stocks can represent a substantial proportion of a firm's total profits.

There are two elements in the business cycle that absorb cash - Inventory and Receivables.

The main sources of cash are Payables and Equity and Loans. In choosing between cash and marketable securities, the financial manager faces a task like that of the production manager. There are always advantages of holding large inventories of cash they reduce the risks of running out of cash and having to raise money on short notice.

2.3 OPTIONS FOR SHORT TERM FINANCING

Firms often have various short-term sources of funds. To finance investment in current assets, a company may rely on a variety of short-term loans. These sources include commercial paper and bank loans. Many short-term loans are unsecured, but a company may offer its inventory or receivables as security. Some of the common sources are explained below.

▪ **Unsecured bank borrowing**

In this case a firm makes an arrangement with its bank allowing it to borrow up to a certain amount of money at a specified interest rate. The firm can borrow and repay wherever it wants so long as it does not exceed the credit limits. The firm does not need to pledge any of specific assets as security for the loan. This kind of arrangement is called a line of credit. When a company borrows on an unsecured line of credit, it is generally obliged to maintain a compensating balance on deposit with the bank.

▪ **Stretching payables**

In this case the firm gets funds by making use of accounts payable. This is often a cheap source of funds as the only cost is the minimal additional cost that a firm that is buying on account has to pay. This source is often used instantaneously as the volume of business grows.

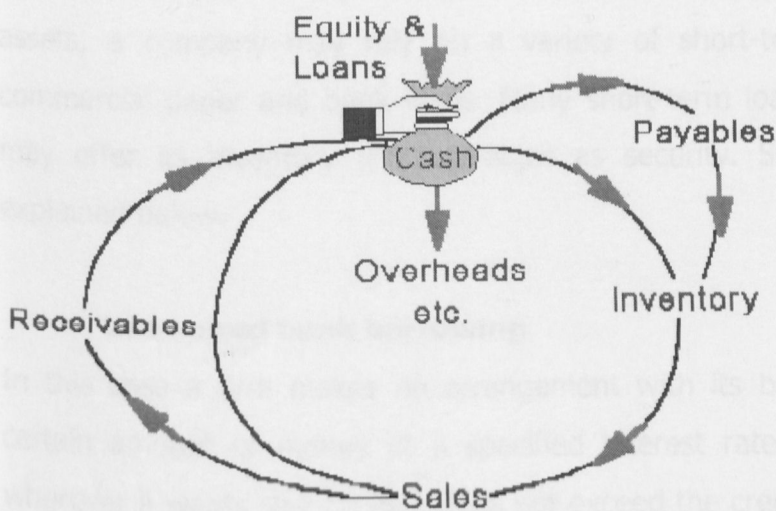
2.4 SOME ASPECTS OF SHORT-TERM FINANCIAL POLICY.

The policy that a firm adopts for short-term finance will be composed of at least two elements. These components are discussed below.

▪ **The size of the firm's investment in current assets**

This is usually measured relative to the firm's level of total operating revenues. A flexible or accommodative short-term financial policy would maintain a high ratio of current assets to sales. A restrictive short-term financial policy would entail a low ratio of current assets to sales.

Figure 2.1: Working capital cycle



Source: <http://www.planware.org/workap.htm#3>

On the other hand, there is a cost to holding idle cash balances rather than putting the money to work in marketable securities (Brealey and Myers 1991).

2.2 SOME THEORETICAL OBSERVATIONS

What is the best level of long term financing, relative to the cumulative capital requirement, there is no convincing theoretical analysis of this question. We can give several practical observations however;

- **Matching Maturities**

Most financial managers attempt to match maturities of assets and liabilities that is; they finance long-lived assets like plant and machinery on long – term borrowing and equity and use short-term funding to finance current assets.

- **Permanent Working Capital Requirements**

Most firms make permanent investment in working capital (current assets less current liabilities). They finance this investment from long-term sources.

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▪ **The financing of current assets**

This is measured as the proportion of short-term debt to a long-term debt. A restrictive short-term financial policy means a high proportion of short-term debt relative to long-term financing and a flexible policy means less short-term debt and more long-term debt.

2.5 FLEXIBLE SHORT-TERM FINANCIAL POLICY

A flexible short-term financial policy include:

- Keeping large balances of cash and marketable securities
- Making large investment inventory.
- Granting liberal credit terms, which result in a high level of accounts receivable.

Flexible short-term financial policies are costly in that they require higher cash outflows to finance cash and marketable securities, inventory and accounts receivable. However, future cash inflows are highest with a flexible policy. Sales are stimulated by the use of a credit policy that provides liberal financing to customers. (Van Horne 1995) .

A large amount of inventory provides a quick delivery service to customers and increases sales. In addition, the firm can probably charge higher prices for the quick delivery service and the liberal credit terms of flexible policies. A flexible policy also may result in fewer production stoppages because of inventory shortages.

2.6 RESTRICTIVE SHORT-TERM FINANCIAL POLICY

Restrictive short-term financial policy is characterized by:

- ❖ Keeping low cash balances and no investment in marketable securities
- ❖ Making small investments in inventory.

2.7 WORKING CAPITAL COSTS

Managing current assets can be thought of as involving a trade off between costs that rise with the level of investment and costs that fall with the level of investment. (Arnold 1998)

Costs that rise with the level of investments in current assets are called carrying costs. Costs that fall with increases in level of investment in current assets are called shortage costs.

➤ **Carrying costs**

Carrying costs are generally of two types: -

First, because the rate of return on current assets is low compared with that of other assets, there is an opportunity cost. Second, there is the cost of maintaining the economic value of the items e.g. the cost of warehousing the inventory.

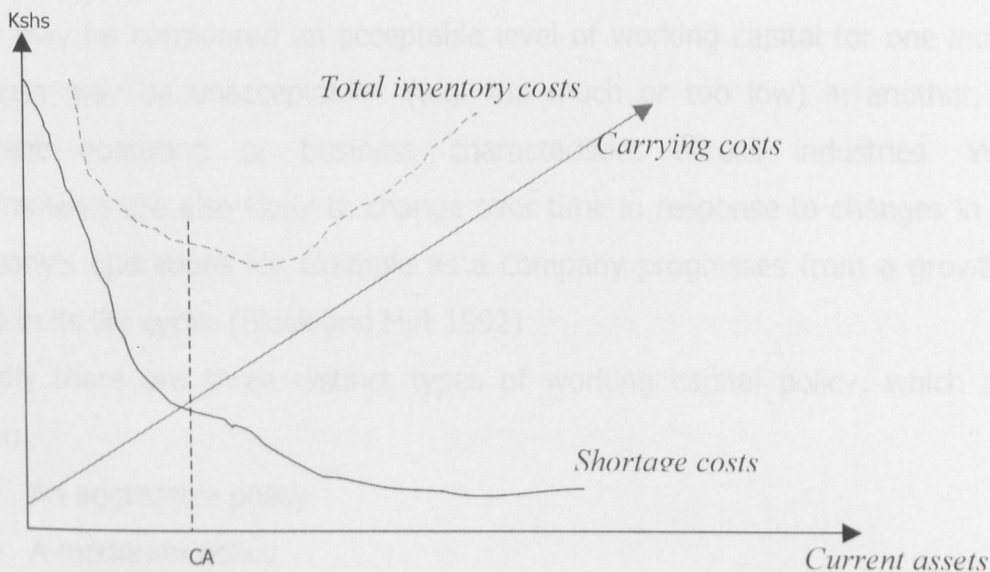
➤ **Shortage costs**

Shortage costs are incurred when the investment in current assets is low. If a firm runs out of cash it will be forced to sell marketable securities. If a firm runs out of cash and cannot readily sell marketable securities, it may need to borrow or default on an obligation. (This general situation is called a cash-out) if a firm has no inventory (a stock-out) or if it cannot extend credits to its customers, it will lose customers.

Figure 2.2 Illustrates the basic nature of carrying costs. The total cost of investing in current assets is determined by adding the carrying costs and the shortage costs. The minimum point on the total cost curve (CA) reflects the optimal balance of current assets.

For firms whose cash flow patterns are predictable, typified by the public utilities sector, a low degree of liquidity can be maintained. Immediate access to capital markets such as that enjoyed by large prestigious firms, also allows a greater risk taking capability. The peculiarities of a firm's industry will have a major impact on the options open to management. (Block and Hirt 1992).

Figure 2.2: working capital costs



Source Mcmenamin 1999:

2.8 SHORT- TERM INVESTMENT OPPORTUNITIES

In cases when a company is in the fortunate position of generating cash surpluses then, after allowing for an appropriate 'safety margins' excess cash can be invested on a short-term basis. Short-term investment opportunities would typically include: -

- **Short- term interest earning deposits**-these are available with most financial institutions.
- **Marketable securities.** These are short-term easily liquidated, interest earning government and money market instruments (e.g. Treasury bills).
- **Payments in advance.** Payments can be made in advance to creditworthy suppliers enabling significant discounts to be negotiated. The benefits of paying in advance would clearly have to be weighed against the cost of any interest lost from investing the funds.

2.9 WORKING CAPITAL POLICIES

An individual company's investment in working capital will be related to the type of industry in which it operates and the essential working capital policy each individual company adopts. Working capital investments decisions concern how much of the firm's limited

resources should be invested in working capital. Financing decisions relate to how the investment in working capital is to be financed.

What may be considered an acceptable level of working capital for one industry or line of business may be unacceptable (e.g. too much or too low) in another, as a result of different operating or business characteristics across industries. Working capital requirements are also likely to change over time in response to changes in the nature of a company's operations for example as a company progresses from a growth to a maturity stage in its life cycle. (Block and Hirt 1992)

Broadly there are three distinct types of working capital policy, which a company can adopt: -

- An aggressive policy
- A moderate policy
- A conservative policy

The type of policy relates to the firm's general approach to the investing and financing of its working capital needs. Aggressive and conservative policies tend to represent the opposite ends of spectrum of working capital policy options. The policies differ in their attitudes to both the investment in and the financing of current assets. The more conservative in altitude the policy, the greater the level of investment in current assets and the greater the firm's reliance on long-term capital (in the form of debt or equity) to finance the investment in current assets conversely, the more aggressive the working capital policy the lower the level of investment in current assets and the less is the firm's reliance on long term capital to finance current assets.

Financing of current assets from current liabilities particularly in the form of interest free credit from suppliers is a less expensive source of financing than equity or long-term debt capital (Van Horne 1995). The type of working capital policy operated will be dictated by such factors as the growth rate of the company, its size, the nature of its industry whether it is manufacturing or non-manufacturing and by the risk altitude of the firm's management.

2.9.1 A conservative working capital policy

- **Investment:**

As far as investment is concerned a conservative working capital policy is the 'play it safe' philosophy. At its most conservative, the policy will attempt to provide sufficient long – term financing to cover all anticipated eventualities. A conservative policy implies relatively high investment in current assets in relation to sales, the current assets to sales ratio will be comparatively high and asset turnover ratios will be low. In a conservative approach stock and cash levels will generally be kept high to avoid stock out and illiquidity costs. There is also likely to be a sizeable investment in short-term bank deposits and other short-term liquid investments. (Copeland and Weston 1988)

- **Financing**

At one extreme a company can finance all its current asset requirements with long-term funds, including its peak temporary requirements. In operating a conservative policy short-term funding may only be called upon as a fallback or emergency source of funding.

The investment in current assets is divided into permanent current assets and temporary current assets. The investment in permanent current assets represents the core, or minimum level of investment in current assets required on a continual basis. In addition to permanent current assets the business may need to invest in temporary current assets, to accommodate fluctuations in its business cycle.

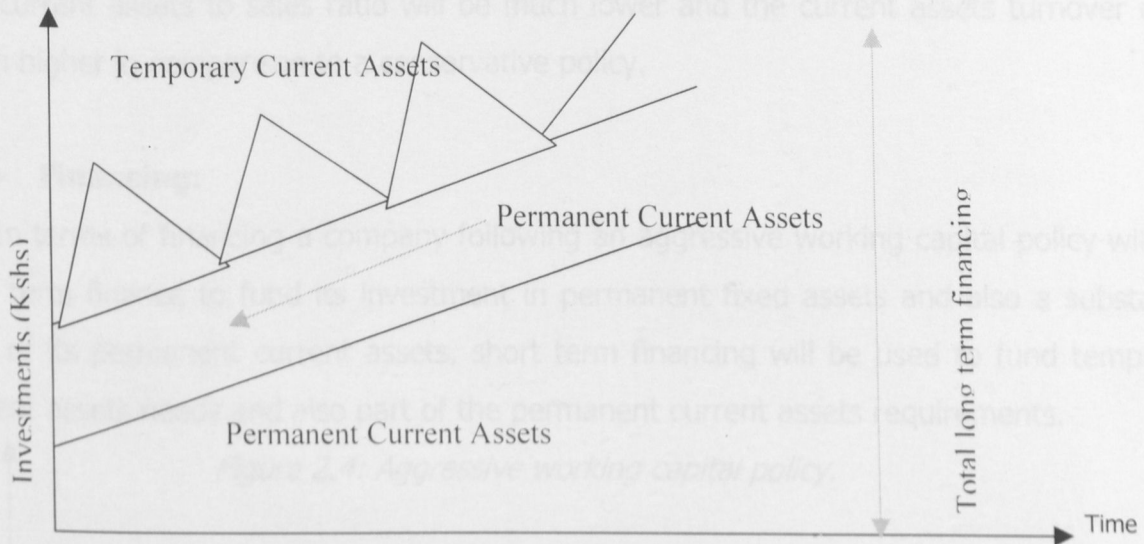
At its most extreme the conservative working capital policy assumes, somewhat unrealistically, the absence of any spontaneous funding from current liabilities such as trade creditors. Spontaneous funding is the type of funding which occurs virtually automatically when a company acquires goods and services from its suppliers on credit (Copeland and Weston 1988).

Risk And return.

As the conservative policy relies on long-term financing this also makes it a more expensive policy to follow than one which allows for an element of short term financing. However it

is also the low risk working capital policy as the company is not dependent upon access to short term funds and is not therefore exposed to the volatility of short-term interest rates or to unexpected changes in general economic conditions.

Figure 2.3: Conservative Working capital Policy



Source Mcmenamin 1999:

In contrast, long-term financing although generally expensive is more certain and stable with regard to the term of the finance, its costs and its conditions. The firm pays a price for certainty and stability. Long-term sources of finance such as equity and long-term loans are more certain and stable and consequently they tend to be more expensive. (McMenamin 1999).

Moreover short-term finance is frequently repayable on demand by the lender, and renewal or "roll over" of short term financing is by no means guaranteed. In fact on occasions, it may only be possible at the expense of accepting higher interest rates and tougher borrowing conditions. All these factors increases the variability associated with short-term finance and increases the firm's risks of experiencing liquidity difficulties (Gitman 1991).

2.3.3 A moderate working capital policy

Thus the net effect of a conservative working policy is lower than moderate returns for a company but also lower than moderate risk of illiquidity or insolvency.

2.9.2 An aggressive working capital policy:

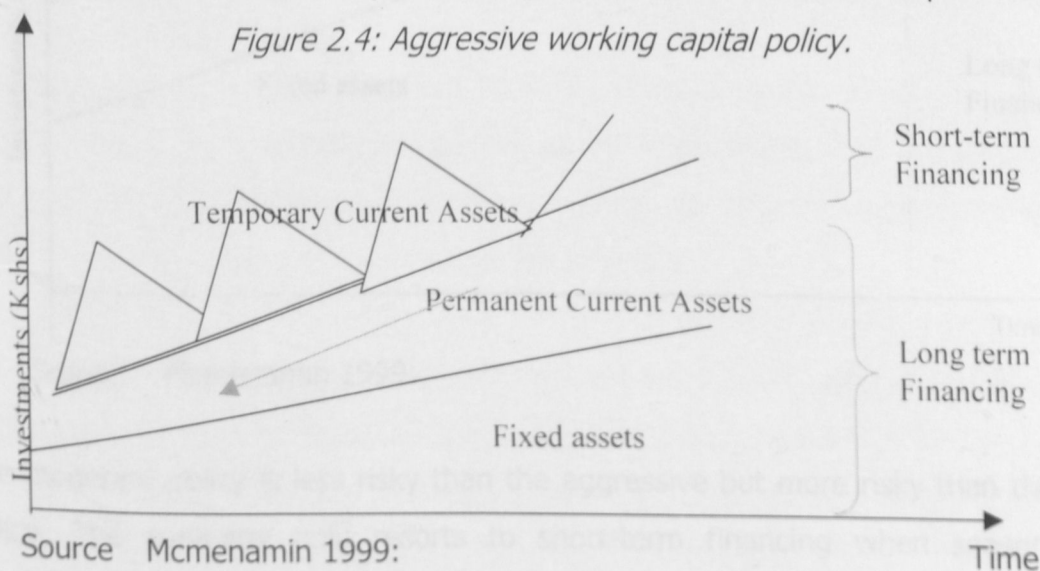
An aggressive policy relies on minimum investment in current assets and is highly dependent on access to short term financing.

- **Investment**

With an aggressive policy total investment in current assets will be kept to a minimum. The current assets to sales ratio will be much lower and the current assets turnover rates much higher in comparison to a conservative policy.

- **Financing:**

In terms of financing a company following an aggressive working capital policy will use long term finance to fund its investment in permanent fixed assets and also a substantial part of its permanent current assets, short term financing will be used to fund temporary current assets needs and also part of the permanent current assets requirements.



Risk and return:

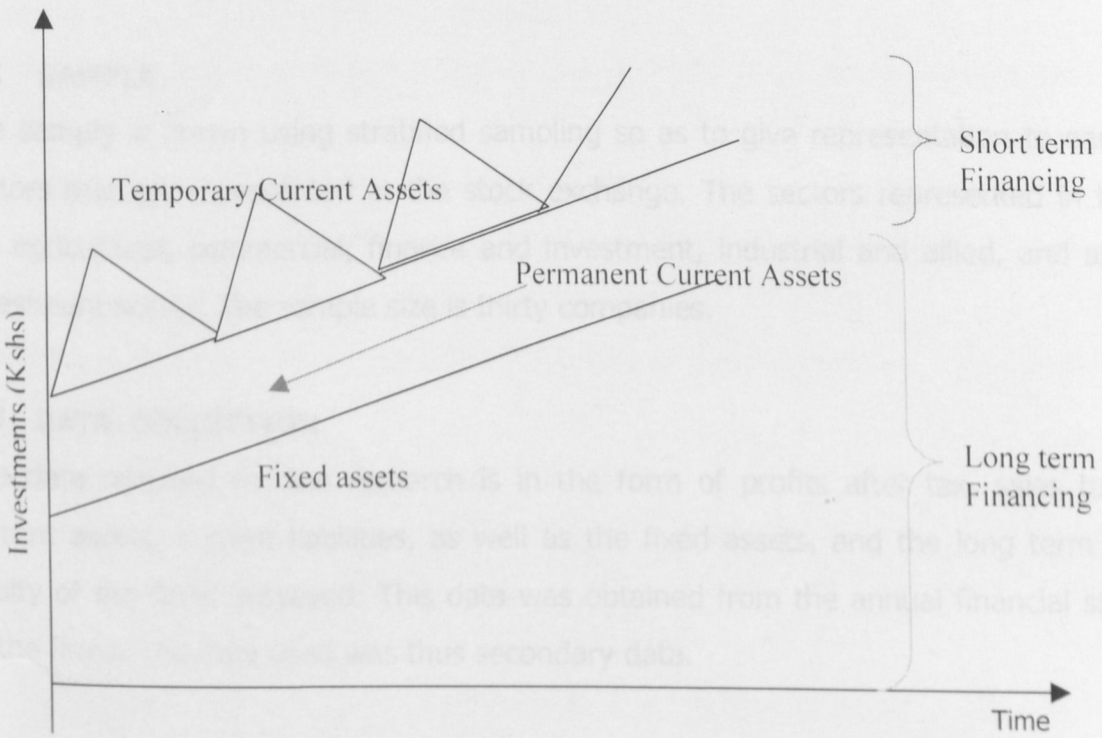
Compared with conservative and moderate policies an aggressive policy will achieve higher returns but will also carry high risk due to its higher dependency on short-term finance.

2.9.3 A moderate working capital policy

A moderate or balanced working capital policy falls midway between the aggressive and conservative policies. With a moderate policy the level of investment in current assets is

neither lean nor excessive. Following a moderate policy long-term funds are used to finance the investment in fixed assets and the permanent components of current assets investments. Temporary, or seasonal current assets are financed by short-term sources of finance. The moderate policy is illustrated in figure 2.5 below.

Figure 2.5: Moderate working capital policy



Source: Mcmenamin 1999:

The moderate policy is less risky than the aggressive but more risky than the conservative policy. The company only resorts to short-term financing when seasonal and other temporary demands require it (Gitman 1991). Returns under a moderate policy are correspondingly higher than under a conservative policy but lower than under an aggressive policy.

For purposes of this study the companies whose long-term funding of working capital is more than thirty per cent but less than sixty per cent will be classified as following moderate working capital management policy.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 POPULATION

The research is based on all public companies registered in Kenya. The population of interest is thus all public companies listed at the Nairobi Stock Exchange, which were fifty one as at 31st December 2002.

3.2 SAMPLE

The sample is drawn using stratified sampling so as to give representation to each of the sectors that are represented at the stock exchange. The sectors represented in the study are agricultural, commercial, finance and investment, industrial and allied, and alternative investment sector. The sample size is thirty companies.

3.3 DATA COLLECTION

The data required for the research is in the form of profits after tax, sales turn-over, current assets, current liabilities, as well as the fixed assets, and the long term debt and equity of the firms surveyed. This data was obtained from the annual financial statements of the firms. The data used was thus secondary data.

Data was collected from a sample of thirty companies for the five year-period from 1998 to 2002. Secondary data based on the audited financial statements of the companies was collected so as to show the total assets, profit after tax as well as the equity financing of each of the firms in the sample. The data collected also shows the breakdown of the financing of current assets into long-term financing and short-term financing. The data collected is shown in appendix 1 on page 38.

3.4 DATA ANALYSIS

3.4.1 Computation of individual company working capital policy and profitability

The data was analyzed with the aim of determining the dominant working capital policy among Public companies in Kenya. First the cumulative capital requirement for each of the companies in the sample was computed as the total of fixed assets and current assets. The working capital policy for each of the companies in the sample was determined by

computing the proportion of current assets that is financed using long-term funds. This was determined as follows:

Proportion of current assets financed by long-term debt = $\frac{\text{Net current assets}}{\text{Total current assets}}$

A simple arithmetic mean was used to come up with each firm's working capital management policy for the five year period.

The companies in the sample were then grouped into three depending on their working capital management policy, as follows:

I) Conservative working capital management policy.

All companies whose average long-term financing of current assets is at least sixty percent.

II) Moderate working capital management policy.

All companies whose average long-term financing of current assets is more than thirty per cent but less than sixty percent.

III) Aggressive working capital management policy.

All companies whose average long-term financing of current assets is less than thirty per cent.

The profitability of each of the companies was computed using profit after tax as a percentage of owners' equity.

3.4.2 Computation of sector working capital policy and profitability.

The second classification of the companies was based on the various sectors as per the Nairobi stock exchange. The average working capital management policy and return on equity for each of the sectors was computed. The sector working capital management policy and return on equity was calculated using the average working capital policy and profitability of the individual firms in each sector. The various sectors were then compared to find out if there is any significant difference in their working capital management policies.

3.4.3 Tests of significance

To test for statistical significance in the working capital management policies across the groups of companies, the student 't' statistic was used. The test of significance was done

at both the sector level and the individual company level. The working capital management policy and profitability was compared across the three classification of companies. The significance level was 95 percent.

3.4.4 Regression Analysis

A simple regression model was used to find out if there is a relationship between the long-term financing of current assets and the return on equity for the firms in the sample. The strength of this relationship was also computed using r^2 .

The company's annual proportion for the five-year period was averaged to represent the company's average working capital management policy. The annual return on equity for each of the company was computed using the return to shareholders as a percentage of the total shareholders' funds.

SUMMARY OF INDIVIDUAL COMPANY WORKING CAPITAL POLICY

	2005	2006	2007	2008	2009	AVERAGE
Current assets	10.8	12.7	11.3	11.2	9.9	11.46
Current liabilities	14.31	16.2	17.71	17.5	17.16	16.78
Working capital	17.2	18.8	17.8	17.0	14.0	17.4
Current assets	16.1	18.2	17.9	17.3	16.0	17.3
Current liabilities	13.8	15.3	15.6	12.8	12.9	14.1
Working capital	12.6	13.9	15.3	17.8	14.3	14.8
Current assets	10.8	11.4	11.2	11.0	10.2	11.1
Current liabilities	12.8	12.8	12.0	12.3	11.7	12.4
Working capital	10.7	11.3	11.2	11.7	11.2	11.2
Current assets	12.1	12.8	12.2	12.2	11.6	12.4
Current liabilities	15.8	17.4	17.4	16.8	17.3	17.0
Working capital	11.2	11.8	12.8	12.9	11.9	12.2
Current assets	12.4	12.7	12.2	12.4	11.7	12.4
Current liabilities	18.1	18.3	18.8	18.1	17.4	18.3
Working capital	11.4	11.8	11.4	11.7	11.2	11.5
Current assets	11.1	11.4	11.1	11.2	11.0	11.2
Current liabilities	12.8	12.8	12.0	12.3	11.7	12.4
Working capital	11.2	11.3	11.1	11.7	11.2	11.3
Current assets	11.1	11.7	11.4	11.0	10.9	11.4
Current liabilities	12.2	12.7	12.4	12.1	11.9	12.3
Working capital	11.1	11.7	11.4	11.0	10.9	11.4
Current assets	11.1	11.7	11.4	11.0	10.9	11.4
Current liabilities	12.2	12.7	12.4	12.1	11.9	12.3
Working capital	11.1	11.7	11.4	11.0	10.9	11.4
Current assets	11.1	11.7	11.4	11.0	10.9	11.4
Current liabilities	12.2	12.7	12.4	12.1	11.9	12.3
Working capital	11.1	11.7	11.4	11.0	10.9	11.4

CHAPTER FOUR: DATA ANALYSIS AND FINDINGS the average return on equity for

individual company working capital

4.1 COMPUTATION OF INDIVIDUAL COMPANY WORKING CAPITAL POLICY AND PROFITABILITY.

The data collected was first analyzed so as to determine the amount of current assets financed using long term funds. The long term financing of current assets (net current assets) was then divided by the total current assets to determine the proportion of current assets financed using long term-term funds in the form of equity and long-term debt. Each of the individual company's annual proportion for the five-year period was averaged to come up with the company's average working capital management policy.

Secondly the annual return on equity for each of the company was computed using the profit available to shareholders as a percentage of the total shareholders' funds.

Table 4.1: **SUMMARY OF INDIVIDUAL COMPANY WORKING CAPITAL POLICY**

COMPANY	2002	2001	2000	1999	1998	AVERAGE
Brooke Bond	55.6	83.7	61.3	37.2	9.9	49.6
Kakuzi	(0.3)	(30.2)	(12.7)	9.6	(21.8)	(11.1)
Rea Vipingo	17.2	8.8	5.5	(20.0)	(4.9)	1.3
Sasini	46.6	58.2	57.0	61.1	51.1	55.4
Baumann	58.3	62.8	53.4	27.8	39.0	48.3
City Trust	83.5	86.3	88.0	72.9	72.9	80.7
Eaagads	88.5	90.9	75.9	57.6	54.9	73.5
Kapchorua Tea	60.6	61.4	61.0	64.0	40.9	57.6
Limuru Tea	79.4	68.6	74.0	60.8	40.7	64.7
Williamson Tea	58.7	53.5	33.8	22.7	21.1	38.0
CMC	39.0	36.6	30.2	26.2	26.5	31.7
Kenya Airways	18.8	37.5	37.4	34.8	23.3	30.4
Nation Media Group	41.8	42.6	40.9	20.4	48.9	38.9
Tourism Promotion Services	7.8	4.5	(9.9)	5.2	(4.0)	0.1
Uchumi	(38.1)	(2.2)	13.2	22.4	17.0	2.4
Barclays Bank of Kenya	9.1	12.3	11.6	9.3	7.8	10.0
CFC	16.1	16.7	16.6	20.4	21.8	18.3
Housing Finance Company	4.3	1.3	4.7	2.7	8.2	4.2
Kenya Commercial Bank	(0.1)	6.4	5.5	7.8	9.6	5.8
Standard Chartered Bank	6.6	7.3	9.6	7.4	6.8	7.5
Athi River Mining	23.6	27.5	19.1	(32.5)	(36.2)	0.3
Bamburi	35.3	41.9	39.6	26.8	60.9	40.9
BAT	45.4	39.2	38.3	64.8	38.8	45.3
Carbacid	94.6	93.9	84.7	82.5	88.7	88.9
East Africa Breweries	41.4	45.7	27.8	(2.0)	11.9	25.0
Firestone	72.9	64.7	64.2	49.6	48.4	60.0
Kenya Power & Lighting	13.8	(46.3)	(18.1)	(7.4)	(2.9)	(12.2)
Total Kenya	28.1	(9.3)	1.5	9.6	3.0	6.6
Unga Group	3.7	(7.9)	(15.8)	(17.0)	(9.8)	(9.4)
East African Portland	60.2	54.6	48.3	35.3	23.7	44.4

The annual return on equity was then averaged to get the average return on equity for each of the firms in the sample. The resultant individual company working capital management policy in percentage form is as shown in table 4.1 on page 25.

The resultant individual company profitability in percentage form as measured by the return on equity is also as shown in table 4.2 below.

Table 4.2: SUMMARY OF INDIVIDUAL COMPANY PROFITABILITY

COMPANY	2002	2001	2000	1999	1998	AVERAGE
Brooke Bond	3.4	5.4	10.3	5.5	4.5	5.8
Kakuzi	0.4	(3.0)	(2.1)	1.8	5.2	0.5
Rea Vipingo	5.5	0.9	(7.6)	(1.3)	8.7	1.2
Sasini	(3.9)	2.0	7.3	2.3	9.8	3.5
Baumann	(10.7)	(0.5)	0.8	2.0	0.6	(1.6)
City Trust	2.6	4.5	5.4	6.9	23.7	8.6
Eaagads	2.4	0.6	(5.7)	4.0	26.5	5.6
Kapchorua Tea	(3.8)	1.5	3.6	2.9	19.1	4.7
Limuru Tea	6.9	(10.6)	30.4	29.0	65.4	24.2
Williamson Tea	(2.3)	12.8	7.6	4.0	34.3	11.3
CMC	7.0	4.2	6.3	7.5	11.3	7.3
Kenya Airways	11.3	17.1	38.3	52.3	41.1	32.0
Nation Media Group	17.4	12.7	10.7	14.9	21.2	15.4
Tourism Promotion Services	10.4	10.3	8.8	8.8	11.2	9.9
Uchumi	5.4	9.5	34.1	30.6	42.4	24.4
Barclays Bank of Kenya	17.8	25.9	20.0	25.8	36.7	25.3
CFC	8.7	7.4	10.4	10.8	14.9	10.4
Housing Finance Company	5.5	(18.9)	3.6	4.5	18.5	2.6
Kenya Commercial Bank	(57.0)	2.4	(5.8)	(17.6)	10.9	(13.4)
Standard Chartered Bank	38.8	39.9	34.0	38.4	35.8	37.4
Athi River Mining	6.7	4.1	3.6	3.2	1.2	3.8
Bamburi	12.4	7.3	3.2	7.1	5.4	7.1
BAT	20.0	14.7	13.5	24.9	25.6	19.7
Carbacid	8.3	7.0	15.1	17.9	14.9	12.6
East Africa Breweries	20.8	15.7	14.1	15.0	2.0	1.4
Firestone	15.6	21.8	19.6	31.9	47.9	27.4
Kenya Power & Lighting	(53.5)	(264.9)	(79.7)	22.6	24.0	(70.3)
Total Kenya	(7.2)	4.5	(7.8)	(18.9)	(18.1)	9.5
Unga Group	(5.1)	(9.7)	(55.1)	(9.8)	(25.8)	(21.1)
East African Portland	6.5	28.8	(25.8)	(106.9)	22.1	(15.1)

4.2 CLASSIFICATION OF COMPANIES

4.2.1 Classification of companies based on sectors.

The analysis of the working capital management policy for each of the sectors are as shown in table 4.3 on the next page.

Table 4.3: Classification of companies based on sectors

	Long-term Financing of C.A (%)	Return on Equity (%)
AGRICULTURAL		
Brooke Bond Ltd	49.6	5.8
Kakuzi	-11.1	0.4
Rea Vipingo Plantations Ltd	1.3	1.2
Sasini Tea & Coffee Ltd	55.4	3.5
Mean	23.80	2.73
Standard deviation	29.11	2.11
COMMERCIAL AND SERVICES		
CMC Holdings Ltd	31.7	7.2
Kenya Airways Ltd	30.4	32.0
Nation Media Group	38.9	15.4
Tourism Promotion Services Ltd (Serena)	0.7	9.9
Uchumi Supermarket Ltd	2.4	24.4
Mean	20.82	17.78
Standard deviation	16.01	9.23
FINANCE AND INVESTMENT		
Barclays Bank Ltd	10.0	25.3
Kenya Commercial Bank Ltd	5.8	-13.4
CFC Bank	18.3	10.4
Housing Finance Company	4.2	2.6
Standard Chartered Bank	7.5	37.4
Mean	9.16	12.46
Standard deviation	4.96	17.65
INDUSTRIAL AND ALLIED		
Athi River Mining	0.3	3.7
Bamburi Cement Ltd	40.9	7.1
British American Tobacco Kenya Ltd	45.3	19.7
Carbacid Investments Ltd	88.9	12.6
E.A. Portland Cement Ltd	44.4	-15.1
East African Breweries Ltd	25.0	13.5
Firestone East Africa Ltd	60.0	27.4
Total Kenya Ltd	6.6	-9.5
Kenya Power & Lighting co.	-12.2	-70.3
Unga Group	-9.4	-21.1
Mean	28.98	-3.20
Standard deviation	31.16	26.73
ALTERNATIVE INVESTMENT MARKET		
A. Baumann & Co. Ltd	48.3	-1.6
City Trust Ltd	80.7	8.6
Eaagads Ltd	73.5	5.6
Williamson Tea Kenya Ltd	38.0	11.3
Kapchorua Tea Co. Ltd	57.6	4.7
Limuru Tea Co. Ltd	64.7	24.2
Mean	60.47	8.80
Standard deviation	14.48	7.94

The results show that the alternative investment market has the highest long-term

financing of current assets of 60.7 per cent while the finance and investment has the least long-term financing of current assets of 9.16 per cent. In terms of return on equity the commercial and services sector has the highest return of 17.78 per cent while industrial and allied had the least return of negative 3.2 per cent.

4.2.2 Classification of companies based on long-term financing of current assets

Table 4.4: Classification of companies based on long-term financing of current assets.

	Long-term Financing of C.A (%)	Return on Equity (%)
Aggressive		
Kenya Power & Lighting co.	-12.2	-70.3
Kakuzi	-11.1	0.4
Unga Group	-9.4	-21.1
Athi River Mining	0.3	3.7
Tourism Promotion Services Ltd (Serena)	0.7	9.9
Rea Vipingo Plantations Ltd	1.3	1.2
Uchumi Supermarket Ltd	2.4	24.4
Housing Finance Company	4.2	2.6
Kenya Commercial Bank Ltd	5.8	-13.4
Total Kenya Ltd	6.6	-9.5
Standard Chartered Bank	7.5	37.4
Barclays Bank Ltd	10.0	25.3
CFC Bank	18.3	10.4
East African Breweries Ltd	25.0	13.5
Mean	3.53	1.04
Stanard deviation	10.02	25.85
Moderate		
Kenya Airways Ltd	30.4	32.0
CMC Holdings Ltd	31.7	7.2
Williamson Tea Kenya Ltd	38.0	11.3
Nation Media Group	38.9	15.4
Bamburi Cement Ltd	40.9	7.1
E.A.Portland Cement Ltd	44.4	-15.1
British American Tobacco Kenya Ltd	45.3	19.7
A Baumann & Co.Ltd	48.3	-1.6
Brooke Bond Ltd	49.6	5.8
Sasini Tea & Coffee Ltd	55.4	3.5
Kapchorua Tea Co. Ltd	57.6	4.7
Mean	43.68	8.18
Stanard deviation	8.38	12.01
Conservative		
Firestone East Africa Ltd	60.0	27.4
Limuru Tea Co. Ltd	64.7	24.2
Eaagads Ltd	73.5	5.6
City Trust Ltd	80.7	8.6
Carbacid Investments Ltd	88.9	12.6
Mean	73.56	15.68
Stanard deviation	10.47	9.63

The companies in the sample have been grouped into three depending on their financing of current assets using long-term funds. A five year's average percentage of long-term financing of current assets for each of the companies has been used.

TESTS OF SIGNIFICANCE

The categorization is based on the following:

- Conservative working capital management policy.

All companies whose average long-term financing of current assets is at least sixty percent.

- Moderate working capital management policy.

All companies whose average long-term financing of current assets is more than thirty per cent but less than sixty per cent.

- Aggressive working capital management policy.

All companies whose average long-term financing of current assets is less than thirty percent.

The resultant grouping is as shown in table 4.4 on page 28.

Based on the results of the research the common working capital management policy is the aggressive policy which represented fourteen out of the sampled thirty companies. Thus about forty seven percent of the sampled firms practice the aggressive policy. The second prominent policy was the moderate policy which had eleven companies thus representing about thirty seven per cent of the sample. The least practiced policy was conservative which had only five companies thus representing about sixteen percent of the firms sampled.

Under the aggressive policy the mean long-term financing of current assets was 3.53 percent with a standard deviation of 10.02 per cent. The moderate policy had a mean long-term financing of current assets of 43.68 percent with a standard deviation of 8.38 percent. The least practiced, conservative policy, had a mean of 73.56 with a standard deviation of 10.47 per cent.

The prominence of the aggressive policy among public companies in Kenya would be as a result of the high cost of funds in Kenya and thus management of most firms prefer not to

finance current assets using long term funds. Current sources of funds like accounts payable which often bear minimal cost are thus used instead of long-term debt and equity which are often expensive.

4.3 TESTS OF SIGNIFICANCE

4.3.1 Testing for significance for differences of working capital management policies across sectors.

In order to compare the working capital management policies across the five sectors the mean working capital management policy and the standard deviation for each sector were used. The significance of the differences were tested using the student 't' statistic. The formula for computing 't' is as given on appendix II on page 53.

The null hypothesis is that there are no differences in the working capital management policies across the sectors while the alternative hypothesis is that the working capital management policies are not the same across the sectors. The statistical significance of the differences have been tested at 95 per cent confidence level. The results are as summarized in table 4.5 below.

Table 4.5: Summary of comparison of working capital management policies across sectors

Sectors	Mean Difference	Standard Error	Sample t value	critical value of t	Remark
Agricultural vz. Commercial and Services	2.98	16.221	0.183	2.31	Not significant
Agricultural vz. Finance and Investment	14.64	14.723	0.994	2.31	Not significant
Agricultural Sector vz. Industrial and Allied	-5.18	17.577	-0.294	2.16	Not significant
Agricultural Sector vz. Alternative Investment Market	-36.67	15.710	-2.334	2.26	Significant
Commercial and Services vs Finance and Investment	11.66	7.496	1.550	2.26	Not significant
Commercial and Services vs Industrial and Allied	-8.16	12.180	-0.670	2.14	Not significant
Commercial and Services vs Alternative Invest.	-39.65	9.284	-4.270	2.23	Significant
Finance and Investment vs Industrial and Allied	-19.82	10.100	-1.962	2.14	Not significant
Finance and Investment vs Alternative Invest. Market	-51.31	6.314	-8.126	2.23	Significant
Industrial and Allied vs Alternative Investment Market	-31.49	11.491	-2.740	2.13	Not significant

The results show that the only statistically significant differences exist between commercial and services sector and Alternative investment market, Finance and investment sector and Alternative investment market and also between the agricultural sector and the alternative investment market. Therefore there does not exist any significant differences in working capital management policies across the sectors except for the ones noted. The alternative investment market is the one that tends to be different from the other sectors in terms of

working capital management policy. Thus irrespective of the sector, the long-term financing of the current assets tends to be the same across the other sectors.

4.3.2 Testing for profitability differences across working capital management policies.

In order to compare the effect on profitability of different working capital management policies the mean return on equity and the standard deviation for each policy were used. The significance of the differences were tested using the student 't' statistic. The formula for computing 't' is as given on appendix II on page 53.

The null hypothesis is that there are no differences in the returns on equity across the policies while the alternative hypothesis is that the returns on equity are not the same across the policies. The statistical significance of the differences have been tested at 95 per cent confidence level. The results are as summarized in the table 4.6 below:

Table 4.6 : Summary of comparison of profitability of working capital management policies

Policy	Mean Difference	Standard Error	t value	Sample dof	critical value of t	Remark
Aggressive policy vs Moderate policy	-7.14	7.8	-0.915	24	2.06	Not significant
Aggressive policy vs Conservative policy	-14.64	8.141	-1.793	18	2.10	Not significant
Moderate policy vs Conservative policy	-7.5	5.267	-1.424	15	2.14	Not significant

The results of comparing the profitability of the companies that fall under the three different working capital management policies shows that there is no significant difference in return on equity across the three policies. The sample values of the student 't' statistic was well within the required limit in all the three cases thus showing that the working capital management policy adopted by a company did not significantly affect the return on equity of the particular company.

Thus irrespective of the working capital management policy followed by a company it does not have any significant influence on the return on equity reported by that firm.

4.4 REGRESSION ANALYSIS OF RETURN ON EQUITY ON WORKING CAPITAL MANAGEMENT POLICY.

A simple regression model has been used to find out if there is a relationship between the long-term financing of current assets and the return on equity for the firms in the sample. The strength of this relationship has also been computed.

The dependent variable (y) is the return on equity while the independent variable (x) is the working capital management policy as measured by the long-term financing of current assets. The formula for the simple regression model is as shown in the appendix II on page 53.

The resultant regression equation is as given below:

$$y = -0.67 + 0.226x$$

The strength of the relationship has also been tested using r^2 which shows the proportion of the variation in the dependent variable (in this case return on equity) which is explained by the independent variable (in this case the long-term financing of current assets).

The resultant value of r^2 is 0.527.

The regression analysis show that the long-term financing of current assets is a weak predictor of the return on equity of a company. The value of r^2 which measures the strength of the relationship in a regression equation was only 52.7 percent. Thus other variables account for about 47.3 percent of the variation in return on equity.

liquidity requirements by the regulatory bodies, more specifically the Capital Markets Authority.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The research findings show that the aggressive working capital management policy is the most predominant among the public companies in Kenya. This would be partly due to the high cost of long-term funds in Kenya which for most part of the research period were above twenty percent. Management of most companies would thus tend to use the short-term funds like trade creditors which often carry very minimal direct costs. The cost consideration thus dominates the need to match the duration of the source of funds with the life of the asset to be financed. Under the maturity matching concept one would have expected that the companies that require heavy investment in current assets could use more long term financing but this was not the case. The other source of long-term funds namely the owners' equity might also not have been attractive to the companies because of the costs, for instance, floatation costs associated with raising such funds besides the annual dividend expectations from the shareholders.

The findings on the research do not show any significant differences between the working capital management policies across the various sectors as categorized by the Nairobi stock exchange. The only significant differences that were noted tended to touch on the alternative market sector and the other sectors. The alternative market sector is subject to less stringent requirements by the Capital markets authority and thus the resultant difference in its working capital management policy as compared to the other sectors. The absence of significant differences in working capital management policies across the other sectors would be based on the fact that the companies are exposed to the same macro-economic conditions and thus tend to have the same working capital management policies. For example the companies are exposed to the same political/legal framework as well as the same inflation rates and tax system. The companies will therefore tend to make decisions, to invest long term funds in current assets, that are somewhat similar due to this exposure to the same macro-economic conditions. The similarity of the working capital management policies across the sectors would also result from the working capital

adequacy requirements by the regulatory bodies more specifically the Capital Markets Authority.

Further the research findings show that there are no significant differences in return on equity among companies that practice different working capital management policies. The factors that affect the return on equity of the various companies thus tend to influence them to the same extent irrespective of the working capital management policy followed by any given company. Factors like cost of power, transportation, and labour form a significant portion of the operating expenses of companies and thus will influence companies to the same extent irrespective of the working capital management policy adopted by any given company. For instance the road network in Kenya during the period 1998 to 2002 was in a very bad state as a result of the eli-nino rains in 1997 and this affected all the companies to almost the same extent. The power rationing during the period 1999 to 2000 also affected the power costs incurred by the firms to the same extent and thus their return on equity. The regression analysis thus showed that working capital management policy explained only fifty three percent of the variation on return on equity leaving forty seven percent to be explained by other factors.

The absence of a strong relationship between long-term financing of current assets and return on equity would also be based on the different levels of equity financing of the companies. A highly equity financed company following aggressive working capital policy, which is more risk but more profitable than the conservative policy, would still have reported the same or even lower return on equity than a low equity financed company following conservative policy. This is because of measuring profitability as the ratio of net profit to owners' equity. The results might thus have been different had the measure of profitability been taken as return on assets or any other measure.

5.2 RECOMMENDATIONS

Based on the research there does not appear to be any working capital management policy that is superior to the others in terms of its effect on profits. Management of the various public companies should therefore feel free to pursue any particular working capital

management policy which they deem convenient to them. There also does not appear to be any particular working capital management policy that is peculiar to any particular sector and thus irrespective of the sector any policy will be applicable. Management should devote their time to the activities that enhance the efficiency of their firms and those strategic actions that increase their competitiveness in the market place and thus improving the return to their shareholders.

5.3 LIMITATIONS OF THE STUDY

The study however faced a number of limitations as discussed below.

Other factors that are not financially quantifiable but affect profits were not considered in the study as it was based on the audited financial statements. Apart from the working capital management other factors like different management style, staff motivation, quality of the production equipment, and the goodwill of the company have a strong influence on a company's profitability but these factors were not considered in the study.

The time available for the study was not sufficient to allow for a more detailed study of the effect of the working capital management policy on the return on equity. Because of time limitation a detailed analysis of the current liabilities was not carried out. The effect of a change in working capital management policy on profitability from year to year was not possible because of the time factor. The time factor therefore hindered the researcher from extending the research for a longer period and considering the influence of other factors that would have changed over the study period.

The financial resources allocated for the research were hardly enough for it and as such a more detailed study would not be carried out. Data collection and its analysis is an expensive exercise and without adequate resources the researcher would not carry out an extensive research.

5.4 SUGGESTIONS FOR FURTHER STUDY

The study provides a starting point for helping stakeholders in public companies in Kenya

to look for ways of improving profitability through efficient utilization of financial resources at their disposal. There is room for research into the effect on profitability of a single company of changes on working capital management policy over time.

The effect on profitability of changes in the components of the individual elements of working capital is also an area that can be researched on. The individual elements of working capital are associated with different cost levels and therefore changes in their mix is likely to affect profitability of a company

There is also room to research on the other factors that affect the profitability of the companies like the staff morale, adequacy and quality of tools used and the management style. These are factors that are normally not shown in the financial statements but nevertheless have a bearing on the level of profits and thus return on equity.

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Appendix I: Financial Data of The Sampled Companies

Brooke Bond

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non-Current Assets	4,807,954	5,019,479	5,104,990	5,057,752	5,274,816
Current Assts	1,419,209	1,149,394	1,487,542	1,048,130	816,182
Current Liabilities	629,533	581,231	810,500	764,083	742,443
Net Current Assets	789,676	568,163	677,042	284,047	73,739
Total Net Assets	5,597,630	5,587,642	5,782,032	5,341,799	5,348,555
FINANCED BY					
Share Capital	488,750	488,750	488,750	488,750	488,750
Share Premium	2,990	2,990	2,990	2,990	0
Revaluation Surplus /Reserves	2,078,703	2,127,805	2,613,478	2,663,785	4,794,064
Retained Earnings	1,433,355	1,368,685	1,011,031	804,985	0
Proposed Dividends	122,188	97,750	293,250	0	0
Shareholders Funds	4,125,986	4,085,980	4,409,499	3,960,510	5,282,814
Non-Current Liabilities	1,457,021	1,487,929	1,351,489	1,361,594	42,351
Minority Interest	14,623	13,733	21044	19,695	23,390
Total Financing	5,597,630	5,587,642	5,782,032	5,341,799	5,348,555
TURNOVER	4,251,285	4,371,947	4,117,143	3,123,166	4,220,851
Profit before taxation	217,603	328,031	664,664	343,146	473,386
Taxation	(78,957)	(106,189)	(210,000)	(123,402)	(233,714)
Profit/ (Loss) after taxation	138,646	221,842	454,664	219,744	239,672
Minority Interests	(890)	1,432	(5,675)	(4,464)	(9,966)
Profits attributable to Shareholders	137,756	223,274	448,989	215,280	229,706

Kakuzi

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non Current assets	2,234,919	2,446,684	2,721,435	2,722,554	2,583,751
Current Assets	588,903	520,376	591,948	555,397	450,991
Current Liabilities	590,669	677,275	667,070	502,258	549,264
Net Current Assets	(1,766)	(156,899)	(75,122)	53,139	(98,273)
Total Capital Employed	2,233,153	2,289,785	2,646,313	2,775,693	2,485,478
FINANCED BY					
Share Capital	98,000	98,000	98,000	98,000	98,000
Reserves	969,771	1,018,515	1,956,325	1,992,145	1,993,174
Proposed dividends	-	-	-	19,600	0
Retained earnings	729,481	672,851	-	-	0
Shareholders' Funds	1,797,252	1,789,366	2,054,325	2,109,745	2,091,174
Minority Interest	0	53,918	81,319	96,676	95,489
Non current Liabilities	435,901	446,501	510,669	569,272	298,815
Total Financing	2,233,153	2,289,785	2,646,313	2,775,693	2,485,478
TURNOVER	1,082,190	1,250,943	1,212,796	1,090,782	1,258,425
Profit / (Loss) before taxation	8,471	(95,934)	(85,766)	(16,615)	146,286
Taxation	(388)	41,767	42,135	54,507	(38,536)
Profit/ (Loss) after taxation	8,083	(54,167)	(43,631)	37,892	107,750
Minority Interest	(490)	8,944	15,358	(1,187)	(7,527)
Profit /Loss Attributable	7,593	(45,223)	(28,273)	36,705	100,223

Sasini

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non-Current Assets	1,735,455	1,718,836	2,084,282	2,114,658	2,162,970
Current Assets	482,870	364,380	466,633	350,244	387,680
Current liabilities	258,015	152,342	200,450	125,599	189,680
Net current assets	224,855	212,038	266,183	224,645	198,000
Total Net Assets	1,960,310	1,930,874	2,350,465	2,339,303	2,360,970
FINANCED BY					
Share Capital	190,046	190,046	190,046	190,046	190,046
Reserves	1,564,866	1,642,171	2,008,832	1,945,527	1,940,015
Proposed Dividend	0	9,502	0	0	0
Shareholders funds	1,754,912	1,841,719	2,198,878	2,135,573	2,130,061
Minority Interest	89,418	53,564	67,652	71,352	78,933
Non Current Liabilities	115,980	65,591	83,935	132,378	151,976
Total Financing	1,960,310	1,960,874	2,350,465	2,339,303	2,360,970
TURNOVER	848,445	874,602	1,017,484	766,107	955,799
Profit / Loss before taxation	(68,415)	36,436	161,594	50,002	209,182
Exceptional item	41,822	-	(2,375)	-	-
Profit/(Loss) before taxation	(26,593)	36,436	159,219	50,002	209,182
Taxation	9,807	(24,114)	(52,954)	(44,230)	(84,865)
Profit/ (Loss) after taxation	(16,786)	12,322	106,265	5,772	124,317
Minority Interests	9,846	3,068	4,507	6,306	(2,611)
Profit attributable to shareholders	(6,940)	15,390	110,772	12,078	121,706

Rea Vipingo.

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non-current assets	557,986	562,586	572,510	633,778	539,432
Current Assets	265,067	290,349	277,036	370,603	303,910
Current Liabilities	169,076	240,710	245,799	497,641	330,116
Net Current Assets	95,991	49,639	31,237	(127,038)	(26,206)
Total Net Assets	653,977	612,225	603,747	506,740	513,226
FINANCED BY					
Share Capital	300,000	300,000	300,000	300,000	300,000
Share premium	84,496	84,496	84,496	84,496	84,496
Reserves	(21,867)	(12,327)	268	4,935	2,261
Retained Earnings	73,762	63,953	61,017	106,111	122,067
Proposed Dividends	15,000	0	0	0	0
Shareholders' Funds/Grants	451,391	436,122	445,781	495,542	508,824
Non-Current Liabilities	202,586	176,103	157,966	11198	4,402
Total Financing	653,977	612,225	603,747	506,740	513,226
TURNOVER	665,830	598,477	595,677	533,289	517,975
Profit/(Loss) before taxation	47,108	8,955	(46,292)	(7,723)	48,773
Taxation	(22,299)	(4,959)	12,282	1,120	(4,689)
Profit/(Loss) after taxation	24,809	3,996	(34,010)	(6,603)	44,084

A. Baumann

ASSETS EMPLOYED	2002	2001	2000	1999	1998
on Current Assets	301,972	358,594	370,164	361,551	390,940
Current Assets	146,248	129,118	157,565	285,643	181,916
Current Liabilities	61,019	48,021	73,387	206,330	110,916
Net current Assets	85,229	81,097	84,178	79,313	71,000
Total Net Assets	387,201	439,691	454,342	440,864	461,940
FINANCED BY					
Share Capital	19,200	19,200	19,200	19,200	19,200
Reserves	367,001	415,651	430,302	418,583	433,003
Proposed dividend	0	3,840	3,840	0	0
Shareholders Funds	386,201	438,691	453,342	437,783	452,203
Minority interests	1,000	1,000	1,000	1,000	1,000
Long Term Liabilities	-	0	0	2,081	9,329
Total Financing	387,201	439,691	454,342	440,864	462,532
TURNOVER	112,749	108,808	117,836	139,319	226,879
Profit (Loss) Before Taxation	(51,494)	1,060	5,463	16,149	5,097
Taxation	3,402	3,642	1,161	3,471	(1,704)
Profit (Loss) After Taxation	(48,092)	(2,582)	4,302	12,678	3,393

City Trust

ASSET EMPLOYED	2002	2001	2000	1999	1998
Non current Assets	171,898	171,992	171,898	173,702	173,702
Currents Assets	37,681	39,827	39,893	46,942	46,986
Current Liabilities	6,212	5,471	4,794	12,705	12,751
Net Current Assets	31,469	34,356	35,099	34,237	34,235
Total Net Assets	203,367	206,348	206,997	207,939	207,937
FINANCED BY					
Share Capital	20,830	20,830	20,830	20,830	20,830
Revenue reserves	174,050	177,031	184,549	175,216	175,214
Share Premium	155	155	-	-	-
Proposed dividends	8,332	8,332	-	-	-
Loan Capital	-	-	1,618	11,893	11,893
Shareholders funds	203,367	206,348	206,997	207,939	207,937
Total Financing	203,367	206,348	206,997	207,939	207,937
TURNOVER	9,145	12,220	12,817	15,592	47,716
Profit (Loss) Before Taxation	7,283	9,869	10,257	11,322	41,458
Taxation	(1,932)	(588)	924	2,989	7,757
Profit (Loss) After Taxation	5,351	9,281	11,181	14,311	49,215

Eaagads

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non current assets	131,181	133,691	135,995	140,204	125,448
Current Assets	71,494	66,050	64,672	75,032	106,875
Current Liabilities	8,197	6,008	15,608	31,846	48,222
Net Current Assets	63,297	60,042	49,064	43,186	58,653
Total Net Assets	194,478	193,733	185,059	183,390	184,101
FINANCED BY					
Share Capital	10,049	10,049	8,039	8,039	8,039
Reserves	144,501	143,997	75,836	99,815	99,816
Retained Profits		4,020	67,002	75,535	76,246
Proposed dividends	4,020				
Shareholders' Funds	158,570	158,066	150,877	183,389	184,101
Non current Liabilities	35,908	35,667	34,182	0	0
Total Financing	194,478	193,733	185,059	183,389	184,101
TURNOVER	82,037	64,378	61,154	54,860	144,758
Profit (Loss) Before Taxation	6,391	2,656	3,115	9,762	71,573
Taxation	(2,530)	(1,709)	(11,649)	(2,433)	(22,824)
Profit (Loss) After Taxation	3,861	947	(8,534)	7,329	48,749

Kapchorua Tea

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non-current assets	468,829	444,039	451,550	429,879	286,292
Current assets	158,187	193,559	155,421	148,538	254,640
Current Liabilities	62,375	74,628	60,543	53,505	150,394
Net current assets	95,812	118,931	94,878	95,033	104,246
Total net assets	564,641	562,970	546,428	524,912	390,538
FINANCED BY					
Share Capital	19,560	19,560	19,560	19,560	19,560
Reserves	399,667	395,029	396,307	505,352	370,978
Proposed dividends	1,956	9780	-	-	-
Shareholders funds	421,183	424,369	415,867	524,912	390,538
Non Current liabilities	143,458	138,601	130,561	-	-
Total Financing	564,641	562,970	546,428	524,912	390,538
TURNOVER	383,334	345,183	345,311	323,568	341,578
Profit (Loss) Before Taxation	(18,019)	11,710	20,283	25,545	109,787
Taxation	2,052	(5,452)	(5,416)	(10,123)	-35,214
Profit (Loss) After Taxation	(15,967)	6,258	14,867	15,422	74,573

LIMURU TEA

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non-Current Assets	14,487	14,952	17,518	19,142	18,508
Current Assets	31,996	30,481	31,546	26,112	32,454
Current Liabilities	6,602	9,564	8,208	10,225	19,234
Net Current Assets	25,394	20,917	23,338	15,887	13,220
Total Assets	39,881	35,869	40,856	35,029	31,728
FINANCED BY					
Share Capital	12,000	12,000	4,000	4,000	4,000
Revaluation surplus/ Reserves	1,372	1,441	3,194	3,266	27,728
Proposed Dividends	1,800	0	6,000		
Retained earnings	15,083	14,737	25,648	24,752	-
Shareholders' funds	30,255	28,178	38,842	32,018	31,728
Non current Liabilities	9,626	7,691	2,014	3,011	-
Total Financing	39,881	35,869	40,856	35,029	31,728
TURNOVER					
Profit (Loss) Before Taxation	4,082	(3,991)	16,998	14,242	30,169
Taxation	(2,005)	1,008	(5,174)	(4,941)	(9,407)
Profit (Loss) After Taxation	2,077	(2,983)	11,824	9,301	20,762

Williamson Tea Kenya

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non-Current Assets	1,910,774	1,865,442	1,875,206	1,893,067	1,158,216
Current assets	472,044	592,414	432,955	387,670	565,603
Current Liabilities	194,928	275,714	286,564	299,783	446,068
Net current assets/(liabilities)	277,116	316,700	146,391	87,887	119,535
Total Net Assets	2,187,890	2,182,142	2,021,597	1,980,954	1,277,751
FINANCED BY					
Share Capital	43,782	43,782	43,782	43,782	43,782
Reserves *	1,594,598	1,596,442	1,429,471	1,868,920	1,193,079
Proposed dividends (gross)	4,378	43,782	0	0	0
Shareholders' Funds	1,642,758	1,684,006	1,473,253	1,912,702	1,236,861
Minority Interest	56,545	58,536	54,915	68,252	40,890
Non-Current liabilities	488,587	439,600	493,429	0	0
Total Financing	2,187,890	2,182,142	2,021,597	1,980,954	1,277,751
TURNOVER					
Profit/(Loss) before taxation	(38,300)	215,539	112,461	77,005	424,429
Taxation	774	(74,955)	(30,746)	(15,689)	(135,128)
Profit/(Loss) after taxation	(37,526)	140,584	81,715	61,316	289,301
Minority Interest	3,091	(4,346)	(3,479)	(2,614)	(10,937)
Net (Loss) profit	(34,435)	136,238	78,236	58,702	278,364

CMC

ASSETS EMPLOYED	2002	*2001	2000	1999	1998
Non- Current Assets	1,192,531	1,366,917	1,528,982	1,252,079	501,508
Current Assets	3,264,631	2,739,179	3,070,857	3,820,858	3,618,392
Current Liabilities	1,992,289	1,735,751	2,144,068	2,819,586	2,660,923
Net current Assets	1,272,342	1,003,428	926,789	1,001,272	957,469
Total Net Assets	2,464,873	2,370,345	2,455,771	2,253,351	1,458,977
FINANCED BY					
Share Capital	121,398	121,398	121,398	121,398	121,398
Reserves	545,935	590,804	582,736	2,029,288	1,248,526
Retained Earnings	1,505,299	1,315,241	1,237,097	0	0
Proposed Dividends	24,280	18,210	18,210	0	0
Shareholders Funds	2,196,912	2,045,653	1,959,441	2,150,686	1,369,924
Minority Interests	1,491	2,381	2,537	3,160	3,132
Non-current Liabilities	266,470	322,311	493,793	99,505	85,921
Total Financing	2,464,873	2,370,345	2,455,771	2,253,351	1,458,977
TURNOVER					
Profit (Loss) Before Taxation	241,150	139,806	183,904	250,607	246,993
Taxation	(89,260)	(53,100)	(61,446)	(90,072)	(92,097)
Profit (Loss) After Taxation	151,890	86,706	122,458	160,535	154,896
Minority Interests	890	156	196	(28)	259
Attributable Profit	152,780	86,862	122,654	160,507	155,155

Kenya Airways

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Fixed Assets	13,734,000	12,576,000	10,682,000	11,615,000	8,488,000
Current Assets	8,436,000	10,691,000	12,258,000	6,096,000	4,904,000
Current Liabilities	6,848,000	6,678,000	7,673,000	3,974,000	3,763,000
Net current Assets	1,588,000	4,013,000	4,585,000	2,122,000	1,141,000
Total Net Assets	15,322,000	16,589,000	15,267,000	13,737,000	9,629,000
FINANCED BY					
Share Capital	2,308,000	2,308,000	2,308,000	2,308,000	2,308,000
Capital Reserve	5,078,000	5,271,000	4,956,000	0	0
Proposed Dividends	277,000	346,000	0	0	0
Shareholders Funds	7,663,000	7,925,000	7,264,000	2,308,000	2,308,000
Non-current liabilities	7,659,000	8,664,000	8,003,000	6,048,000	3,122,000
Retained profits	-	-	-	5,381,000	4,199,000
Total Financing	15,322,000	16,589,000	15,267,000	13,737,000	9,629,000
TURNOVER					
Profit Before Taxation	1,059,000	2,044,000	2,853,000	1,425,000	1,436,000
Taxation	190,000	687,000	69,000	218,000	122,000
Payable dividends	-	-	-	-	461,000
Transfer from capital reserves	-	-	-	-	95
Net profit for the year	869,000	1,357,000	2,784,000	1,207,000	948,000

Nation Media Group					
ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non current Assets	1,516,300	1,631,900	1,755,400	1,636,700	1,389,500
Current Assets	2,097,100	1,217,500	1,163,600	961,700	813,000
Current Liabilities	1,221,500	698,500	687,500	765,600	415,600
Net current Assets	875,600	519,000	476,100	196,100	397,400
Total Net Assets	2,391,900	2,150,900	2,231,500	1,832,800	1,786,900
FINANCED BY					
Share Capital	267,500	178,300	178,300	178,300	178,300
Revaluation Reserve	66,800	65,100	188,400	211,700	231,100
Retained earnings	1,899,000	1,718,100	1,481,100	1,288,300	1,127,400
Proposed Dividends	93,600	57,000	42,800	0	0
Shareholders Funds	2,326,900	2,018,500	1,890,600	1,678,300	1,536,800
Minority interests	4,700	20,900	17,300	2,900	3,100
Non current liabilities	60,300	111,500	323,600	151,600	247,000
Total Financing	2,391,900	2,150,900	2,231,500	1,832,800	1,786,900
TURNOVER					
Profit Before Taxation	635,200	390,200	296,100	342,200	497,700
Taxation	(255,900)	(127,000)	(96,000)	(92,400)	(171,200)
Profit After Taxation	379,300	263,200	200,100	249,800	326,500
Minority Interests	24,500	(6,500)	3,000	0	0
Net Profit	403,800	256,700	203,100	249,800	326,500

TPS

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non Current Assets	1,351,584	1,357,256	1,342,856	1,183,331	653,365
Current Assets	771,208	648,434	549,095	382,975	302,735
Current Liabilities	710,994	619,009	603,457	363,008	314,986
Net current Assets	60,214	29,425	(54,362)	19,967	(12,251)
Total Net Assets	1,411,798	1,386,681	1,288,494	1,203,298	641,114
FINANCED BY					
Share Capital	193,395	193,395	193,395	193,395	193,395
Reserves	416,210	395,075	468,086	477,317	175,220
Retained earnings	368,978	304,874	243,591	193,855	143,967
Proposed dividends	42,547	42,547	42,547	38,679	0
Shareholders Funds	1,021,130	935,891	947,619	903,246	512,582
Non current Liabilities	390,668	450,790	340,875	300,052	128,532
Total Financing	1,411,798	1,386,681	1,288,494	1,203,298	641,114
TURNOVER					
Profit Before Taxation	168,987	138,699	117,113	103,813	89,216
Taxation	(63,098)	(41,993)	(34,061)	(24,477)	(31,854)
Profit After Taxation	105,889	96,706	83,052	79,336	57,362

Uchumi

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non-current Assets	1,375,971	959,979	737,248	500,882	507,934
Current Assets	1,163,994	988,506	1,526,164	1,329,248	1,351,778
Current Liabilities	1,607,486	1,010,580	1,325,368	1,032,134	1,121,826
Net current Assets/Liabilities	(443,492)	(22,074)	200,796	297,114	229,952
Non-Current Liabilities	4,910	0	0	0	0
Total Net Assets	927,569	937,905	938,044	797,996	737,886
FINANCED BY					
Share Capital	300,000	300,000	300,000	300,000	300,000
Share Premium	129,452	129,452	129,452	129,452	437,886
Revaluation Reserves	105,566	108,452	32,508	34,174	0
Retained earnings	362,551	340,001	476,084	334,370	0
Proposed Dividends	30,000	60,000	0	0	0
Total Financing	927,569	937,905	938,044	797,996	737,886
TURNOVER					
	7,936,755	7,954,005	7,228,371	5,968,031	5,968,031
Profit Before Taxation	80,206	151,082	462,530	375,097	485,354
Taxation	30,542	61,884	142,482	130,708	172,742
Profit After Taxation	49,664	89,198	320,048	244,389	312,612
Dividends	30,000	96,000	180,000	180,000	225,000
Retained Profits	19,664	-6,802	140,048	64,389	87,612

BARCLAYS BANK OF KENYA

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non current assets	2,405,000	2,698,000	2,437,000	2,532,000	2,917,000
Current Assets	83,509,000	70,949,000	67,940,000	66,760,000	67,445,000
Current Liabilities	75,925,000	62,247,000	60,034,000	60,554,000	62,193,000
Net Current Assets	7,584,000	8,702,000	7,906,000	6,206,000	5,252,000
Total Net Assets	9,989,000	11,400,000	10,343,000	8,738,000	8,169,000
FINANCED BY					
Share Capital	1,852,000	1,852,000	1,852,000	1,543,000	1,543,000
Share Premium/Reserves	-	-	-	7,195,000	6,626,000
Retained earnings	7,025,000	7,464,000	7,102,000	-	-
Proposed dividends	1,112,000	2,084,000	1,389,000	-	-
Total Financing	9,989,000	11,400,000	10,343,000	8,738,000	8,169,000
Profit Before Taxation	2,550,000	4,235,000	3,035,000	3,361,000	4,242,000
Taxation	(767,000)	(1,280,000)	(967,000)	(1,107,000)	(1,242,000)
Net Profit	1,783,000	2,955,000	2,068,000	2,254,000	3,000,000

CFC BANK

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non Current assets	561,967	589,785	595,172	554,777	364,624
Current Assets	11,284,158	9,822,582	9,318,892	7,051,639	6,544,014
Current Liabilities	9,468,827	8,180,199	7,770,427	5,613,095	5,114,242
Net Current Assets	1,815,331	1,642,383	1,548,465	1,438,544	1,429,772
Total Net Assets	2,377,298	2,232,168	2,143,637	1,993,321	1,794,396
FINANCED BY					
Share Capital	600,000	600,000	600,000	500,000	500,000
Reserves	1,326,996	1,224,044	1,185,523	1,178,728	1,035,316
Proposed Dividends	80,400	80,400	80,400	67,000	67,000
Shareholder's Funds	2,007,396	1,904,444	1,865,923	1,745,728	1,602,316
Minority Interests	369,902	327,724	277,714	247,593	192,080
Total Financing	2,377,298	2,232,168	2,143,637	1,993,321	1,794,396
Profit Before Taxation	323,093	260,467	360,622	298,194	425,681
Taxation	(98,368)	(68,643)	(125,712)	(91,933)	(146,331)
Profit/Loss After Taxation	224,725	191,824	234,910	206,261	279,350
Minority Interests	(51,036)	(50,432)	(41,268)	(16,957)	(40,164)
Attributable Profit	173,689	141,392	193,642	189,304	239,186

Housing Finance Company					
ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non current Assets	605,044	845,672	895,728	1,235,065	532,671
Current Assets	9,840,173	10,868,800	12,238,487	11,826,082	12,298,565
Current Liabilities	9,420,530	10,729,052	11,664,685	11,502,466	11,287,037
Net Current Assets	419,643	139,748	573,802	323,616	101,528
Total Net Assets	1,024,687	985,420	1,469,530	1,558,681	1,544,199
FINANCED BY					
Share Capital	575,000	575,000	575,000	575,000	575,000
Reserves	382,353	326,502	759,195	866,596	843,822
Proposed Dividends	0	0	43,125	0	0
Shareholders Funds	67,334	83,918	92,210	117,085	125,377
Total Financing	1,024,687	985,420	1,469,530	1,558,681	1,544,199
Profit (Loss) Before Taxation	95,318	(255,765)	78,618	114,316	428,247
Taxation	(39,467)	69,222	(26,395)	(43,631)	(142,512)
Profit (Loss) After Taxation	55,851	(186,543)	52,223	70,685	285,735

KCB

Kenya Commercial Bank

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non current Assets	5,347,159	4,288,742	4,278,258	3,259,058	3,025,674
Current Assets	54,407,710	60,695,337	69,050,235	72,001,307	76,007,561
Current Liabilities	54,487,414	56,826,404	65,280,075	66,419,134	68,677,335
Net Current Assets	(79,704)	3,868,933	3,770,160	5,582,173	7,330,226
Total Net Assets	5,267,455	8,157,675	8,048,418	8,841,231	10,355,900
FINANCED BY					
Share Capital	1,496,000	1,496,000	1,122,000	1,122,000	1,122,000
Reserves	3,771,455	6,661,675	6,926,418	7,719,231	9,233,900
Shareholders funds	5,267,455	8,157,675	8,048,418	8,841,231	10,355,900
Total Financing	5,267,455	8,157,675	8,048,418	8,841,231	10,355,900
Profit /Loss before Taxation	(4,178,557)	182,958	(765,631)	(2,244,854)	1,410,598
Taxation	1,177,918	12,686	301,162	690,189	(284,353)
Profit /Loss after Taxation	(3,000,639)	195,644	(464,469)	(1,554,665)	1,126,245

SCBK

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non current assets			1,834,075	1,460,705	1,529,812
	1,769,589	1,765,474			
Current Assets	59,880,539	52,511,225	47,541,347	41,311,464	36,402,475
Current Liabilities	55,958,183	48,657,382	42,973,325	38,250,082	33,938,699
Net Current Assets	3,922,356	3,853,843	4,568,022	3,061,382	2,463,776
Total Net Assets	5,691,945	5,619,317	6,402,097	4,522,087	3,993,588
FINANCED BY					
Share Capital	1,236,217	1,236,217	1,236,217	824,145	824,145
Reserves	129,478	128,167	430,920	3,697,942	3,169,443
General provisions (statutory)		0	154,518	0	0
Retained earnings	3,374,363	3,204,148	2,948,635	0	0
Proposed dividends	951,887	1,050,785	1,631,807	0	0
Total Financing	5,691,945	5,619,317	6,402,097	4,522,087	3,993,588
Profit Before taxation	3,212,008	3,231,694	3,147,004	2,566,268	2,290,584
Taxation	(1,005,881)	(988,612)	(997,259)	(812,632)	(697,877)
General provisions			25,393	(16,517)	(163,394)
Profit attributable to shareholders	2,206,127	2,243,082	2,175,138	1,737,119	1,429,313

Athi River Mining Co.					
	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non current Assets	923,266	876,001	906,743	908,503	899,475
Current Assets	491,888	384,792	363,869	325,104	278,853
Current Liabilities	375,587	278,952	294,322	430,653	379,812
Net Current Assets	116,301	105,840	69,547	(105,549)	(100,959)
Total Net Assets	1,039,567	981,841	976,290	802,954	798,516
FINANCED BY					
Share Capital	465,000	465,000	375,000	375,000	375,000
Share premium	241,477	241,477	154,947	154,947	154,947
Reserves	147,025	126,835	118,763	92,311	69,999
Proposed dividends	9,300	0	0	0	0
Convertible bond	-	-	189,000	-	-
Shareholders fund	862,802	833,312	837,710	622,258	599,946
Non current Liabilities	176,765	148,529	138,580	180,696	198,570
Total Financing	1,039,567	981,841	976,290	802,954	798,516
TURNOVER	1,126,385	883,740	890,415	682,738	595,532
Profit Before Taxation	82,136	51,027	45,601	19,925	12,866
Taxation	(24,746)	(17,222)	(15,711)	280	(5,552)
Net Profit	57,390	33,805	29,890	20,205	7,314

Bamburi

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non- Current Assets	11,616,000	12,322,000	11,011,000	10,866,000	8,949,000
Current Assets	3,489,000	2,774,000	3,126,000	2,899,000	2,599,000
Current Liabilities	2,259,000	1,611,000	1,888,000	2,123,000	1,015,000
Net current Assets	1,230,000	1,163,000	1,238,000	776,000	1,584,000
Total Net Assets	12,846,000	13,485,000	12,249,000	11,642,000	10,533,000
FINANCED BY					
Share Capital	1,815,000	1,815,000	1,815,000	1,815,000	1,815,000
Retained earnings	4,411,000	4,281,000	3,764,000	3,490,000	3,475,000
Revaluation surplus/Reserves	3,590,000	3,762,000	3,222,000	3,616,000	5,241,000
Capital Redemption Reserve	2000	2,000	2,000	2,000	2,000.0
Fair Value Reserve	(25000)	(14,000)	0	0	0
Proposed dividend	181000	272,000	181,000	0	0
Translation Reserve	(97000)	(51,000)	(3,000)	0	0
Shareholders Funds	9,877,000	10,067,000	8,981,000	8,923,000	10,533,000
Minority Interests	540,000	518,000	458,000	465,000	0
Non Current Liabilities	2,429,000	2,900,000	2,810,000	2,254,000	0
Total Financing	12,846,000	13,485,000	12,249,000	11,642,000	10,533,000
TURNOVER	10,073,000	8,894,000	7,710,000	6,767,000	4,951,000
Profit Before Taxation	2,083,000	1,340,000	487,000	890,000	569,000
Taxation	(753,000)	(553,000)	(117,000)	(174,000)	(1,000)
Profit After Taxation	1,330,000	787,000	370,000	716,000	568,000
Minority interests	(102,000)	(56,000)	(81,000)	(86,000)	-
Attributable Profit	1,228,000	731,000	289,000	630,000	568,000

BAT

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non-Current Assets	3,421,765	3,401,060	3,483,043	3,303,879	3,068,361
Current Assets	2,892,031	3,244,444	3,673,538	3,834,811	3,397,363
Current Liabilities	1,579,221	1,972,713	2,266,595	1,351,190	2,079,887
Net Current Assets	1,312,810	1,271,731	1,406,943	2,483,621	1,317,476
Total Net Assets	4,734,575	4,672,791	4,889,986	5,787,500	4,385,837
FINANCED BY					
Share Capital	1,000,000	1,000,000	1,000,000	750,000	750,000
Share premium	23	23	23	23	0
Capital Reserves	829,489	817,650	953,103	981,676	1,964,975
Retained profit	2,031,298	2,087,030	2,205,477	2,634,194	1,670,862
Proposed dividends	250,000	210,000	165,000	600,000	0
Shareholders fund	4,110,810	4,114,703	4,323,603	4,965,893	4,385,837
Non-Current Liabilities	623,765	558,088	566,383	821,607	0
Total Financing	4,734,575	4,672,791	4,889,986	5,787,500	4,385,837
TURNOVER	9,422,530	10,363,992	10,895,622	11,037,539	11,726,706
Profit Before Taxation	1,310,423	851,343	682,970	1,874,466	1,751,790
Taxation	(487,303)	(247,234)	(100,260)	(637,068)	(628,516)
Profit Attributable to Shareholders	823,120	604,109	582,710	1,237,398	1,123,274

Carbacid

	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non-current assets	380,743	351,924	347,668	270,418	288,151
Current Assets	385,928	391,068	367,480	406,233	288,432
Current Liabilities	20,809	23,839	56,234	71,208	32,491
Net Current Assets	365,119	367,229	311,246	335,025	255,941
Total Net Assets	745,862	719,153	658,914	605,443	544,092
FINANCED BY					
Share Capital	56,634	56,634	47,195	47,195	47,195
Reserves	364,768	570,600	562,900	558,248	496,897
Proposed dividends	249,189	18,689	0	0	0
Shareholders funds	670,591	645,923	610,095	605,443	544,092
Non-current Liabilities	75,271	73,230	48,819	0	0
Total Financing	745,862	719,153	658,914	605,443	544,092
TURNOVER	174,433	155,474	219,413	212,008	203,043
Profit Before Taxation	78,859	70,813	133,511	169,801	130,678
Taxation	(23,043.0)	(25,818)	(41,298)	(61,255)	(49,824)
Profit After Taxation	55,816	44,995	92,213	108,546	80,854

Total Kenya Ltd	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non current assets	2,366,970	2,570,256	1,519,024	1,212,754	981,492
Current Assets	3,741,954	4,559,922	8,554,389	4,412,102	3,061,102
Current Liabilities	2,688,802	4,985,275	8,428,986	3,988,383	2,970,396
Net current Assets	1,053,152	(425,353)	125,403	423,719	90,706
Total Net Assets	3,420,122	2,144,903	1,644,427	1,636,473	1,072,198
FINANCED BY					
Share Capital	779,604	525,225	280,000	280,000	280,000
Share Premium	1,348,226	690,318	30,487	30,487	
Revaluation surplus	-	6,373	11,117	13,000	
Reserves	994,682	922,987	1,313,386	1,101,187	792,199
Proposed Dividends	297,610	0	0	190,400	
Non current Liabilities	0	0	9,437	21,399	
TURNOVER	16,291,258	17,925,997	23,157,136	14,715,766	14,068,111
Profit Before Taxation	604,776	(318,899)	333,498	856,686	515,000
Taxation(charge/credit)	(244,575)	96,798	(126,989)	(305,266)	(193,950)
Net Profit/ (Loss)	360,201	(222,101)	206,509	551,420	321,050

Unga Group	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non Current Assets	1,952,059	2,277,218	2,622,965	3,114,673	3,294,111
Current Assets	1,137,660	1,518,422	1,878,071	2,165,030	2,612,111
Current Liabilities	1,095,027	1,638,116	2,174,235	2,533,919	2,868,111
Net current Assets	42,633	-119,694	-296,164	-368,889	-256,111
Total Net Assets	1,994,692	2,157,524	2,326,801	2,745,784	3,037,111
FINANCED BY					
Share Capital	264,772	264,772	234,294	234,294	234,294
Share Premium	73,148	73,148			
Reserves	786,451	861,575	1,003,558	1,882,663	2,274,111
Shareholders Funds	1,124,371	1,199,495	1,237,852	2,116,957	2,508,111
Non Current Liabilities	76,392	92,860	118,388	252,820	
Minority interests	793,929	865,169	970,561	376,007	411,111
Total Financing	1,994,692	2,157,524	2,326,801	2,745,784	2,989,111
TURNOVER	5,500,307	7,142,432	6,829,041	6,903,494	9,411,111
Profit/(Loss) Before Taxation	(135,858)	(292,157)	(778,312)	(331,055)	(701,111)
Taxation	24,869	94,423	118,623	54,314	51,111
Profit / Loss Before Minority Interest	(110,989)	(197,734)	(659,689)	(276,741)	(650,111)
Minority interest	54,176	81,166	200,194	80,373	111,111
Net Profit/ Loss	(56,813)	(116,568)	(682,598)	(208,471)	(649,111)

East Africa Breweries					
	2002	2001	2000*	1999	1998
ASSETS EMPLOYED					
Non-Current Assets	8,394,157	8,188,782	8,824,089	9,170,828	9,833,675
Current Assets	9,656,545	6,955,754	5,271,720	5,467,072	5,088,998
Current Liabilities	5,656,715	3,775,345	3,808,529	5,575,084	4,481,914
Net Current Assets	3,999,830	3,180,409	1,463,191	(108,012)	607,084
Total Net Assets	12,393,987	11,369,191	10,287,280	9,062,816	10,440,759
FINANCED BY					
Share Capital	1,090,305	1,090,305	974,022	936,022	936,022
Share Premium	2,188,534	2,188,534	1,467,808		
Reserves	2,477,038	2,572,503	2,763,372	6,222,444	8,572,542
Retained Earnings	4,434,689	3,450,933	2,997,642	0	0
Proposed Dividends	981,275	735,956	535,712	0	0
Shareholders fund	11,171,841	10,038,231	8,738,556	7,158,466	9,508,564
Non-Current Liabilities	1,195,828	1,230,027	878,465	1,120,231	208,130
Minority Interests	26,318	100,933	670,259	784,119	724,065
Total Financing	12,393,987	11,369,191	10,287,280	9,062,816	10,440,759
TURNOVER	27,734,679	26,813,674	25,448,122	25,248,788	25,778,213
Profit Before Taxation		2,499,117	1,798,105	1,506,962	493,858
Taxation	(3,400,411)	(946,793)	(623,308)	(379,032)	(211,636)
Profit / Loss After Taxation	(1,099,617)	1,552,324	1,174,797	1,127,930	282,222
Minority Interests	2,300,794	21,082	59,263	(52,185)	(96,412)
Attributable profit (Net profit)	2,319,250	1,573,406	1,234,060	1,075,745	185,810

KP&LC					
	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non current assets	19,604,111	13,468,373	12,026,975	9,140,666	7,633,330
Current Assets	11,748,984	15,343,987	13,474,440	12,508,120	13,351,178
Current Liabilities	10,132,466	22,452,178	15,919,741	13,428,088	13,740,710
Net current Assets	1,616,518	-7,108,191	-2,445,301	-919,968	-389,532
Total Net Assets	21,220,629	6,360,182	9,581,674	8,220,698	7,243,798
FINANCED BY					
Share Capital	1,582,560	1,582,560	1,625,560	1,625,560	1,098,040
Reserves	1,933,608	-496,774	2,379,937	4,148,105	4,992,485
Shareholders Funds	3,516,168	1,085,786	4,005,497	5,773,665	6,090,525
Deferred Taxation	0	0	241,263	1,207,550	0
Non current Liabilities	17,704,461	5,274,396	5,334,914	1,239,483	1,153,273
Total Financing	21,220,629	6,360,182	9,581,674	8,220,698	7,243,798
TURNOVER	24,807,649	28,188,525	23,564,466	18,422,731	18,073,232
Profit/(Loss) Before Taxation	-2,849,116	-4,105,915	-4,157,793	1,721,924	2,005,343
Taxation	969,563	1,229,204	966,287	-416,662	541,068
Profit/(Loss) After Taxation	-1,879,553	-2,876,711	-3,191,506	1,305,262	1,464,275
Preference Dividend	0	0	0	1,930	0
Attributable Profit to shareholders	-1,879,553	-2,876,711	-3,191,506	1,307,192	1,464,275

Total Kenya Ltd

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non current assets	2,366,970	2,570,256	1,519,024	1,212,754	981,492
Current Assets	3,741,954	4,559,922	8,554,389	4,412,102	3,061,102
Current Liabilities	2,688,802	4,985,275	8,428,986	3,988,383	2,970,396
Net current Assets	1,053,152	(425,353)	125,403	423,719	90,706
Total Net Assets	3,420,122	2,144,903	1,644,427	1,636,473	1,072,198
FINANCED BY					
Share Capital	779,604	525,225	280,000	280,000	280,000
Share Premium	1,348,226	690,318	30,487	30,487	0
Revaluation surplus	-	6,373	11,117	13,000	
Reserves	994,682	922,987	1,313,386	1,101,187	792,198
Proposed Dividends	297,610	0	0	190,400	0
Non current Liabilities	0	0	9,437	21,399	0
TURNOVER	16,291,258	17,925,997	23,157,136	14,715,766	14,068,135
Profit Before Taxation	604,776	(318,899)	333,498	856,686	515,021
Taxation(charge/credit)	(244,575)	96,798	(126,989)	(305,266)	(193,958)
Net Profit/ (Loss)	360,201	(222,101)	206,509	551,420	321,063

Unga Group

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Non Current Assets	1,952,059	2,277,218	2,622,965	3,114,673	3,294,141
Current Assets	1,137,660	1,518,422	1,878,071	2,165,030	2,612,285
Current Liabilities	1,095,027	1,638,116	2,174,235	2,533,919	2,868,895
Net current Assets	42,633	-119,694	-296,164	-368,889	-256,610
Total Net Assets	1,994,692	2,157,524	2,326,801	2,745,784	3,037,531
FINANCED BY					
Share Capital	264,772	264,772	234,294	234,294	234,294
Share Premium	73,148	73,148			
Reserves	786,451	861,575	1,003,558	1,882,663	2,274,500
Shareholders Funds	1,124,371	1,199,495	1,237,852	2,116,957	2,508,794
Non Current Liabilities	76,392	92,860	118,388	252,820	
Minority interests	793,929	865,169	970,561	376,007	476,250
Total Financing	1,994,692	2,157,524	2,326,801	2,745,784	2,985,044
TURNOVER	5,500,307	7,142,432	6,829,041	6,903,494	9,418,920
Profit/(Loss) Before Taxation	(135,858)	(292,157)	(778,312)	(331,055)	(708,239)
Taxation	24,869	94,423	118,623	54,314	50,249
Profit / Loss Before Minority Interest	(110,989)	(197,734)	(659,689)	(276,741)	(657,990)
Minority interest	54,176	81,166	200,194	80,373	199,890
Net Profit/ Loss	(56,813)	(116,568)	(682,598)	(208,471)	(648,453)

EAST AFRICAN PORTLAND

ASSETS EMPLOYED	2002	2001	2000	1999	1998
Fixed Assets	5,440,126	6,340,733	6,532,623	4,931,973	5,076,373
Current Assets	1,974,527	1,787,159	1,550,805	1,100,704	714,248
Current Liabilities	786,574	811,787	802,472	711,765	544,735
Net Current Assets	1,187,953	975,372	748,333	388,939	169,513
Total Net Assets	6,628,079	7,316,105	7,280,956	5,320,912	5,245,886
FINANCED BY					
Share Capital	450,000	450,000	450,000	450,000	450,000
Share Premium Account	648,000	648,000	648,000	648,000	648,000
Reserves	754,111	1,368,847	527,576	-276,380	602,206
Proposed Dividends	45,000	90,000	0	0	0
Shareholders fund	1,897,111	2,556,847	1,625,576	821,620	1,700,206
Loans	4,125,675	4,219,167	5,160,609	4,442,605	3,203,190
Staff Gratuity/Deferred Tax	605,293	540,091	132,596	-272,337	143,720
Deferred Liability	-	0	362,175	329,024	198,770
Total Financing	6,628,079	7,316,105	7,280,956	5,320,912	5,245,886
	2002	2001	2000	1999	1998
TURNOVER	3,207,060	3,169,645	2,918,148	2,349,922	2,177,468
Profit Before Taxation	212,934	974,384	-538,860	-1,294,643	499,452
Taxation	89,755	237,899	119,392	416,057	123,745
Profit / Loss After Taxation	123,179	736,485	-419,468	-878,586	375,707

Firestone	2002	2001	2000	1999	1998
ASSETS EMPLOYED					
Non Current assets	1,083,836	1,048,954	1,090,574	1,203,742	1,149,575
Current Assets	1,464,846	1,775,398	1,649,734	1,645,180	1,508,352
Current Liabilities	396,838	627,048	589,867	829,069	778,216
Net Current Assets	1,068,008	1,148,350	1,059,867	816,111	730,136
Total Net Assets	2,151,844	2,197,304	2,150,441	2,019,853	1,879,711
FINANCED BY					
Share Capital	1,391,712	1,391,712	1,391,712	1,391,712	1,391,712
Retained earnings	500,676	547,611	492,353	414,659	487,999
Reserves	(42128.00)	(23,984)	(2047.00)	447.00	0.00
Proposed Dividends	139,171	139,171	139,171	0	0
Shareholders fund	1,989,431	2,054,510	2,021,189	1,806,818	1,879,711
Non current Liabilities	162,413	142,794	129,252	213,035	0
Total Financing	2,151,844	2,197,304	2,150,441	2,019,853	1,879,711
TURNOVER	2,736,539	3,073,773	2,686,256	2,843,187	3,308,824
Profit Before Taxation	310,834	448,879	396,412	576,945	901,241
Taxation	(79,427)	(115,279)	(103,928)	(186,656)	(288,889)
Net Profit	231,407	333,600	292,484	390,289	612,352

7.2 Appendix II : Mathematical formulae

$$r^2 = \frac{a \sum y + b \sum xy - ny^2}{\sum y^2 - ny^2}$$

$$b = \frac{\sum xy - \sum x \sum y}{n \sum x^2 - n(\sum x)^2}$$

$$a = \bar{y} - b\bar{x}$$

$$t = \frac{x_1 - x_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$$s = \sqrt{\frac{(x - \bar{x})^2}{n}}$$