A STUDY OF DETERMINANTS OF CAPITAL STRUCTURES OF PUBLIC SECTOR ENTERPRISES IN KENYA

BY

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DECLARATION

This project is my original work and has not been presented for a degree in any other University.

Signed: _____ Date: 3/4/2003

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This project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

To my late Parents, Francis Onsinyo and Mama Florence Babire and to my family.

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ABSTRACT

Capital structure in all types of enterprises is important in influencing their profitability and solvency. Many studies have been carried out on the determinants of capital structure in the privately owned publicly quoted companies all over the world. A lot is therefore known about the leverage of such companies. However, very little is known about the capital structures and their determinants in public enterprises controlled by the governments. It is therefore possible that the capital structures of these enterprises may differ from those of their counter parts in the private sector. Public sector enterprises play a significant role in any country. In most cases they play dual role of social (welfare) and commercial (profit).

This study aim at first of all determining what the capital structures of Kenyan public sector enterprises are. Secondly, to find out the factors influencing the capital structure.

The Kenyan public sector firms offer a unique opportunity of testing capital structure theories. This is because most firms are not traded in the capital markets and do not issue shares to the public. Thus the financing choice is basically between internal funds and private loans.

This research studied fifteen public companies. Financial statements were used for the period 1994-1998. The leverage levels and the significance of the determinants of capital structure were investigated.

The results indicate that debt levels of public sector firms lie between 0-2.8 when the debt to equity ratio is used and between 0 to 0.17 when measured by debt to total assets ratio.

The study found out that profitability factor was the highest correlated with the coefficient of 0.602. the other factors do not point to high correlation among the explanatory variables such as: Non-tax shields is the least factor in influencing leverage, it has a coefficient of –0.070. Assets structure -.220, size -.107, growth .322 , and liquidity -.275

The mean rate for public sector firms is .5051 in the combined run.
The study found that the finance and investments sector have the highest mean ratio of debt to equity 0.99 followed by industrial and allied sector which has debt to equity ratio of 0.76. The commercial and services sector has a debt to equity ratio of 0.32 and the agricultural sector has debt to equity ratio of 0.03

The results obtained from using debt to total assets ratio, indicate that industrial and allied firms have the highest debt to total assets ratio 0f 0.21503, followed by

the commercial and services sector 0.086571, finance and investments sector 0.0536 and finally, the agricultural sector with the debt.

In a nutshell, it should be emphasized that in the public sector firms the other qualitative factors do play a significant role in the determination of leverage ratios of public sector enterprises. The qualitative factors that should be researched upon include the Parent ministry aspect, legality and strategic considerations by the government, composition of the Board of Directors just to mention a few.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Financing policy by firms requires managers to identify ways of funding new investment. The managers may exercise three main choices: use retained earnings, issue new debt or issue new shares. Hence, the standard capital structure of a firm includes retained earnings, debt and equity: these three components of capital structure reflect firm ownership in the sense that the first and third components reflect ownership by shareholders while the second component represents ownership by debt-holders (Prasad, Green and Murinde 2001).

Studies on capital structure determinants have been undertaken previously by Kamere (1987) in Kenya, Manos(2002) in Mauritius among others. Ronny Manos (2002) for example, in a study of Mauritius firms' capital structures he identified the important factors to be, age, size, profitability, growth, risk, asset structure and Non-debt tax shield.

Hamid and Sing (1992) analyzed the corporate finance characteristics of the top 50 manufacturing firms in: India, Thailand, Jordan, Malaysia, Taiwan, Mexico, Pakistan, Zimbabwe and South Korea over the period 1980-1987. They found that firms in developing countries used less internal finance than their developed economy counterparts. They attribute this to lower growth rates, and to higher dividend payouts, rather than, for example, to the distorting influences of finance which has had a major influence in at least some developing economies. Atkin and Glen (1992) and Singh (1995) reached similar conclusions. Atkin and Glen (1992) surveyed macro- economic data on the corporate sector in several developing economies (Zimbabwe, Pakistan, Malaysia, India and South Korea) and found that Zimbabwean and Pakistani firms rely most heavily on internal finance: 58.5% and 58.3% respectively of all sources, whilst South Korean firms were least depended on internal finance with 12.8%. Cobham and Subramanian (CS, 1998) find that Indian firms use rather more equity and less retained earnings than do their UK counterparts.

Hamid and Singh (1992) and Singh (1995) find that firms found within developing economies rely more heavily on equity than on debt to finance growth relative to their counterparts in the developed economies. Thus a reverse pecking order is observed. Singh (1995) argues that the dependence of firms in developing economies on capital markets is due to: Active Government sponsorship, such as privatization and specific policies that encourage the demand and supply of funds. Financial liberalization which has resulted in higher real interest rates and therefore reduced demand for bank finance and rising price-earnings ratios that have reduced the cost of equity capital.

Coham and Suramanian (CS, 1998) note that these conclusions are puzzling, given the developing countries lax accounting and auditing protocols, which increase information imperfections, their less well-defined property rights and small and inefficient capital markets.

Borio (1990) study of developed economy corporate capital structures found out that countries are either "high leverage", such as Japan, Germany, France and Italy, or "low leverage", such as Canada, the UK and US. A similar conclusion is drawn by Bisingnano (1990) who surveys the aggregate capital structures of Japanese, German and US firms. However, there are, in fact, many qualifications to observe. First, it depends on the precise definitions used in the calculation of leverage. Rajan and Zingales (1995) observe that, if leverage is calculated as a ratio of debt to total assets, all expressed at book value, then Canadian firms (at 36%) are the most highly geared of the G-7 economies with German firms being the lowest at 20% On this definition, the gearing levels of US and Japanese firms are comparable at 35% and 31%, respectively. If however, leverage is calculated as the ratio of debt to debt-plus-equity, all at market value, then UK and German firms have the lowest gearing at 16%, with Italian companies having the highest with 28%. Corbett and Jeckison (CJ, 1994) find that both British and American firms are more highly geared than German firms if book values are used to calculate the ratio of debt to debt-plus-equity. However, Rutterford (1985) estimates that German firms have lower effective corporate tax rates, relative to their nominal rates, than do firms in other countries. The value of the tax-shield provided by debt is therefore lower, implying lower levels of leverage.

Capital structure theories are concerned with explaining how the mix of debt and equity in the firm's capital structure influences its market value. The traditional view holds that there exists an optimal capital structure. At this capital structure the value of a firm is maximized or equivalently the cost of capital is minimized.

This optimal capital structure can be attained through a careful use of debt. According to Norgaard and Vaighn (1972) the existence of optimal financing decisions which may result from taking into account such factors as: target capitalization mix, the relative cost of debt, the ease with which new securities can be sold and the purpose of an issue, Risk aversion, tax considerations, the cyclic nature of a firm's cash flows and industry capitalization norms may also influence a firm's choice between debt and equity.

Donaldson and Pfahl (1963) argued that a firm's age and size, the general level of interest rates, taxes, government regulation and the legal form of organization are other factors that may influence the capital structure decision.

Weston and Copeland, (1986) explains that: the expected future net cash flows of a firm, industry characterizations, the asset structure of a firm, management attitudes towards different methods of financing, and the attitudes of lenders towards different firms' and industries influence the capital structure of a firm.

In Kenya, Kamere (1987) sought out to ascertain for important factors influencing leverage from respondents. He found out the following factors important in

Kenyan firms: stability of future cash flows, level of interest rates, assets structure, growth, need for outside capital, risk, lenders attitudes towards a firm and tax advantage of debt.

1.2 STATEMENT OF THE PROBLEM

Despite the wave of privatization that have occurred over the past fifteen years, in developing countries Public sector enterprises continue to play a central role in many economies in terms of value added relative to GDP, employment and investment. Yet the performance of Public Sector enterprises has been largely disappointing and the negative impact on macro economic stability severe. Inefficient public enterprises have undermined the operation of financial systems, fueled inflation and increased public debt while acting as an obstacle to private business. Seeking ways to redress these problems has become a major challenge in developing economies.

Typically, many Public sector enterprises lack one or more fundamental attributes and incentive structures of the modern corporation. Most lack a clear separate commercial identity, suffering from Government interference in the day-to-day management of the enterprise and a lack of clarity between owner/manager functions. Many governments have sought to impose accountability and achieve efficiency through the creation of large holding companies. Almost universally, public enterprises have failed to achieve their set goals as a result of cross-subsidization, monopolistic behavior and insufficient, inadequate or erroneous information flows to the owner. The very complexity of the structures almost ensures that a distant and non-specific owner cannot hope to master and use, in a timely, available information to monitor and discipline the structure. In addition, the financial sector often provides debt to these enterprises on terms softer than commercial basis, particularly for the larger enterprises, relying on the government to bear losses. Thus the state as owner of the enterprises does not benefit from limited liability but bear all risks.

Many researchers have concentrated on private sector firms quoted on the capital markets, but very little is known about the financing decisions of firms in the public sector, where the state has either full control or a significant influence on their operations. The goal of the public enterprises consists of both commercial (profit) and social (welfare) objectives. Like the private sector efficient mobilization and utilization of resources is required. In mobilizing funds consideration must be given to both their costs and risks. Disregarding these considerations creates doubt about the financial sustainability of these enterprises in the absence of state bailouts, which is increasing becoming out of fashion. Consequently how state controlled firms finance their existing activities and grow over time is of the great concern to economists and the public. There is need for empirical work to identify the determinants of capital structure in public enterprises, particularly in a developing economy like Kenya and be able to evaluate the economic soundness of such determinants.

1.3 OBJECTIVES OF THE STUDY

The objectives of the study are two fold:

(i) To determine debt/leverage levels of Kenya's public enterprises.

(ii) To find out factors that are significant determinants of capital structure in public enterprises in Kenya.

1.4 IMPORTANCE OF THE STUDY

The findings of this study will be of benefit to the following:

(a) Management of both public and private organizations who will have more knowledge of the factors that influence their capital structures and therefore be able to make appropriate decisions.
(b) Government policy makers who would use these findings to set guidelines for firms.
(c) Business advisors who may be interested in knowing what factors are considered in designing the capital structures of Public Sector enterprises.
(d) Scholars who may use this study as a basis for further research.

1.5 CONCEPTS AND TERMS

1.5.1 Capital structure

Weston and Copeland (1986) define capital structure, as the permanent financing of the firm as represented by long term debt, preferred stock and common equity. Weston and Copeland therefore, make a clear distinction between capital structure and financial structure. In their world, capital structure excludes short term debt.

1.5.2 Public sector enterprises

These are firms, which are either owned fully by the government of Kenya and/ or where the Government has a significant influence on the management and control of its operations. According to Jensen and Ruback (1983) Corporate control is frequently used to describe many phenomena ranging from the general forces that influence the use of corporate resources (such as legal and regulatory systems and competition in product and input markets) to the control of a majority of seats on a corporation's board of directors. In this context, corporate control shall be viewed as the right to determine the management of corporate resources- that is, the rights to hire, fire and set the compensation of top-level management by the government. This is in conformity with the definition by Fama and Jensen (1983).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

How firms choose the debt, equity or hybrid securities, is a very controversial area in finance.

This chapter highlights briefly the studies in the development of capital structure. Beginning from Modigiliani and Miller and the traditional theories. Subsection two and three looks at the static trade off theory and the pecking order theory respectively.

Sub-section four looks at the impact of ownership and the financial structure of the firm. Sub-section five highlights the capital structures in practice.

Sub-section six highlights the studies in empirical findings of the determinants of capital strictures. Finally, sub-section seven explains the steps to improve the public sector enterprises in Kenya.

2.2 MODIGILIANI AND THE STATIC TRADE-OFF THEORIES

MM assumes a perfect world where capital markets are characterized by absence of transaction costs, relevant information which is costless and readily available to all investors, all investors can borrow lend at the same rate, investors are rational and have homogeneous expectations of firm earnings and absence of taxes. MM uses a simple arbitrage mechanism to derive three, now well-known, propositions relating to: the value of the firm, the behaviour of the equity cost of capital, and the cut-off rate for new investment. MM's proposition 11 (1963) states that the rate of return required by shareholders rise linearly as the firm's debt-equity ratio increases. That is, the cost of equity does rise so as to offset exactly any benefits accrued by the use of cheap debt. However, the interest tax shield causes the overall cost of capital to decline with leverage. The optimal capital structure is achieved with a 100% debt financing. Firms for which the tax advantage is lower (e.g. firms with non-debt tax shields) and firms with higher costs of financial distress (e.g firms with more volatile earnings) will have lower leverage (DeAngelo and Masulis, 1980).

The tradeoff theory views a manager as trading off the benefits from debt financing against the various costs of debt. The marginal agency cost of debt is regarded as an increasing function of debt in a capital structure. Therefore, a manager, acting as a shareholder value maximizer, should borrow up to point where the marginal value of the benefits from debt financing including interest tax shields is equal to the marginal cost of debt including agency and financial distress costs. Barnea, Haugen and Senbet (1981) argue that a firm reaches an optimal capital structure when the costs associated with agency problems are balanced by the benefits associated with different financial contracts in terms of their inherent ability to solve agency problems and tax exposure.

Bradley, Jarrel and Kim (1984) found that firm's optimal leverage is inversely related to the expected costs of financial distress and to the amount of non-debt tax shields. They also found highly significant inverse relation between firm leverage and earnings volatility. Mackie-Mason(1990) provides evidence that firms issue less debt when they have tax loss carry forwards.

According to Myers(1993), the most telling evidence against the tradeoff theory is the inverse correlation between profitability and financial leverage. Titman and Wessels (1988) found a significant negative relationship between profitability and debt ratios. Titman and Wessels (1988) found no relationship between debt ratios and a firm's expected growth, non-debt tax shields, volatility or the collateral value of its assets.

As debt financing causes monitoring by lenders and reduces the free cash flow, debt can be used as an instrument to align the interests of managers and shareholders (Jensen and Meckling, 1976), however debt financing may also cause conflicts of interests between shareholders and creditors, which could e.g. lead to sub-optimal investment policies (Smith and Warner,1977) a well chosen mix of debt and equity financing minimizes total agency costs, and maximizes firm value.

2.3 PECKING ORDER HYPHOTESIS

The pecking order theory states that firms prefer internal financing and if external financing is required, they issue the safest security first. Managers will choose to issue debt when investors undervalue the firm and issue equity when they overvalue the firm. Recognizing this policy of managers, investors will perceive an equity issue as bad news, making the cost of issuing equity higher. If the firm can use internal financing sources or issue low-risk debt, then the cost of asymmetric information can be minimized. If the manager has better information than investors, it is better to issue debt than equity (Myers and Majluf,1984) . that is, firms issue debt first, then possibly hybrid securities such as convertible bonds, then equity as a last reort. The pecking order theory suggests that there is no well-defined optimal capital structure, instead the debt ratio is the result of hierarchical financing over time(Myers,1984). Kester (1986), in his study of debt policy in U.S and Japanese manufacturing corporations, found that the return on assets was the most significant explanatory variable for actual debt ratios.
Shyam-Sunder and Myers (1999) report evidence in favour of the pecking order theory. They show that firms follow the pecking order in their financing decisions.

Kamere (1987) draws the same results supporting Myers (1984), about Kenyan companies, where it was observed that investment projects are usually financed by debt and internally generated funds.

2.4 OWNERSHIP AND THE FINANCIAL STRUCTURE OF THE FIRM

Zeckhauser and Pound (1990) test whether large shareholders improve corporate performance by encouraging performance-tilting, the practice which arises under asymmetric information between shareholders and managers and results in improvements of corporate performance without the diminution of

managerial effort or of excess pay. This is because large shareholders can exploit economies of scale in information costs, which reduces the agency (monitoring) costs of debt. If true, this implies that the leverage of firms with at least one large shareholder should be higher due to reduced debt and agency costs than that of a firm that does not have a large shareholder. however, Zeckhauser and Pound (1990) did not find a significant difference in leverage ratios between such groups of firms. They, therefore conclude that large shareholders appear to perform a monitoring function only for equity owners and do not have a positive impact on debt-holders.

Another study that tests the influence of insider equity holders on firm leverage is that of Kim and Sorensen (1986). Here the researchers test whether the cross-sectional variation in corporate leverage ratios can be related to agency costs. Firms were classified into three groups, with respect to ownership viz:: heavy, average, and low inside ownership.. They found suggests that large firms who are heavily owned by insiders tend to finance projects with greater amounts of long-term debt. This can be explained by three observations. First, insiders may have sold debt so as to maintain control of their firm. Second, due to high agency costs of equity, firms with high insider ownership would issue debt to avoid costs to external equity associated with the incentive to consume perks. Third, firms with high insider ownership have lower agency costs on the grounds that (i) standard debt provisions and covenants may be more effective when there is a close control of ownership; and (ii) if a large proportion of inside ownership indicates that the problem of sub-optimal investment is likely to occur thereby implying lower agency costs.

Firth (1995) considers the impact of institutional shareholders and management interest on the firm's capital structure. Concludes that there is sufficient empirical evidence to support either hypothesis. The capital structure of the firm is dependent upon the relative influence and power of substantial institutional shareholders.

Hussain (1995) extends the analysis of ownership to developing economy firms in Indonesia. He started by analyzing that many firms within developing economies are essentially family owned or controlled. He attempted to test whether the influx of foreign capital into Indonesia has altered the firms' capital structure. The main finding was that firms with foreign capital, which has reduced the concentration of family ownership, has had an impact on the enterprises capital structure. He also found a negative relationship between large shareholders and firm leverage. Thus, there is clear support for the hypothesis that the presence of large shareholders reduces the agency costs of debt that in turn increases a firm's leverage.

Chen and Steiner (2000) find a clear positive relationship between managerial ownership and leverage. This provides evidence against the hypothesis that management prefers to reduce the risk associated with their individual portfolios in the firm: instead of reducing leverage, they actually "gear up". However, as noted by Firth (1995) and by Friend and Hasbrouck (1988), there tends to be a negative relationship between the proportion of the *market* value of the shares held by management and the firm's leverage level. This latter result is more

consistent with the predictions of theory, which would suggest that managements are influenced by the current values of their undiversified portfolios to spread risk: one method of avoiding increased risk is to maintain low capital gearing. Market value of their holdings than with their absolute proportions.

2.5 CAPITAL STRUCTURES IN PRACTICE

A vast volume of work has empirically investigated the capital structures of firms. This section reports the results of these studies:

Corbett and Jeckison (CJ, 1994) examine corporate capital structures at the aggregate level in Japan, Germany, the UK and USA, for the period 1970-1989. They find that Internal funds were the main source of finance in all countries, with the UK financing the highest proportion (97.3%) of its investment by retentions, and Japan financing the lowest (69.3%). Mayer (1988) reported similar results for France, Japan, Germany, the UK and USA for the period 1970-1985. The UK was again the highest user of retentions (107% of investment) while Germany was the lowest with 67%. This finding is supported by Mayer (1990), Murinde, Agung and Mullinere (1999) and Borio (1990).

Moreover, Wright (1994) finds that the level of retained earnings employed by non-North sea industrial and commercial companies in the UK has remained essentially the same over the period 1982-1994.

Corbett and Jeckison (CJ, 1994) note that, although US and UK firms are located in market-based financial systems, the proportion of internal funds employed by US firms increased from 74.5% in 1970 to 103.7% in 1989; and US and UK firms both reduced their reliance on market-based sources of finance (Bonds and stocks) over this period. They suggest that this was due to increased financial innovation over the period. Bisignano (1990) also notes that US firms' dependence on new equity issues has fallen, especially during the 1980's. However, he suggests that merger activity may have been responsible for this development, rather than increased attraction of internal financing.

Atkin and Glen (1992) report that, throughout the post-World War II period, bonds constituted a significantly higher fraction of external finance for US firms than did new equity. Moreover, loans (i.e. mortgages and commercial paper), and trade credit, each separately provided more new finance than did equity. Atkin and Glen's data highlight some important changes in the capital structures of US firms post-World War II: a decline in new equity and bank finance, and an increased use of directly intermediated debt (i.e. Bonds and commercial paper)

The dependence of Japanese firms on debt is neither long-standing nor necessarily persistent. Elston (1981) notes that, during the 1930's 60% of all funds employed by Japanese firms were equity. This fell to 17% in the mid-1970's, compared to 40% for West Germany, 50% for the UK and 60% for the US. This implying increased leverage in Japanese firms. More recently however, Japanese firms have relied less heavily on bank debt and more on retained earnings and non-bank external sources. The previously strong bonds between affiliates have also become weaker due to changes in banking law, which forced

bank portfolios to become more diversified. This is generally reckoned to have increased the cost of debt, but has also allowed firms to be freer to raise funds from equity. During the 1970s, equity issued increased from 6% to 10% of total external finance, while bond financing increased from 4% to 8% in the same period.

Moreover, the internationalization of Japanese business, together with the increasing flow of overseas investment, has given rise to a natural desire to raise funds from abroad. This has been in the form of Eurocurrency, national markets or foreign currency bonds. Atkin and Glen (1992) also find a marked reduction in Japanese leverage, falling from 400% (of equity) in 1977 to 100% in 1988.In addition, during the same period, share prices have steadily risen implying that the cost of equity has fallen. In turn, this has caused a switch from debt to equity.

Bisignano (1990) notes that in the period 1965-1989 for example, the issues of equity(stocks) and bonds by German firms are small in comparison to both their Japanese and US counterparts, a difference that cannot be explained by regulatory or other market restriction. Since the mid-1970's, holdings of the German corporate sector by banks have fallen, like they have in Japan; but, unlike Japan, bank lending is still the dominant source of finance. Overall, it appears that Japanese firms, which have, historically, been closer to German firms in terms of leverage, are now approaching those of the US. Japan is the only one that relies more heavily on external rather than internal source. Likewise, Bertero (1997) notes that the French financial system could be classified as a bank-based system, but there are still features which are either unique to France, or more like other systems. Typically, the French system was more of an overdraft system, like the UK, rather than a German- or Japanese-type bank system. More recently, as in Japan, French firms have increased their use of retained earnings at the expense of short-term debt and have also increased their use of equity and bonds. Bertero (1997) asserts that the latter has been a result of increased capital market efficiency caused by financial reforms.

Kiogora, G. (2000) carried out another notable research. She set out to establish the nature of capital structures employed by companies quoted on the Nairobi stock Exchange, specifically whether the capital structures differ per industry category and whether the companies in the same sector have similar capital structures, hence lending support to the existence of an optimal capital structure. The results indicated that there were differences in the capital structures among industry groupings and that firms within a given sector tend to cluster towards some target equity to total assets ratio lending support to the existence of optimal capital structures as dictated by the market realities. The results of the relationship between capital structure and returns indicate that returns increase with increased leverage also supporting the traditional view on capital structure.

2.6 CORPORATE STRATEGY

Corporate strategygy influences the capital structure of a firm. It is important to consider its impact at this stage.
Whitley (1992) observed that developing economy firms follow corporate structures that are similar to those of a large company formed by joining together different firms (Conglomerate). He concluded that: firm strategies which involve diversification into unrelated activities have the lowest risk associated with them since there is no order to the process of diversification, *the* reverse is true for firm strategies which involve diversification into related activities. Accordingly, management strategy impacts on the firm's financial structure a study by Barton and Gordon, (BG, 1988) who used a sample of 279 Fortune-500 US industrial firms covering the period 1970-1974 several results emerged from this research. First, overall, there was sufficient statistical evidence for not rejecting the hypothesis that corporate strategy does influence the capital structure decisions of the firm. In relation to single strategy firms, it was found that the average debt level was significantly lower than all other categories. However, there was no significant difference between the average debt level was significantly lower than all other categories. However, there was no significant difference between the average debt level of firms following dominant strategies and the overall average debt level of the sample as a whole. The average debt level of firms that adopted a related corporate strategy had the highest debt ratios of all. Moreover, such debt levels were significantly higher than those for single and related category firms.

Lower et al.(1994) investigated on whether the corporate strategy of the firm influences its capital structure in a sample of Australian public companies for the period 1984 to 1988. The results indicate that those firms that adopt a change structure to form multidivisional organization are associated with a shift in capital structure and a significant increase in long-term debt in comparison with those with an hierarchical structure.

Jordan et al (1998) extended the analysis by examining the role of strategy in smaller UK firms. Which split according to whether the firm adopted either corporate or a competitive strategy. It was found that corporate strategy per se did not influence smaller firm's capital structure. However, when the same analysis was applied to firms that used competitive strategies, it was found that competitive strategy did influence capital structure.

2.7 EMPIRICAL FINDINGS OF THE DETERMINANTS OF CAPITAL STRUCTURES

Empirical work has been done to ascertain the factors influencing a firm' capital structure. A number of common characteristics that are thought to determine capital structure are: asset structure, size, profitability, growth, firm risk, expected future cash flow, nature of the business, management control, financial signaling, non debt taxshields and liquidity -Rajan and Zingales, 1995 Ferri and Jones tested the hypotheses that industrial class, firm size, variability of future income and operating leverage were related to capital structure.

Omondi (1996) carried out a research to identify on the basis of past information which factors play a significant role in the capital structure decisions of publicly quoted companies. The past information used was based on the findings of Kamere (1987) the period of study was between January 1987 to December, 1994. The factors, which were tested, were the firm age, industrial class, growth, size, interest charges, and variability in cash flows, profitability, assets structure and ownership. Similar results to those of Kamere (1987) were however found.

2.7.1 Asset structure(Tangibility and uniqueness)

The ratio of fixed to total assets represents the degree of assets' tangibility, which normally provides high collateral value to intangible assets, which implies that these assets can support more debt.

The tangibility of assets represents the effect of the collateral value of assets on the firm's leverage (Rajan and Zingales,1995).tangibility(collaterised assets) diminishes the information asymetries associated with the issue of debt. Tangibility supports the hypothesis that stockholder-debtholder conflicts of interest are reduced by firms securing debt against assets. Galai and Masulis (1976), Jensen and Meckling(1976) and Myers (1977) argue that stockholders of leveraged firms have an incentive to invest sub-optimally, and thus transfer wealth away from the firm's bondholders. If however debt can be secured against assets, the borrower is restricted to using loaned funds for a specific project, and creditors have an improved guarantee of repayment, depending on the value of the assets used as collateral. Clearly no such guarantee exists if unsecured debt is used. Kamere (1987) pointed that a firm with high investment in fixed assets may find it easier to borrow than when one invests mainly in current assets Williamson (1988) suggest that the more specialized assets of the firm will be financed using equity rather than debt.

Downs (1993) as well as Titman and Vessels (1988) find a negative dependence between debt and uniqueness of the firms' assets. Moreover, Munro (1996) finds that the higher is the level of the fixed assets of a firm, the greater is its leverage. In turn, this suggests that the firm uses its assets as collateral against which to secure debt.

2.7.2 Size/ Bankruptcy risks

A number of authors including Warner (1977), Ang et al. (1982) and Bradbury and Lloyd (1994) have shown that the firm's bankruptcy costs are quadratically related to its value, in such a way that bankruptcy costs are found to be relatively smaller for large firms than for small ones. Titman and Vessels (1988) argue that larger firms tend to be more diversified than their smaller counterparts and are therefore less prone to collapse. Likewise, the liquidation values of smaller firms are lower than the larger counterparts. Accordingly, it will be more likely that bondholders get a partial payment, indicating that agency costs of debt will be

lower for larger corporations. Furthermore, it is postulated that transaction costs will be comparatively higher for smaller firms than for larger peers. Accordingly, a positive dependence is expected to be observed between leverage and firm size.

An alternative argument is that firm size can be viewed as a proxy for information asymmetries between the firm and the market. it thought that the larger the firm, the more information that is available for it and the lower the costs caused by information asymmetries, ceteris paribus. In turn, this too would suggest a positive relationship between size and debt, both long-term and short term, ceteris paribus.

On the other hand, a number of studies have found a negative dependence between size and firm leverage, indicating that as the size of the firm increases, the proportion of leverage incurred falls. In turn, this suggests that large firms have larger agency and bankruptcy costs. Titman and Vessels (1988) suggest that this finding arises from small firms using more short-term finance than their larger counterparts. That is, smaller firms have higher transaction costs when they issue long-term debt or equity.

Altman (1984) investigated the impact of both direct and indirect bankruptcy costs as well as the likelihood of bankruptcy for a sample of 12 US retailers (1970-1978) and 7 industrial bankruptcies (1975-1978). For both industrial and retailing firms, it was found that, in general, there was a marked decrease in the value of the firm in the period prior to bankruptcy, a decrease that was especially acute for industrial corporations.
Significant relationships were found in the cases of industry class, operating leverage and size. The relationship between a firms size and capital structure was consistent with the findings of Scott (1972) and Scott and Martin (1976), but inconsistent with the findings of Remners, Store hill, Wright and Bee Khuizen (1975) who argued that size and industry were not indisputably, determinants of a firm's capital structure.

2.7.3 Profitability

The traditional theories of financial development point to positive dependence between leverage levels and profitability. The argument here is that the market will be reluctant to offer funds to those firms who are currently unprofitable. Moreover, for those firms with poor shareholder returns, increased leverage will result in heavy income gearing that will depress equity valuation and restrict equity issues.
On the other hand Donaldson (1961) argues that, as a result of transaction costs, firms will prefer to finance investments from retained earnings, then from debt and finally from issuing new equity: the transactions costs motivation for the pecking order hypothesis. Myers (1984) and Myers and Majluf (1984) draw identical conclusions in explaining corporate financing decisions in the presence of asymmetric information. Thus a negative relationship may exist between retained earnings and leverage ratios.

2.7.4 Growth

Galai and Masulis (1976), Jensen and Meckling, (1976) and Myers (1977) argue that when the firm issues debt, the managers have the opportunity to engage in asset substitution, and transfer wealth away from bondholders to shareholders. Jensen and Meckling (1976), Smith and Warner (1979) and Green (1984) note that the firm issuing convertible debt could reduce such moral hazard. On the other hand, Myers (1977) argues that if the firm issues short-term rather than long term debt, this problem will be resolved, this suggest a positive dependence between short-term and growth. This is a result that is found by Hall, Hutchinson and Michaelas (2000) in a study of 3000 small and medium-sized UK companies. As with profitability the influence of growth on firm leverage suggests that the overall direction of impact remains unresolved.

2.7.5 Firm Risk (Variability of Earnings)

The theoretical literature argues that the greater the risk faced by a firm, the lower its debt level (DeAngelo and Masulis (1980). The argument here is that an additional unit of debt increases the likelihood of bankruptcy for the firm. For firms who have variability in their earnings, investors will have little ability to accurately forecast future earnings based on publicly available information. The market will see the firm as a 'lemon' and demand a premium in order to lend funds to it. In turn, this drives up the costs of debt. This result in leverage becoming less attractive at the margin implying that the optimal level of firm leverage falls. In addition any increase in the variability of the firm's income implies that banks and other lenders of finance will have a greater probability of forfeiting their funds. In turn, they will be less willing to lend or will charge a higher risk premium in comparison with firms who have lower levels of risk. As a result there should be a negative relationship between leverage levels and business risk.

Scott(1977) as well as Jaffe and Westerfield (1987) note that this relationship may not be monotic and that under certain conditions this relationship will instead be positive.

2.7.6 Expected Future Cash Flows

Expected future cash flows are important in determining whether a firm should go for debt or equity financing. If the future cash flows are expected to be high and stable, the firm can take on more debt and hope to successfully service it. But this is only possible if the projects financed prove to be economically viable. If the cash flows of the firm are expected to grow in the future, the firm can take as more debt or maintain a moderate level of debt and broaden its equity base with the increases in future cash flows. Bradley et al (1984) show that the estimated coefficient on the firms risk variable to be negative and significant while Jordan et al (1998) finds it to be significant but positive. In Titman and Wessels (1988), Wiwattanakantang (1999) and Hirota (1999) evidence concerning risk is generally weak.

2.7.7 The Nature of the Business

The nature of the business that a firm is engaged in may have some influence on the cash flows of the firm and consequently on the firm of financing that the firm chooses. Weston and Copeland have suggested that the prevalence of high leverage ratios in the utility industry in the United States may be partly explained by stability in their industry.

2.7.8 Management Control

Management attitudes with regard to risk and control are important influences on the choice of a financing method (Kamere, 1987), it may be noted that this is more of a psychological than economic reason.

The control aspect may not be very important in the case of large firms with a wide shareholders but may be very important for the small closely held firm whose shareholders may not wish to see their control of the firm deleted through the admission of new shareholders.

The management of such firms may opt for debt rather than equity financing. For a widely held firm where the control element may be less significant, the decision to finance through the sale of equity stock may be less constrained.

2.7.9 Financial signaling

Informational asymmetries may influence a firm's choice of financial structure in several ways. First, a firm could use its financing decisions as a signaling device: only firms with good prospects can survive with high debt burden (Ross, 1977). On the other hand, when managers have superior information that they cannot share, investors' suspicions may cause the firm to lose valuable investment opportunities. Firms may try to circumvent this loss by following a financial pecking order (Myers and Majluf, 1984).

Kamere(1987) explained that lenders attitude towards a firm may be based on an individual firm's past performance or the type of business in which the firm is engaged.

2.7.10 Non-debt Tax shields

Ross (1985) explains that firms face a decline in the expected value of their interest tax savings as outstanding non-debt tax shields increase. Thus, the incentive to finance with debt diminishes as non-debt tax shields increase. DeAngelo and Masulis (1980) postulate that the marginal corporate savings from an additional unit of debt declines as non-debt tax shields increases. This is a result of the increased likelihood of bankruptcy occurring at higher debt levels.

Scott (1977) and Moore (1986) suggest that firms with substantial non-debt tax shields invariably have considerable collateral assets, which can be used to serve debt, and secured debt is less risky than that which is unsecured. Overall then, these arguments suggest that the expected effects of non-debt-tax-shield

on the supply of debt by firms are not known. Even if for example, debt is reduced, the leverage ratio may either decrease or increase as a result of the change in the size of the firm associated with the reduction (Prasad, Green and Murinde, 2001).

2.7.11 Dividend Payments

Baskin (1989) argues that the existence of a Pecking order is in part, due to the stickiness of dividend payments that restrict the free use of retained earnings. Dividend stickiness is a central hypothesis of the original Lintner model (Lintner, 1956). In this model the past level of dividends influences current dividends, so that high past dividends increase the expectation of larger future ones. In turn, this increases the demand for free cash flow and therefore increases the demand for debt.

Baskin (1989) finds support for Lintners argument and for a pecking order: the payment of high levels of past dividends statistically increases the demand for leverage, dividend payments are sticky, and the demand for debt is significantly negative related to past profitability.

2.7.12 Liquidity

This is determined on how the firm is able to meet its obligations as they fall due. Hallet and Taffler (1983) and Jordan et al (1998) studies support for the pecking order hypothesis that there is a negative relationship between liquidity and leverage.

2.6.13 Interest Rates

Firms in Kenya are exposed to borrowing rates that are not uniform and this fact may influence the mode of financing that these firms use. Although it is expected to find a negative relationship with debt but, Thies and Klock (1992) find a positive relationship between debt and interest rates.

2.7.14 Culture

Gleason, Mathor, and Mathor (2000) draw from the organizational behaviour theory proposed by Hofstede (1984) and propose that the capital structure decision may be influenced by culture. Hofstede (1984) suggests that business organization is influenced by cultural characteristics such as power distance, muscularity, individualism and uncertainty avoidance.

Gleason, Mathor and Mathor (2000) find that some of these characteristics influence the amount of debt in a firm's capital structure.

2.7.15 Legal classification/Parent ministry

Public enterprises in Kenya are governed by the State Corporations Act(Chapter 446). This is an act set out by Parliament to control and regulate the operations of state corporations. The act spells out the manner in which the activities of the organization have to be carried out. In most cases there are limitations in the

decisions concerning the amount of leverage debt to take. There are other state corporations, which are guided by their own Acts of Parliament. That means they are exempted from the state corporations act and as such independent. Therefore, the capital structure is likely to be different as compared to those under the state corporations act. Donaldson and Pfahl (1963) argued that government regulation and the legal form of organization influence the capital structure decision. Also the ministry concerned with the enterprise, in most instances has the power to determine, the direction of the enterprise financial resources. There are set limitations upon which the public enterprises cannot exceed without consulting or getting approval from the parent ministry. Therefore, the parent ministry affects the capital structure of the enterprise. Where the Ministry is in close supervision with the firm, there is likely to be less debt.

2.7.16 Assertiveness of the Board of Directors

The Board can either influence the financial decisions of the firm or act as rubber stamp. This will depend on the composition of the Board of Directors. In majority of Public enterprises, the board Members are appointed by the Minister the firms parent ministry. Where the government does not hold 100% of the shares, then the composition of the Board is different. Therefore, the membership and composition of the Board is likely to influence the amount of leverage in that firm. Also the influence of other organizations and associations such as Kenya Association of Manufacturers, and Labour Unions who are represented in the Board is likely to determine the capital structure of the firm.

2.7.17 Fiscal and Monetary policy

Before the year 1998, majority of Public enterprises finance investments from the Central Government and Donors. However With the introduction of medium term expenditure budget, the funds are not flowing as before. This has impacted to public sector enterprises differently and thus determinations of their capital structures.

2.7.18 Public utilities Vs Commercial

Some corporations were set up by the government to provide utilities, such as Kenya Posts and Telecommunications and National Cereals Board, there was no commercial orientation in their being. Other corporations were set up to operate commercially, such as Kenya Power and Lighting and Kenya Ports Authority. Some public enterprises have been set up for strategic reasons. The more pronounced reasons are those ones touching of security and state resists attempts to privatize or running the institutions on commercial basis citing security and pride. The leverage for these organizations is likely to be higher, as they operate on losses and may be facing continuous liquidity problems.

2.7.19 Industrial Classification

The industry in which a firm operates has a significant effect on its capital structure. Titman (1984), argues that the firm will chose a level of leverage that will maximize its liquidation costs. It is postulated that if the likelihood of liquidation of a firm increases, this will reduce its current income stream.

This effect may arise, according to Titman (1984), because, post liquidation, the after-sales service of the firm will effectively disappear. Prior to liquidation therefore, consumers are less likely to purchase durable goods from the firm at risk, because of the expected increase in maintenance costs of the product, following the farm's disappearance. The more specialized the product, the lower is the liquidation value of the firm, because the harder it is to replace the after-sales service.

This suggests that there will be inter-industry differences in leverage across industries, as firms producing more specialized products seek a level of leverage to help offset their lower liquidation costs (Prasad, Green and Murinde, 2001)

2.7.20 Percentage of Government Holding

There are public enterprises where the government owns a proportion of the shares. Instances, where the government is a minority shareholder the performance of the enterprise is more guided by profitability/ wealth motive. The management and composition of the Board is likely to be commercially minded than where the government owns 100% to share. Therefore, where the government is a majority shareholder, debt is likely to be less.

2.7.21 Impact of Inflation

Inflation reduces the "real" cost of employing debt by the erosion of the repayment of the principal. Accordingly a positive dependence should be noted between leverage and inflation. Homaifa (1994) find such a relationship. Although a negative relationship is found with past levels of inflations (Prasad, Green and Murinde, 2001).

2.8 STEPS TO IMPROVE THE PUBLIC SECTOR ENTERPRISES

Through The Policy Framework paper on Economic Reforms for 1996-1998, the Kenya Government agreed that it considers the private sector as the only basis for sustainable long-term economic growth. Accordingly, it accepted to progressively reduce the role of the public sector in the economy through rationalization of public sector firms and an accelerated programme of privatization. The Government intended to implement major rationalization and divestiture programme for each of the key parastatals. In so doing it was to seek to increase the role of the private sector through two programmes ;direct participation as well as through divestiture of non-core activities. Some far-reaching economic changes have been undertaken in Kenya in the last ten

years. The economic reforms, which the Kenyan Government has taken, include: removal of price controls, liberalization of the marketing of goods and services, removal/relaxation of exchange controls, adoption of indirect instruments of monetary control, adoption of more flexible market determined exchange rates, privatization of state owned enterprises, reforms of civil service and rationalization of major parastatals.

The results over the last few years have been discouraging. The real Gross Domestic Product (GDP) growth has declined from 2.4 in 1997 to –0.3 in the year 2000. These trends in one way or the other affect the firm's decision to borrow. ((The policy framework paper, economic reforms for 1996-1998).

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 THE POPULATION

The population of this study consists of all public sector enterprises in Kenya. Currently, there are 42 public enterprises in Kenya.(see appendix 1)

3.2 THE SAMPLE

The sample of this study consisted of all public enterprises firms whose audited financial statements have been tabled in Kenya's parliament continuously for five years between 1994 – 1998. There are 15 public sector enterprises, which fulfilled this condition. A list of the firms included in the study is in Appendix 11.

3.3 DATA COLLECTION

This study was based wholly on secondary data available from the published financial statement. These reports of the firms were availed from the Library of Kenyas' parliament. The following information was then extracted from the financial statements:

i. **Leverage**, which was measured by the mean debt-equity ratios (Book-values Debt/Equity).
ii. **Asset structure**, which was measured by ratio of the book value of, fixed assets to total assets (Fixed assets/Total assets).
iii. **Size** which was measured by ratio of sales to Total assets of the firm (Sales/Total assets).
iv. **Profitability**, which was measured by the ratio of earnings before interest and taxes to total assets.(EBIT/Total assets)
v. **Growth** of the firm, which was measured by book value of assets less book value of equity divided by book value of assets(Total assets-Equity/Total assets)
vi. **Government holding** , which was measured by the percentage of ownership
vii. **Non- debt tax shield**, which was measured by depreciation divided by total assets(Depreciation expense/Total Assets)
viii. **Liquidity** of the firm, which is represented by the ratio of current assets to current liabilities.(Current assets/Current liabilities)

Justification

This study limits itself to those factors that have shown up consistently within previous research as being correlated with leverage. In turn, this will allow the results produced here for Public Sector Enterprises to be compared with those derived for capital markets. For a few firms, not all annual financial reports were available and the respective means were calculated on the basis of those which were available.

3.4 THE MODEL

Data collected on the variables of interest within the period of study was analyzed through descriptive statistics. Further, multiple regression and correlation analysis were used to explain the nature and significance of the relationships between changes in the response variable(leverage) and changes in the predictor variables (determinants) identified in the study. The regression model, used is shown here below:

$$Y=\beta_O+ \beta_1X_1+ \beta_2X_2+ \beta_3X_3.....+ \beta_kX_K+\varepsilon$$

Where Y= Leverage

B_O – defines the value of the Leverage without inclusion of the predictor variables

X_i-k predictor variables, where:

x_i = Profitability

x_2 = Growth

x_3 = Size

x_4 = % of government control

x_5 = Liquidity

x_6 = Non-debt tax shield

x_7 = Asset structure

β_i-κ regression coefficients- define the amount by which Y is changed for every unit change in the predictor variable

ϵ= The error term, which defines the variation in the response variable Y, which cannot be, explained by the included predictor variables.

The test was whether the independent variables (assets, size, profitability, growth, non-tax and liquidity) are capable of predicting leverage.

The means for all the factors were calculated on an annual basis. Also the ratio of debt to equity was obtained on a yearly basis and the means computed. Data analysis was based on these means. Regression analysis was used to compute the significance of the relationship between leverage and each respective factor.

The SPSS computer package was used to analyze the data.

CHAPTER FOUR

4.0 ANALYSIS AND FINDINGS

The determinants that have been studied for the 15 public sector enterprises shows that the average debt to equity ratio is 0.5051. This indicates that public sector companies finance their operations mainly from equity and much less from debt. The combined average run for assets structure is 0.4803 with a standard deviation of 0.3069, while Size has a mean of 0.4739, profitability 0.4002, growth 0.4040, non tax 0.0056 and liquidity 4.875 with standard deviation of 7.2947. The determinant with the highest mean is liquidity indicating that public sector enterprises hold more current assets than current liabilities. This is probably due to having laxity financial policies in the collection of debts.

The following table shows the debt to equity ratio for the 15 public enterprises for the five years.

Table 1 **Debt/equity ratios for each sector**

Sector	Enterprise	1994	1995	1996	1997	1998	average
Agricultural	EWASO S.	0	0	0	0	0	0
Agricultural	EWASO N.	0	0	0	0	0	0
Average							
Comm& Services	KAA	1.540874	0.20214	0.200437	0.203513	0.17011	0.463415
Comm& Services	KPA	0.781795	0.244085	0.195692	0.166329	0.15719	0.309018
Comm& Services	KNL	0	0	0	0	0	0
Comm& Services	KEC	0	0.225815	0.2525	0.122241	0.081146	0.170425
Comm& Services	JKF	0.425621	0.189839	0.133458	0.064707	0.125283	0.187782
Comm& Services	KTDC	0.137996	0.115831	0.095623	0.059277	0.048765	0.091499
comm& services	KLB	0.004537	0.014646	0.014962	0.012518		0.011666
Average							**0.176258**
Finance	HFCK		0.20118	0.163183	0.127362	0.088367	0.145023
Finance	NBK	0.583986	0.309495	0.283486	0.783894	11.88534	2.769241
Finance	KCB	0.081075	0.057549	0.051902	0.057876	0.058655	0.061411
Average							**0.991892**
Industrial	KPC	2.226752	0.919616	0.542295	0.542271	0.364591	0.919105
Industrial	KPLC	1.104988	0.601374	0.368094	0.266793	0.225983	0.513446
Industrial	KVDA	0.561904	0.47594	0.453947	1.470408	1.318312	0.856102
Average							**0.762884**

The debt to equity ratios range for the combined run range between 0 to 2.8. The lowest category is in the agricultural sector while the highest ratio is in the finance and investment sector. The three companies that have no debt in their

portfolio are Ewaso Ngiro North, Ewaso Ngiro South and Kenya National Library Services. Ewaso Ngiro North and Ewaso Ngiro south serve the communities within the water catchment areas of Narok District. Their main objective is to improve the general standards of living and increase the crop and livestock production. The projects initiated are for the provision of water for both domestic and livestock needs by construction of boreholes, dams, and piped water. The funding is through donations, which is classified as equity. The firms do not pursue a commercial objective, theirs is a social objective.

Commercial and services sector indicate a mean debt to equity ratio of 0.176 There are seven public firms represented in this category. Kenya airports authority has a mean debt to equity to 0.46, Kenya ports authority 0.309, Kenya National library Services nil debt. Kenya National examination council has a mean debt to equity ratio of 0.17 and Jomo Kenyatta foundation has a mean of 0.18. While Kenya tourist Development Corporation 0.091 and finally, Kenya literature bureau has a mean debt of 0.011

Table 2 **Debt/total assets ratio for each sector**

NO	Sector	Enterprise	1994	1995	1996	1997	1998	average
1	Agricultural	EWASO S.	0					0
2	Agricultural	EWASO N.						0
	Average							0
1	Comm & services	KAA	0.000592	0.000162	0.000165	0.000162	0.00016	0.000248
2	Comm & services	KPA	0.380139	0.167601	0.138115	0.11707	0.108943	0.182374
3	Comm & services	KNL						0
4	Comm & services	KEC	0	0.183066	0.200243	0.108134	0.074528	0.141493
5	Comm & services	JKF	0.338062	0.134908	0.091561	0.060774	0.111335	0.147328
6	Comm & services	KTDC	0.163043	0.136174	0.132554	0.084666	0.066361	0.11656
7	Comm & services	KLB	0.004246	0.041913	0.014084	0.011725	0	0.017992
	Average							**0.086571**
1	Finance	HFCK		0.027936	0.019535	0.01504	0.009779	0.018072
2	Finance	NBK	0.097162	0.049544	0.255612	0.089886	0.187603	0.135962
3	Finance	KCB	0.006094	0.006381	0.006191	0.007718	0.007686	0.006814
	Average							**0.053616**
1	Industrial	KPC	0.58331	0.408214	0.308168	0.308045	0.233715	0.36829
2	Industrial	KPLC	0.194167	0.118206	0.082198	0.066677	0.054958	0.103241
3	Industrial	KVDA	0.117586	0.106632	0.074339	0.292748	0.276481	0.173557
	Average							**0.21503**

The results are inconsistent with table 1, as it indicates low debt ratios in all sectors when compared to table 2, which has high levels of debt to equity ratios.

4.1 Government control

Government control	Number of firms	Debt /Equity ratio -range	Average D/E ratio
100%	10	0-0.3	0.03
Less than 50%	5	0.06-2.8	0.572

Ten out of fifteen firms studied are fully owned by the Kenya government. These enterprises are: Kenya National Library Services, Kenya National Examinations Council, Kenya Tourist Development Board, Jomo Kenyatta Foundation, Ewaso Ngiro North and South, Kerio Valley Development Authority, Kenya Pipeline, Kenya Airports authority and Kenya Ports Authority These firms have an average of debt to equity ratio of 0.30.

The firms where the government has less than 50% of the shares, indicate a mean ratio of between 0.06 to 2.8. These firms are Kenya Commercial Bank , Housing Finance Company of Kenya and National Bank of Kenya.

4.2 Industrial Classification

The fifteen firms were categorized into five industrial sectors similar to the one used by the Nairobi Stock Exchange. The resulting distribution was as follows:

Two firms are classified as agricultural while a further seven are classified under commercial and services. Three firms are in finance and investment and three in industrial and allied sector.

Ewaso Ngiro North and Ewaso Ngiro South represent the agricultural sector. The firms have a low debt to equity ratio. The main reason is that the firms depend on donor funding, which is not classified as debt but as equity.

The finance and investment sector shows a combined debt to equity ratio of 0.99. Three Banks represented this category. In all cases, the government owns less than 50% of the shares. The high leverage in this sector is due to the high indebtness with the National Bank of Kenya. The leverage for Kenya Commercial Bank and Housing Finance Company of Kenya is insignificant.

Seven firms represent the commercial and services sector. The firms in this category are all fully owned by the government. Most firms in this category play a significant role of social welfare and do not have a profit motive. The firms are financed by the government fund. The firms include Kenya national library, Kenya tourist development Board and Kenya library services.
The firms existence is not for profit making but rendering a service to society. There are two firms in this category, which operate on commercial basis, although fully owned by the government. These are KAA and KPA. The mean

debt to equity for this two firms is 0.30 indicating that they do depend much on external loans.

Industrial and allied sectors comprised three firms. Included in this category were Kenya power and lighting company, Kerio valley development authority and Kenya Pipeline. The combined debt/equity ratio is high at an average of 0.76, which indicates that the firms use more of debt in financing their operations. The asset base of these firms can explain this.

4.3 THE ANALYSIS FOR DETERMINANTS

Table showing correlation of the combined run

Correlation							
	leverage	Assets	size	Profitability	growth	non-tax	liquidity
Leverage	1	-0.22	-0.107	0.602	0.322	-0.07	-0.275
Assets	-0.22	1	0.111	-0.084	0.011	0.368	0.114
Size	-0.107	0.111	1	-0.124	0.051	-0.166	-0.158
Profitability	0.602	-0.084	-0.124	1	0.294	-0.232	-0.214
Growth	0.322	0.011	0.051	0.294	1	-0.047	-0.291
Non-tax	-0.07	0.368	-0.166	-0.232	-0.047	1	-0.018
Liquidity	-0.275	0.114	-0.158	-0.214	-0.291	-0.018	1

Assets Structure

This has been calculated by the book value of fixed assets to total assets. It represents the ratio of fixed assets of a firm. There is a negative relationship between leverage and the level of firms assets at –0.22.This means that the higher the level of fixed assets of a firm, the lower the leverage.

Size

This has been calculated by the ratio of sales to total assets of each firm. Weak and negative relationship at –0.107 emerges from the empirical analysis between firm size and leverage. The estimated correlation are negative at –0.107. The results suggest that the larger the corporation, the lower the leverage. The possible explanation of these findings are consistent with Titman and Wessels (1988), but inconsistent with Rajan and Zingales (1995), Hussain (1999) and Hirota (1999), amongst others.

Profitability

There is a positive strong correlation between profitability and leverage at 0.602. The estimated coefficient on the profitability measure is positive and significant. The traditional theories of financial structure point to a positive dependence between leverage levels and profitability. The argument here is that the market will be reluctant to offer funds to those firms who are currently unprofitable. Further, profitable firms have higher debt capacities this is in agreement with the static trade off theory framework.

Growth

Positive relationship also emerges between growth and leverage. There is a correlation coefficient of 0.322. It should be pointed out that the positive dependency observed between debt and growth for public sector firms may suggest that firms use their fixed assets to secure debt against them. That is, if the additions of plant and machinery are used to produce goods to furnish sales growth, the higher the growth rate, the greater the amount of fixed assets employed. Since a positive dependence is noted for public sector firms between growth and leverage, this may suggest that the firm secure its debt against its assets.

Non-debt Tax Shield

There is a negative and insignificant correlation coefficient between leverage and Non-debt tax shield. This variable is found to have an insignificant influence on the demand for debt for public sector firms. Thus, for public sector firms, the argument that the firm will exploit the tax deductibility (shield) of interest payments to reduce its overall tax liability is clearly not supported. Again most public enterprises in Kenya are tax exempt.

For higher leverage levels, the marginal advantage of debt is negative as a result of the increased probability that the potential tax shield from an extra quantity of leverage will be partially or totally lost through bankruptcy.

Liquidity

This is represented by the ratio of current assets to current liabilities. It is found to be negatively associated with leverage. The correlation coefficient is – 0.275, which indicates that liquidity influence leverage in public sector firms. Firms with low liquidity borrow more to finance their operations and more liquid firms utilize the funds for expansion and thus borrow less.

Table showing the average debt/equity per industry category

			Debt/equity ratios				
no.	Sector	no of firms	1994	1995	1996	1997	1998
1	Agricultural	2	0	0	0	0	0
2	Comm & services	7	0.412975	0.141765	0.127525	0.089798	0.061636
3	Finance	3	0.221687	0.122348	0.111796	0.28059	3.981333
4	Industrial	3	1.297881	0.665643	0.454778	0.759824	0.636295

The commercial sector indicate a declining trend for debt to equity ratios, while the finance sector indicate an increasing trend and industrial sector a declining trend.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 INTRODUCTION

Discussion of Findings in Relation to Objectives

The findings of this study indicate that the mean debt-equity levels of Kenya public firms average 0.505 implying that Public sector firms rely more on equity than debt in financing their operations. The possible explanations is that most Public sector firms depend on state funding from the exchequer which is classified as equity.

From appendix 111, a generic model of capital structure for Kenyan public sector enterprises can be specified as follows:

$$\text{Leverage} = 0.397 - 0.514_{x1} - 0.0018923_{x2} + 0.635_{x3} + 0.178_{x4} + 1.4_{x5} + 0.000905_{x6}$$

Where: 0.397=constant

X_1=Assets structure

X2=Size

X3=profitability

X4=growth

X5=non-debt tax shield

X6=liquidity.

The level of correlation coefficient is 0.686 indicating that there is a strong association between leverage and the independent variables.
This model implies that for any public sector enterprises, given the values of the determinants of capital structure for size, profitability, growth, non-debt tax shield and liquidity, using the constant of 0.397, you will be able to determine the leverage ratio of that firm.

Most Public sector firms are run for social welfare and not commercial as such the management of this firm's does not care about the performance of the firms. They provide services in a costly and inefficient method, simply because their performances are not tied to their pay, consequently few commercial banks are willing to extend long term credit to them.

The results of this study also indicate that Public sector firms are conservative in their approach in financing decisions. They depend much on equity than debt. Because banks are not willing to provide them with loans. The possible explanations might be, because Public sector firm's are run and managed by political appointees, many of them do not have the experience and knowledge of how the firm should be run. They are not accountable to the Public as such but

to their political masters. Thus, although results indicate that they are conservative, the fact is that they do not understand the business, whether to go for equity or debt. The second possible explanations may be because most managers in Public sector firms are risk averse. It is easier for them to force the treasury to provide more funding than the banks. This coupled with lack of a market mechanism to ensure optimal decisions probably explains the low levels of indebtedness in these firms.

For a Public sector firms to acquire the loan, it has to get clearance from the Treasury. In most cases the government has to give a guarantee, which is not easily available for state run enterprises. Due to this conservativeness it has led to most Public sector enterprises starved of funds to finance growth and hence most have seldom expanded their earnings base beyond the initial investments.

In terms of the determinants of capital structure, we uncover a number of interesting findings. First, in terms of asset structure, asset structure turned out to be negatively but insignificantly correlated with capital structure in all firms.

Firms with high investments in plant assets had low leverage. This is surprising because we expect the firms with collateral assets to act as security for acquiring leverage. The possible reason is that even if state run enterprises have high investments in tangible assets the banks are not ready to accept them as security and more so the government will be unwilling to give a clearance for example it considers some aspects to be of security concern. The banks cannot be allowed to dispose them incase of failure of the enterprise in meeting their obligations.

As indicted in appendix 111, Size, which was measured by turnover divided by total assets of all firms proved negatively correlated with capital structure at an insignificant and very low level. Previous research on financial structures shows a positive relationship between size and leverage. The argument is that as the firm grows bigger it becomes more diversified, less risky and thus less prone to bankruptcy. Larger firms therefore, have higher debt capacity and a positive link is expected between size and leverage. In this study, the results indicate a negative relationship, this might be possibly due to, to the fact that, as the firm in the public sector grows in terms of size it tends to utilize internal funds more and less borrowing. Also how size was measured, by the ratio between turnover and total assets might have influenced the results.

Firm growth, which was measured by total assets the results indicate a positive but insignificant correlation with capital structure. This is in line with traditional capital structure theory on pecking order considerations, the relationship between growth opportunities and leverage is predicted to be positive. This is possibly due to the need to seek external borrowing to supplement internal funds, in cases where expansion requires heavy investment capital.

Non-debt tax shield turned out to be negative but insignificant with leverage. This is per our expectations, because we know most Public sector enterprises do not enjoy the benefits of tax, as they are not taxable.

Liquidity turned out to be negative and insignificant correlated with leverage. This is surprising because it is expected to have a positive correlation as the ability to meet obligations increases the firm's debt capacity. This is possibly due to the inability of the public sector management in maximizing the benefits of debt. They utilize all the funds they have for operations, until when they have exhausted the funds, is when they start seeking for debt from banks.

Government controlled enterprises had the lowest debt – equity ratio of between 0 to 0.3, while where the government controls less than 50% the debt to equity ratio is between 0.06 to 2.8. This is simply because of the classification of government financing, where it controls more than 50% it is classified as equity. But more research needs to be done in this area to determine why the debt to equity ratio is high, where the government has no substantial control. The possible explanation is that the government still determines the appointment of Chief Executives of these organizations , the major determinant of appointing is influenced by political considerations and not on proven performance. Therefore, the firms end up being run down eventually winding up.

Profitability turned out as the only factor, which determines leverage in Public sector enterprises. It was significantly positively correlated with capital structure. The argument here is that the market will be reluctant to offer funds to those firms who are currently unprofitable. This is consistent with the static-tradeoff theory.

In conclusion, therefore it has become apparent, that Public sector firms do not strive to maximize profits in a competitive market and their managers have no autonomy, capacity and motivation to respond to competition. This confirms that most Public enterprises find it difficult to go for loans, they usually depend on the funding from the government, which is categorized as equity.

5.2 LIMITATIONS OF THE STUDY

(a) A sample of only fifteen companies was selected out of the forty two firms. The fifteen companies selection was based on the fulfillment of the condition of having financial statements availability for the five years. Most public companies do not have audited financial reports or even where they are available, it is not in all the years covering our period of study. It is therefore, difficult to generalize the results from this analysis to be representative of the Public sector enterprises in Kenya.

(b) It is also felt by the researcher, that, the six determinants considered were limited, in Public sector enterprise the qualitative factors such as legal classification, assertiveness of the Board of directors, parent Ministry and strategic reasons in setting up the enterprises are very important in influencing the determination of leverage in Public sector enterprises. These limitations serve as the basis for further research.

(c) The time Frame chosen for the study may have not been appropriate to enable the researcher to draw generalized conclusions. The period of study i.e. 1994 – 1998 may not reflect the current performance of Public sector enterprises and especially the post election of the year 2003.

5.2 SUGGESTIONS FOR FURTHER RESEARCH

- A similar kind of study may be carried out with the objective of incorporating different sectors. Because different sectors offer different risks, for example the risks in agriculture are not the same in industrial firms.

- Testing empirically the impact of qualitative factors such as Parent Ministries, legal classification, assertiveness of the Board of Directors and the strategic reasons for setting up the enterprises may really contribute in determining the debt-equity of firms.

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APPENDIX

APPENDIX II

COMPANIES STUDIED

	COMPANY
1.	Kenya Airports Authority
2.	Ewaso Ngiro South
3.	Kenya Commercial Bank
4.	Kenya Pipeline
5.	Kerio Valley Development Authority
6.	Ewaso Ngiro North
7.	Kenya Power & Lighting
8.	Kenya Literature Bureau
9.	Jomo Kenyatta Foundation
10.	Kenya Tourist Development Corporation
11.	Housing Finance Corporation of Kenya
12.	National Bank of Kenya
13.	Kenya Examinations Council
14.	Kenya National Library Service
15.	Kenya Ports Authority
16.	Kenya Natural Trading Corporation

KERIO VALLEY DEVELOPMENT AUTHORITY

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	70,477,700	78,054,890	54,195,310	72,546,913	126,609,797
Debt	39,601,700	37,149,479	24,601,797	106,673,562	166,911,176
Current liability	39,601,700	37,149,479	24,601,797	34,126,649	40,301,379
ASSETS					
Fixed assets	226,709,700	233,184,418	252,142,491	257,713,396	436,787,024
Current assets	110,079,500	115,204,369	78,797,107	106,673,562	166,911,176
Total assets	**336,789,200**	**348,388,787**	**330,939,598**	**364,386,958**	**603,698,200**
income statement					
Sales	99,872,093	126,061,736	166,810,608	16,681,068	156,172,270
EBIT	22,332,177	13,805,508	306,337,801	98,671,318	14,740,247
Interest					
Depreciation	8,546,065	9,784,260	9,463,792	8,659,227	8,647,881

EWASO NGIRO NORTH

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	3,633,091	8,843,351	-	31,125,405	25,257,085
Debt	-	-	-	-	-
Current liability	235,000	808,700	-	1,739,630	932,915
ASSETS					
Fixed assets	3,275,815	6,879,610	-	19,558,806	18,792,414
Current assets	592,276	2,772,441	-	13,306,229	7,397,585
Total assets	**3,868,091**	**9,652,051**	**0**	**32,865,035**	**26,189,999**

Income statement					
Sales	1,269,000	3,958,194	-	21,656,839	25,287,324
EBIT	1,252,065	-1,537,164	-	906,625	-3,686,261
Interest					
Depreciation	1,463,861	620,251	-	1,785,668	2,571,392

EWASO NGIRO SOUTH

	1995	1996	1997
FINANCED BY			
Equity	6,695,586	78,276,556	99,958,544
Debt	-	-	-
Current liability	2,037,892	2,139,919	366,580
ASSETS			
Fixed assets	7,950,292	63,404,740	11,169,332
Current assets	783,186	17,111,735	28,685,923
Total assets	**8,733,478**	**80,516,475**	**100,325,124**

Income statement			
Sales	11,565,539	24,596,023	27,814,020
EBIT	-1,902,528	7,476,712	6,181,753
Interest			
Depreciation	1,534,456	1,255,491	1,465,677

KENYA AIRPORTS AUTHORITY

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	2,208,613,000	16,835,802,000	16,978,861,000	16,722,229,000	19,861,590,000
Debt	3,403,195,000	3,403,195,000	3,403,195,000	3,403,195,000	378,665,000
Current liabilities	138,866	792,038	209,686	821,422	820,681
ASSETS					
Fixed assets	4,373,211,000	19,096,789,000	18,581,866,000	18,135,307,000	18,123,813,000
Current assets	1,377,463,000	1,934,246,000	2,009,877,000	2,823,032,000	2,935,629,000
Total assets	**5,750,674,000**	**21,031,035,000**	**20,591,743,000**	**20,958,339,000**	**21,059,442,000**
income statement					
Sales	957,729,968	1,012,325,842	1,036,418,510	1,583,635,000	1,803,701,000
EBIT	251,770,657	163,408,968	152,597,723	-95,081	-428,645
interest	1,183,682		373,674	2,728,842	9,446,630
Depreciation	434,544,994	437,308,437	456,219,309	770,830,000	836,740,000

KENYA PORTS AUTHORITY

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	5,595,198,202	17,097,327,990	19,061,528,032	17,330,837,724	16,545,026,103
Debt	4,374,295,197	4,173,201,990	3,730,191,921	2,882,616,141	2,600,717,490
Current liabilities	1,205,982,651	3,259,251,803	3,827,572,990	4,067,730,375	4,357,723,787
ASSETS					
Fixed assets	7,750,327,862	21,001,507,973	23,541,119,809	21,204,854,468	20,503,766,203
Current assets	3,756,771,952	3,898,119,028	3,466,765,189	3,418,208,448	3,368,438,642
Total assets	**11,507,099,814**	**24,899,627,001**	**27,007,884,998**	**24,623,062,916**	**23,872,204,845**
income statement					

Sales	6,744,165,991	6,340,513,761	7,078,386,260	6,992,558,842	7,765,087,013
EBIT	3,322,316,653	489,670,132	1,410,030,851	74,921,252	358,939,474
interest				875,770,000	1,054,000,000
Depreciation	1,456,891,257	1,456,891,257	1,503,664,225	1,625,462,309	1,632,368,744

H.F.C.K

	1994	1995	1996	1997	1998
FINANCED BY					
Equity		991,157,773	1,049,661,000	1,187,213,648	1,418,821,842
debt		199,400,993	171,287,110	151,205,511	125,377,091
Current liabilities		5,947,283,725	7,462,763,181	8,599,626,343	11,287,036,821
ASSETS					
Fixed assets		543,144,339	546,101,291	541,718,321	532,671,240
Current assets		6,594,698,152	8,221,892,738	9,512,078,203	12,288,564,516
Total assets		**7,137,842,491**	**8,767,994,029**	**10,053,796,524**	**12,821,235,756**
income statement					
Sales		1,558,041,980	2,350,621,273	2,671,382,248	2,830,264,253
EBIT		286,539,730	407,893,419	483,237,034	428,246,957
interest		712,572,664	958,123,176	694,107,754	
Depreciation		29,223,366	31,727,532	36,474,131	35,618,981

KENYA NATIONAL LIBRARY

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	192,446,266	199,283,903	214,700,627	277,615,021	296,464,349
Debt					
Current liabilties	4,073,327	8,125,168	4,824,842	3,664,902	10,070,895
ASSETS					
Fixed assets	184,453,549	199,450,320	210,478,617	278,113,435	284,689,696

Current assets	12,066,044	7,958,751	9,046,852	3,166,488	21,845,548
Total assets	**196,519,593**	**207,409,071**	**219,525,469**	**281,279,923**	**306,535,244**
income statement					
Sales	94,434,729	97,821,424	115,011,770	145,754,560	185,922,396
EBIT	17,317,783	811,115	5,731,322	1,222,781	15,627,138
interest					
Depreciation	2,593,726	3,124,723	4,287,288	4,656,229	4,170,959

KENYA NATIONAL EXAMINATIONS COUNCIL

	1995	1996	1997	1998
FINANCED BY				
Equity	269,228,493	244,908,429	252,467,192	278,288,410
Debt	60,795,817	61,839,256	30,861,756	22,581,938
Current liability	62,868,522	63,911,961	32,934,461	24,712,514
ASSETS				
Fixed assets	178,614,808	211,538,364	212,193,083	228,306,772
Current assets	153,482,207	97,282,026	73,208,570	74,694,152
Total assets	332,097,015	308,820,390	285,401,653	303,000,924
income statement				
Sales	671,153,183	812,567,179	799,690,248	970,321,071
EBIT	-20,094,865	-23,354,130	7,533,763	16,867,095
interest				
Depreciation	7,381,860	9,390,263	11,370,425	11,334,610

NATIONAL BANK

	1994	1995	1996	1997	1998
FINANCED BY					

Equity	2,922,589	2,922,589	3,190,729	3,328,421	406,648
Debt	1,706,751	904,526	904,526	2,609,128	4,833,151
Current liability	14,643,360	15,264,055	20,351,942	23,089,463	20,522,841
ASSETS					
Fixed assets	1,049,556	1,103,765	1,215,497	1,219,780	1,299,973
Current assets	16,516,393	17,153,100	2,323,170	27,807,232	24,462,667
Total assets	**17,565,949**	**18,256,865**	**3,538,667**	**29,027,012**	**25,762,640**
income statement					
Sales	3,687,776	3,706,046	5,832,282	6,070,904	5,896,855
EBIT	429,253	633,379	903,826	650,059	-2,821,773
Interest	1,821,537	1,440,947	2,440,290	3,094,090	4,905,013
Depreciation	58,608	57,919	96,833	79,594	96,900

JOMO KENYATTA FOUNDATION

	1994	**1995**	**1996**	**1997**	**1998**
FINANCED BY					
Equity	158,669,519	165,539,728	202,375,413	242,733,566	287,286,617
Debt	67,533,134	31,425,962	27,008,548	15,706,473	35,992,173
Current liability	35,619,013	27,008,548	15,706,473	15,706,473	35,992,173
ASSETS					
Fixed assets	108,665,146	105,898,663	102,338,971	105,801,792	108,842,512
Current assets	91,100,294	127,044,993	192,638,247	152,638,247	214,436,278
Total assets	199,765,440	232,943,656	294,977,218	258,440,039	323,278,790
income statement					
Sales	128,309,724	133,217,012	193,531,591	197,619,437	252,658,745
EBIT	4,486,266	-768,716	40,978,987	40,140,176	44,553,051
Interest	3,312,599	1,265,395	1,165,078	644,596	1,444,890

Depreciation	2,074,618	8,905,742	8,516,693	10,789,322	13,237,049

KENYA COMMERCIAL BANK

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	4,555,675	6,423,753	8,139,286	9,806,502	10,355,900
Debt	369,353	369,682	422,445	567,562	607,422
Current liability	55,683,136	45,409,417	59,676,886	63,161,159	68,677,335
ASSETS					
Fixed assets	1,940,067	2,333,048	2,694,005	2,811,794	2,981,711
Current assets	58,668,097	55,597,730	65,544,612	70,723,429	76,051,524
Total assets	60,608,164	57,930,778	68,238,617	73,535,223	79,033,235
income statement					
Sales	11,960,000	10,885,000	15,914,484	17,041,026	9,150,187
EBIT	2,826,903	3,763,118	4,036,696	4,115,696	1,407,862
Interest		4,933,109	6,949,130	7,329,745	8,752,606
Depreciation	112,689	201,150	198,806	248,452	1,353,099

KENYA PUPELINE

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	3,382,144	6,070,232	7,954,277	7,954,627	9,503,032
Debt	7,531,196	5,582,282	4,313,562	4,313,560	3,464,719
Current liability	1,995,143	2,032,343	1,729,266	1,001,333	1,923,802
ASSETS					
Fixed assets	11,816,596	11,986,131	11,952,289	11,885,789	12,179,010
Current assets	1,094,536	1,688,757	2,045,165	2,117,231	2,645,513
Total assets	**12,911,132**	**13,674,888**	**13,997,454**	**14,003,020**	**14,824,523**

income statement					
Sales	3,743,713	4,501,980	4,570,649	4,484,061	5,133,096
EBIT	890,511	2,267,797	2,494,201	2,494,552	2,190,437
Interest					
Depreciation	704,463	2,773,800	2,773,800	786,447	791,866

KENYA TOURIST DEVELOPMENT CORPORATION

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	473,764,878	534,029,433	584,020,721	859,564,589	937,282,191
Debt	65,377,759	61,857,402	55,845,855	50,952,816	45,706,534
Current liability	105,952,168	116,215,901	95,400,409	120,620,042	169,626,051
ASSETS					
Fixed assets	73,533,110	69,403,877	65,234,278	67,587,909	72,305,612
Current assets	327,450,535	384,847,367	356,070,828	534,218,259	616,454,343
Total assets	**400,983,645**	**454,251,244**	**421,305,106**	**601,806,168**	**688,759,955**

income statement					
Sales	107,900,256	110,991,816	109,779,084	100,289,715	160,409,788
EBIT	73,221,719	72,472,422	67,589,253	41,429,719	63,788,252
Interest					
Depreciation	2,977,284	2,857,750	4,437,833	4,008,778	3,731,063

KENYA POWER & LIGHTING

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	1,900,593	2,946,426	3,920,114	5,050,196	5,103,357

Debt	2,100,132	1,771,903	1,442,969	1,347,356	1,153,273
Current liability	7,198,358	10,574,032	12,429,640	13,960,150	13,740,710
ASSETS					
Fixed assets	3,747,281	4,523,340	4,770,730	6,587,490	7,633,330
Current assets	7,068,819	10,466,665	12,783,962	13,619,670	13,351,178
Total assets	**10,816,100**	**14,990,005**	**17,554,692**	**20,207,160**	**20,984,508**
income statement					
Sales	9,279,744	12,957,798	14,925,761	16,893,149	18,073,232
EBIT	763,136	1,499,803	1,512,042	2,160,099	2,005,343
Interest	101,324	98,419	89,953		
Depreciation	203,058	239,858	335,430	406,484	579,494

KENYA LITERATURE BUREAU

	1994	**1995**	**1996**	**1997**	**1998**
FINANCED BY					
Equity	333,924,472	431,670,077	508,664,394	608,003,078	639,247,381
Debt	1,515,158	6,322,342	7,610,752	7,610,752	2,830,758
Current liability	21,405,752	28,034,744	31,737,091	41,107,954	42,527,419
ASSETS					
Fixed assets	107,395,756	115,822,092	141,552,762	161,936,421	237,456,037
Current assets	249,449,626	35,020,571	398,848,723	487,174,611	444,318,763
Total assets	**356,845,382**	**150,842,663**	**540,401,485**	**649,111,032**	**681,774,800**
income statement					
Sales	192,538,944	288,384,593	309,628,652	366,082,300	
EBIT	52,796,614	98,876,944	77,061,317	99,289,512	
Interest					
Depreciation	4,889,897	6,033,436	7,617,786	10,044,967	

KERIO VALLEY DEVELOPMENT AUTHORITY

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	70,477,700	78,054,890	54,195,310	72,546,913	126,609,797
Debt	39,601,700	37,149,479	24,601,797	106,673,562	166,911,176
Current liability	39,601,700	37,149,479	24,601,797	34,126,649	40,301,379
ASSETS					
Fixed assets	226,709,700	233,184,418	252,142,491	257,713,396	436,787,024
Current assets	110,079,500	115,204,369	78,797,107	106,673,562	166,911,176
Total assets	**336,789,200**	**348,388,787**	**330,939,598**	**364,386,958**	**603,698,200**
income statement					
Sales	99,872,093	126,061,736	166,810,608	16,681,068	156,172,270
EBIT	22,332,177	13,805,508	306,337,801	98,671,318	14,740,247
Interest					
Depreciation	8,546,065	9,784,260	9,463,792	8,659,227	8,647,881

EWASO NGIRO NORTH

	1994	1995	1996	1997	1998
FINANCED BY					
Equity	3,633,091	8,843,351	-	31,125,405	25,257,085
Debt	-	-	-	-	-
Current liability	235,000	808,700	-	1,739,630	932,915
ASSETS					
Fixed assets	3,275,815	6,879,610	-	19,558,806	18,792,414
Current assets	592,276	2,772,441	-	13,306,229	7,397,585
Total assets	**3,868,091**	**9,652,051**	**0**	**32,865,035**	**26,189,999**

income statement					
Sales	1,269,000	3,958,194	-	21,656,839	25,287,324
EBIT	1,252,065	-1,537,164	-	906,625	-3,686,261
Interest					
Depreciation	1,463,861	620,251	-	1,785,668	2,571,392

EWASO NGIRO SOUTH

	1995	1996	1997
FINANCED BY			
Equity	6,695,586	78,276,556	99,958,544
Debt	-	-	-
Current liability	2,037,892	2,139,919	366,580
ASSETS			
Fixed assets	7,950,292	63,404,740	11,169,332
Current assets	783,186	17,111,735	28,685,923
Total assets	**8,733,478**	**80,516,475**	**100,325,124**

income statement			
Sales	11,565,539	24,596,023	27,814,020
EBIT	-1,902,528	7,476,712	6,181,753
Interest			
Depreciation	1,534,456	1,255,491	1,465,677

APPENDIX 11

means for 15 Public Sector enterprises in Kenya, 1994-1998

	D/E	assets	size	profitability	growth	non-tax	liquidity
AGRICULTURAL							
1 EWASO SOUTH	0	0.603043	0.147128	0.112698	0.068633	0.068633	0.384312
2 EWASO NGIRO NORT	0.06223955	0.718077	0.590663	0.140539	0.058273	0.148805	5.381754
COMMERCIAL AND SERVICES							
3 KNLS	4.3691E-10	0.955299	0.520159	0.035574	0.199161	0.015591	1.769993
4 KNEC	0.17042523	0.571638	1.943593	0.065112	0.354954	0.024054	2.302206
5 KTDB	0.09149863	0.24539	0.143085	0.10445	0.214714	0.004358	3.63951
6 JKF	1.20333656	0.381449	0.726699	0.162067	0.318652	0.034842	4.595859
7 KLB	0.00940706	0.265226	0.573827	0.175492	0.065003	0.014055	12.2995
8 KAA	0.46727068	0.859442	0.085251	0.031418	0.0333	0.032384	5.78966
9 KPA	0.30901815	0.410075	0.143085	0.143769	-0.894522	0.198121	1.366034
FINANCE &INVESTMENTS							
10 NATIONAL BANK	2.76778828	0.052482	0.217908	1.555237	0.681946	0.003395	1.157893
11 KCB	0.06141147	0.037744	0.194419	0.31689	0.710292	0.037162	0.9036
12 HFCK	0.14502296	0.145023	0.246687	0.290436	0.872747	0.003529	1.101354
INDUSTRIAL AND ALLIED							
13 KPLC	0.51439329	0.317174	0.841181	0.423387	0.785205	0.02005	0.989524
14 KVDA	0.85610222	0.780592	0.412272	2.275249	0.782968	0.025971	1.929513
15 KENYA PIPELINE	0.91925669	0.861652	0.321823	0.170352	1.760945	0.218347	1.022547
AVERAGE	**0.50514472**	**0.480287**	**0.473852**	**0.400178**	**0.400818**	**0.05662**	**2.975551**

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
LEVERAGE	.5051	.7321	15
ASSETS	.4803	.3069	15
SIZE	.4739	.4693	15
PROFITAB	.4002	.6389	15
GROWTH	.4040	.5822	15
NONTAX	5.662E-02	7.145E-02	15
LIQUIDIT	4.8751	7.2947	15

Correlations

		LEVERAGE	ASSETS	SIZE	PROFITAB	GROWTH	NONTAX	LIQUIDIT
Pearson Correlation	LEVERAGE	1.000	-.220	- 107	.602	.322	-.070	-.275
	ASSETS	-.220	1.000	.111	-.084	011	.368	.114
	SIZE	- 107	111	1.000	- 124	051	- 166	- 158
	PROFITAB	.602	- 084	- 124	1.000	.294	-.232	-.214
	GROWTH	.322	011	051	.294	1.000	- 047	-.291
	NONTAX	-.070	368	- 166	-.232	- 047	1.000	- 018
	LIQUIDIT	-.275	114	- 158	-.214	-.291	- 018	1.000
Sig. (1-tailed)	LEVERAGE		.215	353	.009	.121	402	160
	ASSETS	.215		.347	.383	485	089	343
	SIZE	.353	347		.329	428	.278	.287
	PROFITAB	.009	.383	329		.143	.203	221
	GROWTH	.121	485	428	.143		434	146
	NONTAX	402	089	.278	.203	434		474
	LIQUIDIT	160	343	.287	.221	.146	474	
N	LEVERAGE	15	15	15	15	15	15	15
	ASSETS	15	15	15	15	15	15	15
	SIZE	15	15	15	15	15	15	15
	PROFITAB	15	15	15	15	15	15	15
	GROWTH	15	15	15	15	15	15	15
	NONTAX	15	15	15	15	15	15	15
	LIQUIDIT	15	15	15	15	15	15	15

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.397	.500		.796	.449	-.755	1.550
	ASSETS	-.514	.702	-.215	-.731	.485	-2.133	1.106
	SIZE	-1.893E-02	.445	-.012	-.043	.967	-1.045	1.007
	PROFITAB	.635	.338	.554	1.878	.097	-.145	1.414
	GROWTH	.178	.359	.142	.496	.633	-.650	1.006
	NONTAX	1.440	3.132	.141	.460	.658	-5.783	8.662
	LIQUIDIT	-9.052E-03	.029	-.090	-.311	.764	-.076	.058

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	ASSETS	-.220	-.250	-.193	.803	1.245
	SIZE	-.107	-.015	-.011	.856	1.168
	PROFITAB	.602	.553	.496	.801	1.248
	GROWTH	.322	.173	.131	.854	1.171
	NONTAX	-.070	.160	.121	.746	1.341
	LIQUIDIT	-.275	-.109	-.082	.830	1.205

a. Dependent Variable: LEVERAGE

Coefficient Correlations[a]

Model			LIQUIDIT	NONTAX	SIZE	GROWTH	ASSETS	PROFITAB
1	Correlations	LIQUIDIT	1.000	.173	.226	.235	-.188	.197
		NONTAX	.173	1.000	.287	.008	-.409	.275
		SIZE	.226	.287	1.000	-.037	-.223	.229
		GROWTH	.235	.008	-.037	1.000	-.056	-.243
		ASSETS	-.188	-.409	-.223	-.056	1.000	-.065
		PROFITAB	.197	.275	.229	-.243	-.065	1.000
	Covariances	LIQUIDIT	8.459E-04	1.579E-02	2.924E-03	2.451E-03	-3.847E-03	1.935E-03
		NONTAX	1.579E-02	9.809	.400	8.595E-03	-.900	.291
		SIZE	2.924E-03	.400	.198	-5.982E-03	-6.970E-02	3.443E-02
		GROWTH	2.451E-03	8.595E-03	-5.982E-03	.129	-1.412E-02	-2.951E-02
		ASSETS	-3.847E-03	-.900	-6.970E-02	-1.412E-02	.493	-1.548E-02
		PROFITAB	1.935E-03	.291	3.443E-02	-2.951E-02	-1.548E-02	.114

a. Dependent Variable: LEVERAGE

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	ASSETS	SIZE	PROFITAB	GROWTH	NONTAX	LIQUIDIT
1	1	3.942	1.000	.01	.01	.02	.01	.02	.01	.01
	2	1.069	1.920	.00	.00	.00	.18	.14	.04	.15
	3	.680	2.407	.00	.00	.00	.15	.02	.23	.35
	4	.598	2.568	.00	.00	.43	.12	.00	.16	.01
	5	.427	3.039	.00	.01	.04	.28	.78	.02	.15
	6	.177	4.721	.00	.86	.22	.06	.00	.42	.12
	7	.107	6.075	.99	.12	.29	.20	.04	.12	.21

a Dependent Variable: LEVERAGE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-3.87E-02	1.5922	.5051	.4871	15
Residual	-.7361	1.2983	1.406E-16	.5466	15
Std. Predicted Value	-1.116	2.232	.000	1.000	15
Std. Residual	-1.018	1.796	.000	.756	15

a Dependent Variable: LEVERAGE

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
LEVERAGE	.5051	.7321	15
ASSETS	.4803	.3069	15
SIZE	.4739	.4693	15
PROFITAB	.4002	.6389	15
GROWTH	.4040	.5822	15
NONTAX	5.662E-02	7.145E-02	15
LIQUIDIT	4.8751	7.2947	15

Correlations

		LEVERAGE	ASSETS	SIZE	PROFITAB	GROWTH	NONTAX	LIQUIDIT
Pearson Correlation	LEVERAGE	1.000	-.220	-.107	.602	.322	-.070	-.275
	ASSETS	-.220	1.000	.111	-.084	.011	.368	.114
	SIZE	-.107	.111	1.000	-.124	.051	-.166	-.158
	PROFITAB	.602	-.084	-.124	1.000	.294	-.232	-.214
	GROWTH	.322	011	.051	.294	1.000	-.047	-.291
	NONTAX	-.070	368	-.166	-.232	-.047	1.000	-.018
	LIQUIDIT	-.275	.114	-.158	-.214	-.291	-.018	1.000
Sig. (1-tailed)	LEVERAGE		.215	.353	009	.121	402	.160
	ASSETS	.215		.347	.383	485	089	.343
	SIZE	.353	347		.329	428	.278	.287
	PROFITAB	.009	383	329		.143	.203	.221
	GROWTH	.121	485	428	.143		434	.146
	NONTAX	402	089	.278	.203	434		474
	LIQUIDIT	.160	343	.287	.221	146	474	
N	LEVERAGE	15	15	15	15	15	15	15
	ASSETS	15	15	15	15	15	15	15
	SIZE	15	15	15	15	15	15	15
	PROFITAB	15	15	15	15	15	15	15
	GROWTH	15	15	15	15	15	15	15
	NONTAX	15	15	15	15	15	15	15
	LIQUIDIT	15	15	15	15	15	15	15

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	PROFITAB		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)

a. Dependent Variable: LEVERAGE

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.602[a]	.362	.313	.6067	.362	7.386	1	13	.018	2.486

a. Predictors: (Constant), PROFITAB

b. Dependent Variable: LEVERAGE

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.719	1	2.719	7.386	.018[a]
	Residual	4.785	13	.368		
	Total	7.504	14			

a. Predictors: (Constant), PROFITAB

b. Dependent Variable: LEVERAGE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.229	.187		1.227	.241	-.174	.632
	PROFITAB	.690	.254	.602	2.718	.018	.141	1.238

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	PROFITAB	602	602	602	1.000	1.000

a Dependent Variable: LEVERAGE

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	ASSETS	-.171[a]	-.756	.464	-.213	.993	1.007	.993
	SIZE	-.032[a]	-.139	.892	-.040	.985	1.016	.985
	GROWTH	.158[a]	.667	.517	.189	.913	1.095	.913
	NONTAX	.073[a]	.311	.761	.089	.946	1.057	.946
	LIQUIDIT	-.153[a]	-.661	.521	-.188	.954	1.048	.954

a Predictors in the Model: (Constant), PROFITAB

b Dependent Variable: LEVERAGE

Coefficient Correlations[a]

Model			PROFITAB
1	Correlations	PROFITAB	1.000
	Covariances	PROFITAB	6.442E-02

a Dependent Variable: LEVERAGE

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions	
				(Constant)	PROFITAB
1	1	1.544	1.000	.23	.23
	2	.456	1.840	.77	.77

a Dependent Variable: LEVERAGE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.2508	1.7985	.5051	.4407	15
Residual	-.9424	1.4659	3.701E-17	.5846	15
Std. Predicted Value	-.577	2.935	.000	1.000	15
Std. Residual	-1.553	2.416	.000	.964	15

a. Dependent Variable: LEVERAGE

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
LEVERAGE	.5051	.7321	15
ASSETS	4803	.3069	15
SIZE	4739	4693	15
PROFITAB	4002	.6389	15
GROWTH	4040	.5822	15
NONTAX	5.662E-02	7.145E-02	15
LIQUIDIT	4.8751	7.2947	15

Correlations

		LEVERAGE	ASSETS	SIZE	PROFITAB	GROWTH	NONTAX	LIQUIDIT
Pearson Correlation	LEVERAGE	1.000	-.220	-.107	.602	.322	-.070	-.275
	ASSETS	-.220	1.000	.111	-.084	.011	.368	.114
	SIZE	-.107	.111	1.000	-.124	.051	-.166	-.158
	PROFITAB	.602	-.084	-.124	1.000	.294	-.232	-.214
	GROWTH	.322	.011	.051	.294	1.000	-.047	-.291
	NONTAX	-.070	.368	-.166	-.232	-.047	1.000	-.018
	LIQUIDIT	-.275	.114	-.158	-.214	-.291	-.018	1.000
Sig (1-tailed)	LEVERAGE		.215	.353	.009	.121	.402	.160
	ASSETS	.215		.347	.383	.485	.089	.343
	SIZE	.353	.347		.329	.428	.278	.287
	PROFITAB	.009	.383	.329		.143	.203	.221
	GROWTH	.121	.485	.428	.143		.434	.146
	NONTAX	.402	.089	.278	.203	.434		.474
	LIQUIDIT	.160	.343	.287	.221	.146	.474	
N	LEVERAGE	15	15	15	15	15	15	15
	ASSETS	15	15	15	15	15	15	15
	SIZE	15	15	15	15	15	15	15
	PROFITAB	15	15	15	15	15	15	15
	GROWTH	15	15	15	15	15	15	15
	NONTAX	15	15	15	15	15	15	15
	LIQUIDIT	15	15	15	15	15	15	15

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	LIQUIDIT, NONTAX, SIZE, GROWTH, ASSETS, PROFITAB[a]		Enter
2		SIZE	Backward (criterion: Probability of F-to-remove >= .100).
3		LIQUIDIT	Backward (criterion: Probability of F-to-remove >= .100)
4		NONTAX	Backward (criterion Probability of F-to-remove >= .100)
5		GROWTH	Backward (criterion: Probability of F-to-remove >= .100).
6		ASSETS	Backward (criterion: Probability of F-to-remove >= .100)

a. All requested variables entered.

b. Dependent Variable: LEVERAGE

Model Summary[g]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.665[a]	.443	.025	.7230	.443	1.059	6	8	.456	
2	.665[b]	.443	.133	.6818	.000	.002	1	10	.967	
3	.660[c]	.436	.210	.6506	-.007	.108	1	11	.750	
4	.645[d]	.416	.257	.6311	-.020	.350	1	12	.567	
5	.626[e]	.391	.290	.6169	-.025	.467	1	13	.509	
6	.602[f]	.362	.313	.6067	-.029	.572	1	14	.464	2.486

a. Predictors: (Constant), LIQUIDIT, NONTAX, SIZE, GROWTH, ASSETS, PROFITAB

b. Predictors: (Constant), LIQUIDIT, NONTAX, GROWTH, ASSETS, PROFITAB

c. Predictors: (Constant), NONTAX, GROWTH, ASSETS, PROFITAB

d. Predictors: (Constant), GROWTH, ASSETS, PROFITAB

e. Predictors: (Constant), ASSETS, PROFITAB

f. Predictors: (Constant), PROFITAB

g. Dependent Variable: LEVERAGE

ANOVA[g]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.321	6	.554	1.059	.456[a]
	Residual	4.182	8	.523		
	Total	7.504	14			
2	Regression	3.320	5	.664	1.429	.302[b]
	Residual	4.183	9	.465		
	Total	7.504	14			
3	Regression	3.270	4	.818	1.931	.182[c]
	Residual	4.233	10	.423		
	Total	7.504	14			
4	Regression	3.122	3	1.041	2.613	.104[d]
	Residual	4.381	11	.398		
	Total	7.504	14			
5	Regression	2.936	2	1.468	3.857	.051[e]
	Residual	4.567	12	.381		
	Total	7.504	14			
6	Regression	2.719	1	2.719	7.386	.018[f]
	Residual	4.785	13	.368		
	Total	7.504	14			

a Predictors: (Constant), LIQUIDIT, NONTAX, SIZE, GROWTH, ASSETS, PROFITAB

b Predictors: (Constant), LIQUIDIT, NONTAX, GROWTH, ASSETS, PROFITAB

c Predictors: (Constant), NONTAX, GROWTH, ASSETS, PROFITAB

d Predictors: (Constant), GROWTH, ASSETS, PROFITAB

e Predictors: (Constant), ASSETS, PROFITAB

f Predictors: (Constant), PROFITAB

g Dependent Variable: LEVERAGE

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.397	.500		.796	.449	-.755	1.550
	ASSETS	-.514	.702	-.215	-.731	.485	-2.133	1.106
	SIZE	-1.893E-02	.445	-.012	-.043	.967	-1.045	1.007
	PROFITAB	.635	.338	.554	1.878	.097	-.145	1.414
	GROWTH	.178	.359	.142	.496	.633	-.650	1.006
	NONTAX	1.440	3.132	.141	.460	.658	-5.783	8.662
	LIQUIDIT	-9.052E-03	.029	-.090	-.311	.764	-.076	.058
2	(Constant)	.387	.411		.942	.371	-.543	1.317
	ASSETS	-.520	.646	-.218	-.806	.441	-1.981	.940
	PROFITAB	.638	.310	.557	2.057	.070	-.064	1.340
	GROWTH	.178	.338	.141	.525	.612	-.588	.943
	NONTAX	1.478	2.829	.144	.523	.614	-4.921	7.877
	LIQUIDIT	-8.773E-03	.027	-.087	-.328	.750	-.069	.052
3	(Constant)	.336	.362		.926	.376	-.472	1.143
	ASSETS	-.551	.610	-.231	-.904	.387	-1.909	.807
	PROFITAB	.654	.293	.570	2.234	.050	.002	1.305
	GROWTH	.205	.313	.163	.657	.526	-.491	.902
	NONTAX	1.586	2.681	.155	.592	.567	-4.388	7.561
4	(Constant)	.377	.345		1.093	.298	-.382	1.136
	ASSETS	-.422	.552	-.177	-.764	.461	-1.636	.793
	PROFITAB	.617	.277	.539	2.225	.048	.007	1.228
	GROWTH	.207	.303	.165	.683	.509	-.460	.875
5	(Constant)	.432	.328		1.315	.213	-.283	1.146
	ASSETS	-.408	.539	-.171	-.756	.464	-1.582	.767
	PROFITAB	.673	.259	.588	2.600	.023	.109	1.238
6	(Constant)	.229	.187		1.227	.241	-.174	.632
	PROFITAB	.690	.254	.602	2.718	.018	.141	1.238

Coefficients[a]

Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	ASSETS	-.220	-.250	-.193	.803	1.245
	SIZE	-.107	-.015	-.011	.856	1.168
	PROFITAB	.602	.553	.496	.801	1.248
	GROWTH	.322	.173	.131	.854	1.171
	NONTAX	-.070	.160	.121	.746	1.341
	LIQUIDIT	-.275	-.109	-.082	.830	1.205
2	(Constant)					
	ASSETS	-.220	-.260	-.201	.845	1.183
	PROFITAB	.602	.565	.512	.845	1.183
	GROWTH	.322	.172	.131	.855	1.169
	NONTAX	-.070	.172	.130	.813	1.231
	LIQUIDIT	-.275	-.109	-.082	.874	1.144
3	(Constant)					
	ASSETS	-.220	-.275	-.215	.864	1.158
	PROFITAB	.602	.577	.531	.866	1.155
	GROWTH	.322	.203	.156	.912	1.097
	NONTAX	-.070	.184	.141	.824	1.214
4	(Constant)					
	ASSETS	-.220	-.225	-.176	.992	1.008
	PROFITAB	.602	.557	.513	.906	1.104
	GROWTH	.322	.202	.157	.912	1.096
5	(Constant)					
	ASSETS	-.220	-.213	-.170	.993	1.007
	PROFITAB	.602	.600	.586	.993	1.007
6	(Constant)					
	PROFITAB	.602	.602	.602	1.000	1.000

a. Dependent Variable: LEVERAGE

Coefficient Correlations[a]

Model			LIQUIDIT	NONTAX	SIZE	GROWTH	ASSETS	PROFITAB
1	Correlations	LIQUIDIT	1.000	.173	.226	.235	-.188	.197
		NONTAX	.173	1.000	.287	.008	-.409	.275
		SIZE	.226	.287	1.000	-.037	-.223	.229

Coefficient Correlations[a]

Model			LIQUIDIT	NONTAX	SIZE	GROWTH	ASSETS	PROFITAB
1	Correlations	GROWTH	.235	.008	-.037	1.000	-.056	-.243
		ASSETS	-.188	-.409	-.223	-.056	1.000	-.065
		PROFITAB	.197	.275	.229	-.243	-.065	1.000
	Covariances	LIQUIDIT	8.459E-04	1.579E-02	2.924E-03	2.451E-03	-3.847E-03	1.935E-03
		NONTAX	1.579E-02	9.809	.400	8.595E-03	-.900	.291
		SIZE	2.924E-03	.400	.198	-5.982E-03	-6.970E-02	3.443E-02
		GROWTH	2.451E-03	8.595E-03	-5.982E-03	.129	-1.412E-02	-2.951E-02
		ASSETS	-3.847E-03	-.900	-6.970E-02	-1.412E-02	.493	-1.548E-02
		PROFITAB	1.935E-03	.291	3.443E-02	-2.951E-02	-1.548E-02	.114
2	Correlations	LIQUIDIT	1.000	.116		.250	-.145	.153
		NONTAX	.116	1.000		.019	-.370	.224
		GROWTH	.250	.019		1.000	-.066	-.241
		ASSETS	-.145	-.370		-.066	1.000	-.015
		PROFITAB	.153	.224		-.241	-.015	1.000
	Covariances	LIQUIDIT	7.137E-04	8.784E-03		2.257E-03	-2.506E-03	1.268E-03
		NONTAX	8.784E-03	8.002		1.839E-02	-.675	.197
		GROWTH	2.257E-03	1.839E-02		.115	-1.443E-02	-2.532E-02
		ASSETS	-2.506E-03	-.675		-1.443E-02	.417	-2.989E-03
		PROFITAB	1.268E-03	.197		-2.532E-02	-2.989E-03	9.623E-02
3	Correlations	NONTAX		1.000		-.010	-.359	.210
		GROWTH		-.010		1.000	-.031	-.292
		ASSETS		-.359		-.031	1.000	.007
		PROFITAB		.210		-.292	.007	1.000
	Covariances	NONTAX		7.190		-8.554E-03	-.587	.165
		GROWTH		-8.554E-03		9.781E-02	-5.920E-03	-2.671E-02
		ASSETS		-.587		-5.920E-03	.372	1.333E-03
		PROFITAB		.165		-2.671E-02	1.333E-03	8.559E-02
4	Correlations	GROWTH				1.000	-.037	-.296
		ASSETS				-.037	1.000	.091
		PROFITAB				-.296	.091	1.000
	Covariances	GROWTH				9.202E-02	-6.227E-03	-2.495E-02
		ASSETS				-6.227E-03	.305	1.394E-02
		PROFITAB				-2.495E-02	1.394E-02	7.696E-02
5	Correlations	ASSETS					1.000	.084
		PROFITAB					.084	1.000
	Covariances	ASSETS					.291	1.171E-02
		PROFITAB					1.171E-02	6.708E-02
6	Correlations	PROFITAB						1.000
	Covariances	PROFITAB						6.442E-02

a. Dependent Variable: LEVERAGE

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	ASSETS	SIZE	PROFITAB	GROWTH	NONTAX	LIQUIDIT
1	1	3.942	1.000	.01	.01	.02	.01	.02	.01	.01
	2	1.069	1.920	.00	.00	.00	.18	.14	.04	.15
	3	.680	2.407	.00	.00	.00	.15	.02	.23	.35
	4	.598	2.568	.00	.00	.43	.12	.00	.16	.01
	5	.427	3.039	.00	.01	.04	.28	.78	.02	.15
	6	.177	4.721	.00	.86	.22	.06	.00	.42	.12
	7	.107	6.075	.99	.12	.29	.20	.04	.12	.21
2	1	3.444	1.000	.01	.02		.02	.02	.02	.02
	2	1.069	1.795	.00	.00		.19	.14	.04	.16
	3	.679	2.251	.00	.00		.13	.03	.28	.35
	4	.440	2.799	.00	.00		.44	.67	.09	.09
	5	.239	3.792	.08	.39		.14	.10	.56	.31
	6	.128	5.180	.91	.58		.08	.05	.00	.08
3	1	3.161	1.000	.02	.02		.03	.03	.03	
	2	.924	1.850	.00	.02		.28	.11	.18	
	3	.474	2.584	.01	.01		.39	.83	.00	
	4	.306	3.213	.12	.17		.25	.01	.79	
	5	.135	4.840	.86	.79		.05	.02	.01	
4	1	2.727	1.000	.03	.03		.05	.05		
	2	.664	2.027	.04	.12		.43	.12		
	3	.473	2.401	.01	.01		.46	.81		
	4	.135	4.487	.93	.84		.06	.02		
5	1	2.233	1.000	.04	.04		.07			
	2	.629	1.884	.02	.09		.83			
	3	.137	4.034	.94	.87		.10			
6	1	1.544	1.000	.23			.23			
	2	.456	1.840	.77			.77			

a. Dependent Variable: LEVERAGE

Excluded Variables[f]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
2	SIZE	-.012[a]	-.043	.967	-.015	.856	1.168	.746
3	SIZE	.008[b]	.030	.977	.010	.902	1.109	.769
	LIQUIDIT	-.087[b]	-.328	.750	-.109	.874	1.144	.813
4	SIZE	-.030[c]	-.120	.907	-.038	.967	1.035	.889
	LIQUIDIT	-.104[c]	-.407	.693	-.128	.886	1.128	.855
	NONTAX	.155[c]	.592	.567	.184	.824	1.214	.824
5	SIZE	-.015[d]	-.063	.951	-.019	.974	1.026	.974
	LIQUIDIT	-.137[d]	-.577	.576	-.171	.945	1.058	.945
	NONTAX	.157[d]	.614	.551	.182	.824	1.214	.824
	GROWTH	.165[d]	.683	.509	.202	.912	1.096	.906
6	SIZE	-.032[e]	-.139	.892	-.040	.985	1.016	.985
	LIQUIDIT	-.153[e]	-.661	.521	-.188	.954	1.048	.954
	NONTAX	.073[e]	.311	.761	.089	.946	1.057	.946
	GROWTH	.158[e]	.667	.517	.189	.913	1.095	.913
	ASSETS	-.171[e]	-.756	.464	-.213	.993	1.007	.993

a. Predictors in the Model: (Constant), LIQUIDIT, NONTAX, GROWTH, ASSETS, PROFITAB

b. Predictors in the Model: (Constant), NONTAX, GROWTH, ASSETS, PROFITAB

c. Predictors in the Model: (Constant), GROWTH, ASSETS, PROFITAB

d. Predictors in the Model: (Constant), ASSETS, PROFITAB

e. Predictors in the Model: (Constant), PROFITAB

f. Dependent Variable: LEVERAGE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.2508	1.7985	.5051	.4407	15
Residual	-.9424	1.4659	5.181E-17	.5846	15
Std. Predicted Value	-.577	2.935	.000	1.000	15
Std. Residual	-1.553	2.416	.000	.964	15

a. Dependent Variable: LEVERAGE