RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND PROFITABILITY: A TIME-SERIES CROSS-SECTIONAL STUDY ON MALAYSIAN FIRMS

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BY

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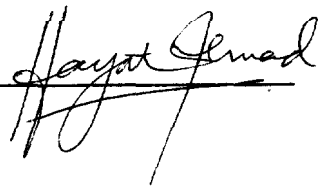
Nama *(Name)*	Mrs. Nor Hayati Ahmad	Tandatangan *(Signature)* 
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ABSTRAK

Semenjak terbitnya Proposisi M&M dalam 1958, isu struktur kapital telah menarik banyak perhatian dan kontroversi. Proposisi tersebut yang mengutarakan bahawa nilai sesebuah firma adalah bebas daripada pengaruh struktur kapitahtya, telah diuji dan dikaji berulangkali oleh para cendekiawan. Namun begitu, sebahagian besar kajian tersebut telah dijalankan di Amerika Syarikat. Oleh itu, ketidakpastian timbul terhadap kesahan hasil kajian-kajian tersebut apabila diletakkan dalam konteks Malaysia. Lantaran itu, kajian ini cuba mengatasi masalah kekurangan kajian-kajian bermutu dalam bidang struktur kapital, terutama kesannya terhadap keuntungan firma-&ma tempatan. Sejumlah 267 buah firma yang tersenarai pada Papan Utama Bursa Saham Kuala Lumpur dikaji untuk jangkamasa selama 10 tahun (1985 - 1994). Dua set utama pembolehubah dipakai untuk mewakili struktur kapital iaitu Nisbah Hutang/Ekuiti, Nisbah Hutang, Nisbah Leveraj Kewangan, Nisbah Kapital Ditaja, Nisbah Hutang Ditaja, Nisbah Hutang Semasa, Nisbah Aset Ditaja, dan keuntungan iaitu Pulangan keatas Equiti, Untung Sesaham, Pulangan keatas Pelaburan, Untung Sebelum Cukai, dan Untung Bersih. Pembolehubah-pembolehubah tersebut dianalisa menggunakan kaedah siri-masa keratan-rentas. Demi mendapatkan bukti empitikal, Korelasi Produk-Momen Pearson, analisis min dan carta bar telah digunakan. Hasil kajian menunjukkan bahawa keuntungan adalah berkaitan secara signifikan dengan struktur kapital. Adalah didapati keuntungan berkadar songsang dengan jumlah liabiliti dalam struktur kapital sesebuah syarikat. Maka itu, lebih banyak hutang sesebuah syarikat, lebih teruk tahap keuntungan syaikat itu. Kajian ini juga mendapati wujudnya struktur kapital optimal pada syarikat-syarikat tersenarai. Firma-firma berlainan sektor didapati sentiasa mengnbahsuai struktur kapital mereka untuk mencapai suatu kombinasi hutang dan ekuiti yang optimal.

ABSTRACT

Ever since the M&M Propositions were made in 1958, the issue of capital structure has gained much interest and controversy. The propositions which contended that the value of a firm is independent of its capital structure, have been put to test and researched into time and again. Most of the studies, however, were done in the U.S., hence doubts arise on whether the conclusions would apply in the Malaysian context. Based on this motivation, this study attempted to solve the dearth of research on capital structure, particularly its effect on profitability, of local firms. A total of 267 firms listed on the Kuala Lumpur Stock Exchange Main Board were put under study for a period of ten years (1985 - 1994). Two major sets of variables were used to indicate capital structure i.e. Debt/Equity Ratio, Debt Ratio, Financial Leverage Ratio, Funded Capital Ratio, Funded Debt Ratio, Current Debt Ratio, Funded Assets Ratio; and, profitability i.e. Return On Equity, Earnings Per Share, Return On Investment, Profit Before Tax, Net Income. The variables were analyzed using the time-series cross-sectional methodology. In order to generate empirical evidence, the Pearson Product-Moment Correlation, mean and bar chart analysis were employed. The results implied that profitability is significantly related to capital structure. Specifically, profitability was inversely related to the amount of liability in a company's capital structure. Therefore, the more debt a firm incur, the worse its earnings is hurt. This study also found evidence of the existence an optimal capital structure among listed companies. Firms of different sectors were found to adjust their capital structure regularly in order to achieve an optimal combination of debt and equity.

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Last but not least, I wish to acknowledge my appreciation to all those who have helped, in any way, in the preparation of this thesis.

To my wonderful parents,

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and also my brother, Ai Keat.

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LIST of ABBREVIATIONS

KLSE	Kuala Lumpur Stock Exchange
DER	Debt / Equity Ratio
DR	Debt Ratio
FLR	Financial Leverage Ratio
FCR	Funded Capital Ratio
FDR	Funded Debt Ratio
CDR	Current Debt Ratio
FAR	Funded Assets Ratio
ROE	Return On Equity
EPS	Earnings Per Share
ROI	Return On Investment
PBT	Profit Before Tax
NI	Net Income

CHAPTER I

INTRODUCTION

1.1 Context of the Study

The capital structure of a firm has long been a major subject for academic study in the corporate finance world. As early as 1945, Chudson carried out an extensive research into this area by asking the question (p.4):

> "In what way does the structure of assets and liabilities of a given concern reflect the kind of industry in which a concern is engaged, the concern's size and level of profitability?"

Chudson's research question has implied that there might be a relationship between the capital structure practised by a firm with its profitability.

Furthermore, the importance of the capital structure issue was formally recognized internationally when the Nobel prize committee awarded its prizes for Economic Sciences to Franco Modighani in 1985 and to Merton Miller in 1990, largely for their work on capital structure. In 1958, Merton Miller and Franco Modigliani published a paper containing the now famous Miller-Modigliani (M&M) propositions.

In essence, M&M were able to show that capital structure in a perfect market was irrelevant. The capital structure issue brought up by the M&M propositions had since then created tidal waves in the corporate finance academia. Researchers tested and retested the propositions e.g. Barges (1962), Lamothe (1982), and Canda (1991).

Nevertheless, the capital structure issue has not been widely explored in the Malaysian context as attested by Md. Annuar and Shamsher (1993, p.96):

> "To date, there is hardly any evidence concerning the capital structure issue and its various aspects using data relating to Malaysian listed firms."

The same stance was also repeated by Mohamad Khan (1994) particularly concerning the relationship between capital structure and the profitability of Malaysian firms. Therefore, this study attempted to contribute to the dearth of research on capital structure in the Malaysian context.

1.2 Research Objectives

Based on the earlier discussion, this study was aimed at achieving three major objectives. First, it attempted to generate empirical evidence on whether a firm's profitability is related with its capital structure. Second, this study would determine on the existence of an optimal capital structure among listed Malaysian firms. Finally, this study would also investigate the trend of capital structure being practised by listed firms in Malaysia.

1.3 Research Questions

This study attempted to provide answers to the following questions:

- Is a firm's profitability significantly related with its capital structure?
- Is there an optimal capital structure in listed Malaysian firms?

- What is the trend of capital structure being practised by listed firms in Malaysia?

1.4 Research Hypotheses

This study shall be guided by the following major hypothesis based on the tests of the null hypothesis:

H_1: A firm's profitability is significantly related to its capital structure.

H_0: A firm's profitability is not significantly related to its capital structure.

1.5 Significance of the Study

For the academic world, this study would shed some light on the capital structure issue which has much been discussed since the M&M propositions. The significance of this study is further enhanced considering the fact that research into capital structure of listed firms in Malaysia is only at its infancy stage. For practitioners, this study is relevant and of much interest to financial controllers, finance managers, and managing directors particularly those working in listed firms to get to know about the capital structure of the other listed firms in Malaysia. In addition, practitioners would get an idea as to whether capital structure has an effect on a firm's profitability.

1.6 Limitations of the Study

The findings of this study will be limited from the following aspects:

- This study included only listed firms on the Main Board of the Kuala Lumpur Stock Exchange (KLSE). Hence, its findings were not applicable for listed companies on the Second Board and any other unlisted firms.
- The sample of listed companies for this study included only firms with at least ten years of financial data. Firms which are younger than ten years or whose annual reports could not be obtained will not be included in this study.

CHAPTER II

CONCEPTUAL FRAMEWORK

2.1 Review of Related Literature

The term ***capital structure*** has become a household phrase in the finance world. Capital structure can be defined as:

> "The mix (or proportion) of a firm's permanent long-term financing represented by debt, preferred stock, and common stock equity."
>
> (Van Home & Wachowicz, 1995, p.470)

> "The mix of long-term sources of funds used by the firm. This is also called the firm's "capitalization". The relative total (percentage) of each type of fund is emphasized."
>
> (Petty, Keown, Scott, and Martin, 1993, p.932)

A more comprehensive explanation was given by Masulis (1988, pl):

> 'Capital structure encompasses a corporation's (including its subsidiaries') publicly issued securities, private placements, bank debt, trade debt, leasing contracts, tax liabilities, pension liabilities, deferred compensation to management and employees, performance guarantees, product warranties, and other contingent liabilities. This list represents the major claims to a corporation's assets. Increases or reductions in any of these chums represents a form of capital structure change."

Nevertheless, for the sake of simplicity, many a number of prominent theorists have restricted the capital structure issue to the debt equity choice (Schlosser 1992).

On the other hand, *the* term ***profitability*** *is so* much in use especially in the business world to the extent that the phrase refers to all hinds of measurement and indicators for a firm's success. Hence, profitability had come to mean different things for different people, as agreed by **Ahmad Farid (1980,p60)**:

> "Profitability can be defined and measured in several ways depending on the purpose. It is a generic name for variables such as net income, return on total assets, earnings per share, etc. The simplest definition and measure of profitability is the net income."

2.1.1 Related Studies on Capital Structure

One of the earliest comprehensive research into capital structure of business firms was done by **Chudson** (1945) on a cross section of manufacturing, mining, trade, and construction companies in the U.S. for the years **from** 193 1 to 1937. Although it has been more than half a century, Chudson's study is still relevant today as before due to the seven questions which he endeavored to answer then **(pp.4-6)**:

- In what way does the structure of assets and liabilities of a given concern reflect the kind of industry in which a concern is engaged, the concern's size and level of **profitability?**
- At-e there significant differences in the use of short-term, long-term, and equity financing among various classes of business enterprise?
- Is the use of bank credit concentrated more strongly in certain sectors of the business community than in others?

- Do some concerns rely more than others on trade credit?
- Are there significant relationships between short-term assets and short-term liabilities?
- Is corporate liquidity, as reflected by the current ratio, associated with the industry, size, or profitability of a corporation?
- Are there any elements in the corporate balance sheet, either on the asset or the liability side, whose range of variation is so narrow that it is possible to speak of a "normal" pattern of financial structure?

All of the seven questions posed by Chudson could be interpreted into the three research questions pertinent to this study which are the relationship between profitability and capital structure, the existence of an optimal capital structure, and also the trend of capital structure being practised by a sample of firms. Chudson's research showed there were undisputable relationships between corporate financial structure and three major variables: the type of industry a firm was in, the corporate size, and the firm's profitability.

As far as this study is concerned, Chudson had successfully proved the relationship between the profitability of a company with various capital structure variables i.e. cash and marketable securities, receivables, current liabilities, the current ratio, working capital, fixed capital assets, long-term investments, debt and equity capital. Nevertheless, it is not wise to apply Chudson's findings to Malaysian firms due to two major obstacles:

- Most Malaysian firms are relatively young compared to American companies.

- Malaysian firms face a very different business environment and culture than in the U.S. including commercial and financial regulations.

Thirteen years after Chudson's thesis, the M&M propositions (Modigliani & Miller, 1958) were made which showed that any importance that capital structure might have in the real world stemmed from market imperfections, such as taxes or costs associated with trading securities. M&M essentially made two major propositions. Proposition I holds that the value of a firm is independent of its capital structure. Proposition II showed that when Proposition I held, the cost of equity capital was a linear increasing function of the debt/equity ratio. In short:

> "Our propositions implied that the weighted average of these costs of capital to a firm would remain the same no matter what combination of financing sources the firm actually chose."
>
> (Miller, 1988, p.307)

Four years after the M&M propositions were made, Barges (1962) tested and evaluated them particularly on the validity of the hypothesis that the cost of capital to the firm is unaffected by capital structure. Barges found, however, that (p. 143):

> "With respect to the empirical methods employed by M&M it was found that, under very frequently

> encountered conditions, their methods will result in tests which are biased in favor of their propositions and biased against the traditional views."

Therefore, Barges had empirically proved the existence of some weaknesses in the research design and methodology of Modigliani and Miller's study. Hence, Barges concluded that (p. 147):

> "Thus, on the basis of the evidence presented herein, the hypothesis of independence between average cost and capital structure appears untenable."

Since then, a handful of other researchers have found empirical evidence disputing the validity of the M&M propositions. Lamothe (1982) proved that the probability for bankruptcy and liquidity of a firm is related to its capital structure. In his study, Lamothe also demonstrated through a mathematical model that there exists an optimal capital structure for any firm.

In 1985, Baskin showed that capital structure is related with the riskiness of a firm. Baskin, however, disputed the belief that there exists an optimal capital structure.

> "Other hypothesized factors in corporate structure such as operating risk, intangible assets, non-debt tax shields, . . appear to be of relatively little importance. This indicates that previously financial theorists have inappropriately defined the focus of decision making in the firm in terms of static "optimal" capital structure. . . It is not clear how this concept (capital structure) ever

assumed such a central position in the theory of finance, . "

(Baskin, pp.134-135)

Baskin argued that managers were actually more concerned with maintaining historical dividend policy, funding desired investment, and avoiding new equity issues. Capital structure issues were only of secondary consideration to managers.

In addition, Kamma (1986) provided evidence for the relationship between capital structure and the compensation practised by a firm. Kamma hypothesized that managers would practise an optimal capital structure not to actually maximize the value of the firm, but rather to maximize his personal wealth. The mathematical model developed by Kamma showed that the manager has the opportunity of 'tampering' with the capital structure of the firm. Therefore, the manager has to be induced by the stockholders via an optimal compensation scheme to maintain the level of debt that the shareholders prefer. Hence, Kamma hypothesized that (p.73):

> "In a cross-section, the greater the percentage of market-based compensation, the smaller the debt-value ratio. We should therefore observe a negative correlation between incentive compensation and debt-value ratios."

In short, Kamma had actually developed a model of capital structure set in a principal-agent framework. The study proved the crucial role of managers' incentives in choosing the optimal capital structure. Therefore, an optimal

capital structure exists but might not be practised by the firm due to managers' self-interest.

As the issue of capital structure gained prominence and interest, a number of studies had been done over the years to explore the relationship between capital structure and a firm's various characteristics e.g. growth opportunities, non-debt tax shields, firm volatility, asset systematic risk, asset unique risk, internal funds availability, asset structure, profitability, industry classification, and firm size. This study is concerned particularly on the relationship between capital structure and profitability.

The major studies carried out in recent years which proved that there exists significant relationship between capital structure and pro&ability were Long and Malitz (1985), Kester (1986), Friend and Lang (1988), Titman and Wessels (1988), El-Khouri (1989) and Canda (1991). The studies had mainly concluded that capital structure measured by debt/equity ratio had an inverse relationship with profitability measured by Return On Investment (ROI). Even the distinguished Professor Myers of MIT had written in 1995 that "the strong negative correlation between profitability and financial leverage" is one of the 'most striking facts about corporate financing" (p.303).

It is worthy to mention here that the aforesaid studies were the most comprehensive ever carried out in the U.S. For instance, Long and Malitz used Ordinary Least Squares to analyze data of 545 manufacturing firms for a period of 3 years (1978-80). Titman and Wessels employed Linear Structural Modeling to analyze data of 469 manufacturing firms for a period of 9 years

(197482). Meanwhile, Canda's study encompassed 820 firms from all industries in the U.S. for a period of 16 years (197287).

Another noteworthy research was done by Bradley, Jarrell and Rim (1984). They used Ordinary Least Squares to analyze the capital structure of 85 1 industrial firms over a period of 20 years (196281). Their study concluded that an optimal capital structure actually existed as proposed by finance theorists.

Bradley, Jarrell and Kim's findings were supported by El-Khouri in 1989 who studied a sample of 1,040 U.S. corporations extracted from the Compustat Tapes. His sample was drawn from 27 different industries covering a period of 19 years (1968 - 1986). El-Rhouri's major findings were that there exists an optimal capital structure, and profitability was significantly but negatively related to capital structure. Nonetheless, such studies were representative of U.S. companies and might not be applicable in Malaysia. However, such comprehensive studies was yet to be found here. Thus was the major motivation for this research.

In Malaysia, the study on capital structure is scarce. Nevertheless, Ahmad Farid (1980) carried out a study on the relationship between profitability and the degree of sophistication in a firm's capital budgeting practice. In order to measure the complexity of capital budgeting practice, he used a number of indicators including the extent capital structure was manipulated by the management of a firm.

Ahmad Farid found evidence that profitability measured by ROI and EPS was negatively correlated with capital structure indicated by the debt ratio.

Abmad Farid's study, however, involved 113 Malaysian manufacturing firms only. Furthermore, usable responses came from 49 firms which was merely 43.4% of the intended sample. Therefore, the findings of the study hardly give a general picture for the Malaysian context of capital structure and profitability issue.

Only recently, Mohamad Khan Jamal (1994) made a research on the relationship between capital structure and profitability of listed industrial firms on the mainboard of the Kuala Lumpur Stock Exchange (KLSE). Mohamad Khan used Ordinary Least Squares and Correlation Analysis to analyze the data which consisted of two sets. Profitability was measured by the Return on Investment, whereas capital structure had two indicators: debt to equity ratio and debt to total assets ratio.

Once again, the M&M propositions are disputed as Mohamad Khan made the following conclusions (p. 108):

> "The results show that there were significant relationship between market imperfections changes in capital structure on firm's profitability."

The study was also in agreement with the U.S. findings where debt and equity size were negatively related to firm's profitability. Mohamad Khan's study, however, posed the following major weaknesses:

- Only industrial companies on the KLSE Main Board were studied. The Main Board actually consisted of ten sectors including industrial.

- Only 64 firms out of a population of 113 firms were selected in the sample. This was hardly representative of the industrial sector itself
- The period of analysis was only for five years (1986-90). Such a short period was not enough to give a holistic view of capital structure practices especially when one would like to see the trend and determine if there was an optimal capital structure in the sample.

Therefore, his study was hardly adequate to give an idea on the capital structure issue in the Malaysian context. This research, in a way, is in response to the shortcomings of Mohamad Khan's research.

Nevertheless, Mohamad Khan had laid the foundation that the M&M Propositions were not true either in the Malaysian context. As studies after studies proved the invalidity of the M&M Propositions in the real world, it was not surprising that the Distinguished Professor Miller himself agreed that the propositions were only "accepted as an implication of equilibrium in perfect capital markets" (1988, p306).

2.1.2 Theories and Models on Capital Structure

As said earlier, the study on capital structure has gained prominence since the M&M propositions. Over the years, academicians had developed various models in order to further explain the issue. Nevertheless, the models were actually built through four basic approaches (Mohamad Khan 1994, p. 11):

- Models based on agency costs.

- Models using asymmetric information.
- Models driven by corporate considerations.
- Models based on product/input market interactions.

Models based on agency costs (also known as Organizational Theory of Capital Structure) emphasize that capital structure was influenced by conflicts between shareholders and managers, and between debtholders and equityholders. Major studies into this area was done by Jensen and Meckling (1976) and Barnea, Haugen, and Senbet (1981) which showed managers' natural tendency to extract too many perquisites and stresses on self-interested behavior. Obviously, agency costs would increase as the managers' personal ownership stake in the firm decreases. This supplied an argument for debt financing and against 'public' equity which was contributed by non-management investors who cannot monitor management effectively.

Studies using the agency cost models proved that leverage was positively associated with firm value; leverage was negatively associated with the extent of growth opportunities; and, older firms with longer credit histories would have lower cost of debt. In short, changes in capital structure would be accompanied by stock price changes. Other important researchers on these models are Fama and Miller (1972).

The models using asymmetric information are also known as the Pecking Order Theory. The models reflect problems created by asymmetric information which means that managers know more about their firms than

outside investors do. In general, the pecking order theory was based on the following principles (Myers 1995, p 15 1):

- Dividend policy is "sticky".
- Firms prefer internal to external financing.
- If firms do require external financing, they will issue the safest security first i.e. they will choose debt before equity financing.
- As the firm seeks more external financing it will work down the pecking order of securities, from safe to risky debt, perhaps to convertibles and other quasi-equity instruments, and finally to equity as a last resort.

Therefore, asymmetric information models seldom point towards a well-defined target debt ratio or optimal capital structure. Debt ratios would change when there was an imbalance of internal cash flow, net of dividends, and real investment opportunities. For instance, highly profitable firms with limited investment opportunities would have a low debt ratio. On the other hand, firms whose investment opportunities outrun internally generated funds would be driven to borrow more and more.

From the many studies done using the asymetric information models e.g. Ross (1977), and Myers and Majluf (1984), the following were the major findings:

- Leverage increases with the extent of the informational asymmetry.

- ➜ Leverage has a positive correlation with the value of the firm.
- ➜ Leverage has a positive correlation with the equity ownership of insiders.

The models driven by corporate control considerations were mainly based on the relationship between capital structure and the market for corporate control or takeover. Studies using these models e.g. Stulz and Johnson (1985), had provided the following findings:

- ⌘ A particular takeover target would increase its debt levels and this would be followed by a positive stock price reaction.
- ⌘ Leverage has a negative relationship with the possibility of the tender offer success.
- ⌘ Leverage was lower when the incumbent remains in control among firms involved in proxy fights.

Finally, the models based on product / input market interactions deals with two major issues: the relationship between capital structure and the firm's strategy when competing in the product market; and, the relationship between capital structure and the characteristics of the firm's products and inputs. Studies using these models e.g. Harris and Raviv (1985), made the following conclusions:

- An oligopolistic firm would have higher long-term debt than a monopolistic firm or firms in a competitive environment.
- Debt capacity is positively related with the elasticity of demand.
- Firms which offer unique products or require a good reputation for high quality goods would have lower debt.
- Firms with highly unionized employees and firms whose workers could easily hop over to competitor firms would have higher debt.

The four major groups of models discussed based on their underlying theories had been the foundation for most studies on capital structure. Nevertheless, researchers should take note that there are other approaches to classifying the various models of capital structure. It is interesting to know that one of the most basic explanations was given by Professor Myers (1995, p 162):

> "There are only two contenders in the race to explain capital structure: models such as the pecking order which assert asymmetric information as the chief underlying problem, and models which start from the proposition that organizations act in their own interests."

2.2 Research Model

Based on the objectives of this study and the literature being reviewed, a research model was constructed as shown in Figure 1.

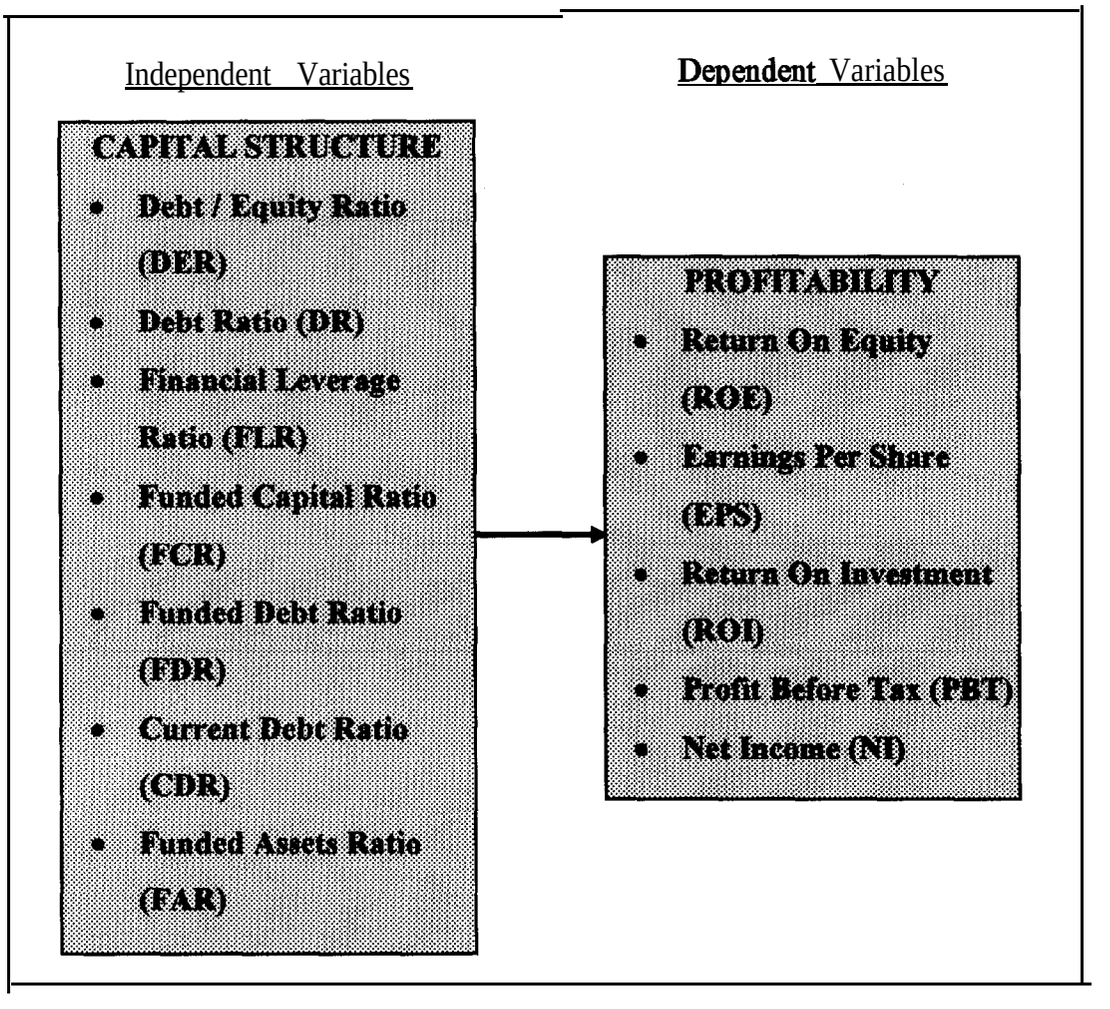

FIGURE 1: A schematic diagram showing the relationship between indicators for capital structure and profitability.

The model consisted of two major components: the profitability of a firm which grouped the dependent variables, and the capital structure of a firm which grouped the independent variables. The arrow pointing to the right indicated the expected direction of causality. Abbreviations used for each variable throughout this research were also stated.

The model gave the foundation for analysis which was to explain the relationship among the two main groups of variables. In as much as possible, variables

were selected on the basis of the literature being reviewed. Thus, while this study breaks new ground, there were direct ties to previous studies, although in a piecemeal fashion at times.

Based on the research model in Figure 1, the capital structure of a firm was measured by seven indicators i.e. debt/equity ratio, debt ratio, financial leverage ratio, funded capital ratio, funded debt ratio, current debt ratio, and funded assets ratio. The variables were obtained mainly from the literature of Mohamad Khan (1994), Siegel, Shim and Hartman (1992), Petty, Keown, Scott, and Martin (1993), and Chudson (1945).

On the other hand, a company's profitability was measured by five indicators i.e. return on equity, earnings per share, return on investment, profit before tax, and net income. The variables were obtained mainly from the literature of Ahmad Farid (1980), Gallinger and Poe (1995), Mohamad Khan (1994), Van Home and Wachowicz (1995), and Siegel, Shim and Hartman (1992).

An interesting issue here was the direction of the causality in the model. As shown in Figure 1, this research was based on the notion that the capital structure being practised by a firm would affect its profitability. This particular cause-and-effect relationship had been proved in various studies as found in the literature being reviewed. Nevertheless, one has to keep in mind that there were a number of researchers who had argued that it was profitability which would influence the capital structure (Chudson 1945, Lamothe 1982, Bowen, Daley and Huber 1982). Nonetheless, it was not within the scope of this study to determine the direction of causality in this particular relationship but rather to focus on the significance of such a relationship.

2.3 Definition of Terms

2.3.1 Capital Structure Variables

Debt/Equity Ratio (DER)

Formula: $$DER = \frac{\text{Total Liabilities}}{\text{Total Stockholders' Equity}}$$

A bigh DER is an especially acute problem for companies with cash problems, particularly during times when adverse business conditions exist. Carrying excessive amounts of debt will result in less financial flexibility for the company since it is more difficult to obtain funds in a tight money market. Also, having to pay high fixed interest charges can also cause earnings instability.

Debt Ratio (DR)

Formula: $$DR = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

DR shows the percentage of total funds obtained from creditors. The ratio is an indicator of how much debt may be comfortably taken on, given the company's situation. Creditors would rather see a low DR because there is then a greater cushion for creditor losses if the firm goes bankrupt.

Financial Leverage Ratio (FLR)

Formula: $$FLR = \frac{\text{Total Assets}}{\text{Common Stockholders' Equity}}$$

FLR measures the relationship between total assets and the common equity capital that finances them In a company that uses leverage profitably, a higher FLR will enhance the return on equity; at the same time the risk inherent in a change in profitability is also greater.

Funded Capital Ratio (FCR)

Formula: $$FCR = \frac{\text{Long-term Debt + Owners' Equity}}{\text{Fixed Assets}}$$

FCR reveals the extent to which **fixed** assets are **financed** by long-term commitments of both creditors and investors.

Funded Debt Ratio (FDR)

Formula: $$FDR = \frac{\text{Long-term Debt}}{\text{Ordinary Share Capital}}$$

A ratio in excess of **1** for FDR indicates a higher long-term debt participation as compared to equity **capital**.

Current Debt Ratio (CDR)

$$\text{Formula:} \quad CDR = \frac{\text{Total Current Liabilities}}{\text{Shareholders' Funds}}$$

CDR is used to measure whether short-term creditors are furnishing excessive capital resources to support the firm's operations.

Funded Assets Ratio (FAR)

$$\text{Formula:} \quad FAR = \frac{\text{Total Fixed Assets}}{\text{Short-term Debt}}$$

A lower FAR will discourage short-term creditors from giving more short-term debt.

It has to be made clear that all of the capital structure variables above could be used to indicate the riskiness of a particular firm. However, it was out of the scope of this study to evaluate the level of risk taken by the companies under this research.

2.3.2 Profitability Variables

Return On Equity (ROE)

$$\text{Formula:} \quad ROE = \frac{\text{Net Income}}{\text{Total Shareholders' Fund}}$$

The above ROE is calculated based on the modified Du Pont formula which is a widely accepted indicator for the profitability of a firm

Earnings Per Share (EPS)

Formula: $$EPS = \frac{\text{Profit Before Taxation}}{\text{Number of Ordinary Shares Issued}}$$

For investors, EPS measures the operating success of a company. A higher EPS will likely result in higher dividends per share and market price per share. Managers will want a higher EPS because it reflects management's success in running the business. For independent certified public accountants auditing a client firm, they may view a sudden drop in EPS as a sign of potential business failure that could spur third-party lawsuits.

Return On Investment (ROI)

Formula: $$ROI = \frac{\text{Net Income}}{\text{Total Assets}}$$

The above ROI is calculated based on the original Du Pont formula which is a widely used measure of a firm's success. ROI is usually used together with ROE. The Du Pont formula provides a lot of insights to financial managers on how to improve company profitability and investment strategy.

Profit Before Tax (PBT)

PBT is always found in the balance sheet and indicates the gross earnings of a firm. In this study, PBT is obtained directly from the KLSE Annual Companies Handbook.

Net Income (NI)

NI generally refers to a firm's profit or loss for the period. In this study, NI is obtained directly from the KLSE Annual Companies Handbook under the item called "PROFIT/(LOSS) FOR PERIOD" which is actually calculated by deducting taxation and minority interests from PBT and added by extraordinary items when applicable.

2.3.3 Notation of Variables

For the purpose of analysis, each of the variables was coded according to the abbreviations presented earlier plus the financial year concerned. For example, "DER85" meant the Debt/Equity Ratio for the year of 1985. In addition, an indication was given to specify whether a set of variables refer to a particular sector of the KLSE Main Board or to the Main Board as a whole.

CHAPTER III

RESEARCH DESIGN and METHODOLOGY

3.1 Type of Study

Research can be categorized into exploratory, descriptive, or causal (Zikmund 1994). Exploratory research is undertaken to gain better understanding of the dimensions of a problem, whereas descriptive research seeks to describe characteristics of a population or phenomenon. Causal research is used to identify cause-and-effect relationships between variables. Based on the explanation, this study could be classified as causal in nature as it sought to explain the cause-and-effect relationships between capital structure variables and profitability variables. Therefore, almost all data used in this study were quantitative.

Despite its quantitative orientation, this study was enhanced with qualitative analysis. This was due to the fact that a qualitative study provides greater understanding of a concept rather than providing precise measurement or quantification as pointed out by Rushami (1992, p.6-5):

> "Qualitative research is best used in studies that require a deeper understanding on how things happen rather than those arrived at measuring them."

Hence, the qualitative nature of this study was revealed in the discussion on the trend and optimal capital structure issues found in Chapter IV. In addition, this study was

not an experimental research but rather, it was an ***ex post facto*** research as explained by Davis and **Cosenza** (1993, p. 127):

> *"Ex post* facto designs are those in which the researcher does not attempt to manipulate the independent variables because the variables are inherently not manipulable for some reason or another."

The reason was obviously due to the **fact** that determinants of capital structure were beyond the researcher's ability to change them

3.2 Sources of Data

3.2.1 Unit of Analysis

The collection of data in the investigation level of any study can be focused on organizations, departments, work groups, individuals, or objects. For this research, the basic source of information was drawn from individual companies listed on the KLSE main board over a period of ten years. For the purpose of this study, the analysis was done on the Main Board as a whole and also at the **sectorial** level which consisted of ten sectors: Construction, Consumer Products, Finance, Hotel, Industrial Products, Mining, Plantation, Property, Trust, and Trading / Services.

3.2.2 Population Frame

A population or universe is any complete group of entities sharing some common set of characteristics (Zikmund 1994, p.356). The population under this study could be defined as all companies listed on the KLSE main board.

Therefore, the population frame was the list of companies found on the KLSE main board between the period of 1985 to 1994 as found in the KLSE Annual Companies Handbook.

There were a total of 267 companies identified for this research taking in consideration special cases such as change of names, delisting, and bankruptcy. The 267 firms were further classified into sectors as recommended by the KLSE:

- 10 in Construction
- 39 in Consumer Products
- 29 in Finance
- 3 in Hotel
- 59 in Industrial Products
- 10 in Mining
- 37 in Plantation
- 37 in Property
- 2 in Trust
- 41 in Trading / Services

As the sectors of Hotel and Trust consisted of only 3 and 2 firms respectively, the two sectors were not included in the cross-section analysis. However, the 5 companies concerned were included in the analysis of the whole KLSE Main Board. Please refer Appendix A for a complete listing of all the companies included in the population frame.

Another controversial sector in this study was the Finance companies. As this research is mainly concerned with the capital structure of a firm, it is found that the capital structure of companies dealing mainly in financial activities is very much different from the other sectors. Be it capital structure indicated by debt/equity ratio or any of the other six variables, Finance firms posed a relatively out of the norm ratio compared to the others.

The abnormality is understandably due to the fact that a Finance firm basically engages in *the* activity of *borrowing money from somebody and lend it* to *somebody* else. Hence, the terms such as short-term debt, long-term debt and total liabilities would mean differently for a Finance company. Therefore, it was decided for the purpose of this study, the Finance sector had to be excluded from the time-series cross-sectional analysis of capital structure for Malaysian firms. Nevertheless, the Pearson correlation analysis could still be carried out for the Finance sector. This is because the analysis was interested more on the correlation between capital structure and profitability, rather than on the magnitude of capital structure itself

3.3 Data Collection Technique

This study involved only secondary data which were collected by the researcher from the following sources:

- Annual Reports of listed companies on the main board of KLSE;
- KLSE Annual Companies Handbook;
- Bank Negara Annual Reports.
- KLSE World Wide Web Home Page on the Internet.

There was no other data collection instrument used in this research. No sampling technique was also employed as this was a population study.

3.4 Data Analysis Techniques

Two major statistical analysis techniques were being used in this study. They were:

- Descriptive statistics such as the mean, standard deviation, and range to determine the trend and behavior of variables.
- Pearson product moment correlation to investigate the strength, direction and significance between variables.

All statistical analysis mentioned above was carried out using the computer programme SPSS for Windows Version 6.0.

The above statistical tools were used in a research methodology known as ***cross-sectional time-series analysis***. This particular method is the most appropriate for this type of research where both cross-section (the ten different sectors of the KLSE Main Board companies) and time-series (ten year period from 1985 to 1994) data had to be analyzed. This was supported by El-Khouri (1989, pp.5-6):

> "The cross-sectional timeseries method is more appropriate in explaining capital structure differences among firms and across industries than either time-series or cross-sectional analysis used separately."

3.4.1 Research Question 1 and Hypothesis

Question : Is a firm 's profitability sign ifican tly related with its capital structure?

H_o: A firm's profitability is not significantly related to its capital structure.

In order to answer the above question and to test the null hypothesis, Pearson Product Moment Correlation was used. The level of confidence employed throughout the analysis was 95%. Hence, the cut off point for a relationship or model to be significant was not more than 0.05.

3.4.2 Research Question 2 and Question 3

Is there an optimal capital structure in listed Malaysian firms?

What is the trend of capital structure being practised by listed firms in Malaysia?

In order to answer the above questions, descriptive statistics i.e. mean, standard deviation, and range, were used.

CHAPTER IV

PRESENTATION and ANALYSIS of FINDINGS

4.1 Pearson Product-Moment Correlation

The following will be discussion centred on the results from Pearson Correlation starting from the Main Board and then deepened into the various sectors. In order to maintain reading flow and good array, all Pearson Product-Moment Correlation Matrices have been placed in Appendix B starting from Table 1 until Table 90.

4.1.1 Main Board

Referring to Table 1 for 1985, empirical evidence was generated to support that ROE is significantly related to capital structure measured by DER The relationship was weak in strength and in the negative direction (-0.295). This means that when firms reduce total liabilities and increase stockholders' equity, profitability in terms of net income would be increased though might be small in amount. Conversely, if firms increase liability and reduce equity, net income would drop. This proves the conventional wisdom that too much debt which means having to pay high interest charges would hurt earnings stability.

ROE was also found to be significantly but negatively and weakly related to DR (-0.135). The same reason applies here because a high DR means a lot of debt and paying high interest charges would have a bad effect on earnings. In the same token, ROE was significantly related to FLR and CDR.

The relationships ranged from weak to moderate, but all had negative directions.

A higher FLR means total assets is funded by lesser common stockholders' equity, hence more debt has to be used resulting in more leverage. As for CDR, a higher ratio means more current liabilities to shareholders' fund. Higher leverage or current debt all contribute to paying more interest charges from company's profit, hence explains the negative relationship between the variables.

EPS was significantly related to DER, FLR, and CDR. The relationships were weak and in the positive direction. This means that the more debt and less equity being practised by firms, the higher the ratio profit before tax to number of ordinary shares issued will be. This might be due to the reason that debt is a cheaper source of funding compared to equity. In addition, higher debt strengthens the tax shield prevalent among companies. The positive relationship is rational because an increase in DER, FLR or CDR will mean more debt and less equity being used. Hence, there is a possibility of reduction in ordinary shares. If a company maintained its profit before tax, a higher EPS will surely be recorded.

ROI was found to be significantly related to DER, DR, FLR, and CDR just like ROE. In the same token, the relationships ranged from weak (-0.238) to moderate (-0.427) and in the negative direction. The relationships strengthen earlier discussion on ROE that higher debt would incur more interest charges, hence eventually would hurt a firm's profit.

Both PBT and NI were significantly and positively related to FDR only. However, the relationships were weak. This means that an increase of long-term debt and decrease of ordinary share capital would create a minor increase in PBT and NI. However, as only the relationship with FDR is significant, it shows that PBT and NI are too basic or simple to be indicators for profitability as compared to higher level variables for analysis such as ROE and EPS.

In order to prevent monotonous and irrelevant discussion, the following will concentrate on the overall years of 1986 to 1993 based on the Tables 2 to 9. ROE was constantly found to be significantly and negatively related to DER, DR, FLR and CDR except for 1992 (Table 8) where ROE was not significantly related to any of the capital structure variables. Through the eight years, the relationships ranged from weak to very strong.

For EPS, it has no significant relationships with any capital structure indicators in the years 1986, 1987 and 1988. EPS was significantly and positively related to FDR only in 1989, 1990 and 1992. The relationship indicates that if a firm reduces long-term debt and increases ordinary share capital, the action will lower the company's EPS. If profit before tax is assumed to be stable, the reduction is simply due to the increased number of shares.

EPS was also significantly and positively related to FAR in 1992 and 1993. This indicates that when firms reduce short-term debt in comparison to total fixed assets, profit will be increased. This is due to the same reason for ROE, where less debt means lower interest charges. Nevertheless, in order to

verify better the relationships between EPS with FDR and FAR, a longer period of analysis is needed.

From 1986 to 1993, ROI was constantly found to be significantly related to DR The relationships ranged from weak to very strong and in the negative direction except for 1989. As both ratios contained the component 'Total Assets', hence a direct negative relationship could be inferred between total liabilities and net income. Therefore, the more debt firms carry, the lower net income becomes. Again, the reason is due to interest charges.

In addition, ROI was significantly and positively related to FCR in 1988 and 1993. As the ratio FCR contains both components long-term debt and owner's equity, the significance of the relationship is only to show that there exist a co-dependency between capital structure and profitability measured by ROI.

The gross measurement of pro&ability as indicated by PBT and NI was found to be significantly and positively related to FDR only from 1986 to 1989. In 1990 and 1991, however, there was no significant relationships between the two variables and any of the capital structure indicators. This points out that PBT and NI were too raw to be used as profitability variables in this study.

For 1994 as shown in Table 10, ROE was found to be significantly and positively but weakly related to FCR only (0.179). This is very much different from 1985 results where ROE was significantly related to another four capital structure variables i.e. DER, DR, FLR and CDR. Nevertheless, this is an isolated finding compared to the period 1986 to 1993 where all of the years,

except 1992, have been in agreement to 1985 results. Therefore, it could be said that 1994 is an exceptional year for ROE.

On the other hand, EPS was found to be significantly related to DER, FIR FCR, FDR, CDR and FAR The relationships were weak in strength but positive in direction. This is quite in agreement to 1985 findings where EPS was significantly related to DER, FLR and CDR. Meanwhile, ROI was significantly but moderately related to DR only in the negative direction (-0.432). Compared to 1985, ROI was significantly related not only to DR, but also to DER, FIR and CDR. Nonetheless, the relationships have been in the negative direction all the time. Therefore, the results of 1994 had strengthened 1985 results where high debt would hurt earnings due to heavy interest charges imposed on the firm.

Finally, PBT and M were significantly related to DER, FLR and CDR. All the relationships were positive but weak. The results are very much in contrast to 1985, where PBT and M were only significantly related to FDR As explained earlier, this is most probably due to the reason that PBT and M were too basic to be profitability variables for high level analysis.

4.1.2 Construction

Referring to Table 11 for the 1985 Construction sector, empirical evidence was generated to support that ROE and EPS were found to be significantly related to DER, FLR, FDR, and CDR. The relationships ranged from strong (0.71) to very strong (-0.91) and all were in the positive direction except for FDR For ROI, it was significantly and very strongly related to

DER, FLR and FDR The relationships were in the positive direction except for FDR PBT and NI, however, were not significantly related to any of the capital structure variables.

The period 1986 to 1993 (Tables 12 to 19) saw similar trend with 1985 except for the years of 1987, 1988 and 1989. During 1987 and 1988, none of the profitability variables were significantly related to any of the capital structure indicators. In 1989, only three significant relationships were observed between EPS, PBT and NI with FDR alone. It is premature to say whether those three years were isolated cases unless a longer period of analysis was undertaken.

Referring to Table 20, empirical evidence was generated to support that in 1994, the ROE, EPS and PBT for Construction sector was not significantly related to any of the capital structure variables. Nonetheless, ROI was significantly and strongly related to FDR in the positive direction. NI was significantly and strongly related to FAR only, in the positive direction also. These results were rather different from 1985 where more significant relationships were observed between profitability variables and capital structure indicators.

4.1.3 Consumer Products

Table 21 shows the correlation for the Consumer Products sector in 1985. ROE was significantly related to DER, DR, FLR and CDR. All of the relationships were in the negative direction and ranged from moderate (-0.60) to very strong (-0.89). Meanwhile, EPS was significantly related to DER, FLR

and CDR. The relationships were negative in direction and moderate in strength. For the profitability variables ROI, PBT and NI, they were significantly related to DER, DR, FLR and CDR (as for ROE). All of the relationships were negative in direction and the strength ranged from moderate (-0.36) to strong (-0.68).

The period 1986 to 1993 (Tables 22 to 29) showed rather different trends from 1985. In 1987 and 1989, only EPS and ROI respectively had significant relationships with capital structure indicators. Meanwhile, the years of 1989, 1992 and 1993 only showed two significant relationships among the variables. In addition, the few relationships did not present any trend or pattern to be concluded for.

In 1994 as shown in Table 30, ROE and PBT were significantly related to FCR Both of the relationships were moderate in strength and in the positive direction. However, EPS, PBT and NI were found to be not significantly related to any of the capital structure indicators. This result is similar to the Construction sector but rather different from 1985 results where more significant relationships were observed.

4.1.4 Finance

For 1985 as shown in Table 31, it is found that all of the profitability variables were not significantly related to the capital structure indicators. This was due to the fact that the business nature of Finance companies was *borrow to lend*. Hence, the underlying concepts to the capital structure variables were not appropriate in this situation.

The results for 1986 to 1993 were shown in Tables 32 to 39. It is interesting to find that PBT and NI were constantly having significant relationship with DER and FLR This is a twist in trend from the other sectors where PBT and NI were found to have few good correlations. Nevertheless, this is only an observation isolated to Finance sector.

Table 40 shows the correlation for 1994. It is observed that ROE, PBT and NI were not significantly related to any of the capital structure variables. EPS was significantly but moderately related to FCR in the positive direction. Meanwhile, ROI was significantly related to DER, DR, FLR, FCR and CDR. All of the relationships were positive except for FCR, and ranged from moderate (-0.49) to strong (-0.71). These findings are rather different from 1985.

4.1.5 Industrial Products

Table 4 1 shows the correlation for 1985. It is found that ROE was significantly related to DER, FLR and CDR. The relationships were negative in direction and moderate in strength. The other four profitability variables were not significantly related to any of the capital structure indicators. In the years 1986 to 1993 (Tables 42 to 59), the results are similar to 1985 except for 1987, 1991 and 1992, where ROE had no significant relationships witb any of the capital structure indicators.

For 1994 as shown in Table 50, ROE was significantly related to DER, FLR and CDR (similar results are largely found in the Main Board yearly analysis earlier). The relationships were negative in direction and moderate in

strength. EPS was significantly but moderately related to FCR in the positive direction. Meanwhile, ROI was significantly related to DR and FCR Both of the relationships were moderate in strength but DR was negative in direction and FCR otherwise. PBT was found to be significantly but moderately related to FDR only in the positive direction. NI, however, was not significantly related to any of the capital structure variables. The results are similar to 1985, only with a few extra relationships.

4.1.6 Mining

As shown in Table 51 for 1985, ROE and EPS were found to be not significantly related to any of the capital structure variables. For ROI, PBT and NI, they were significantly related to FDR only. The relationships were strong in strength and negative in direction except for the correlation between PBT and FDR

For the period of 1986 to 1993 (Tables 52 to 59), a different trend is observed. From 1986 to 1989, there was almost no significant relationships at all except for three isolated cases. From 1990 to 1993, a sudden twist of trend happened where ROE and EPS showed significant relationships with a number of capital structure variables.

Table 60 shows the correlation for 1994. It is observed that ROE was significantly related to DER, DR, FLR and CDR. All of the relationships were strong in strength and negative in direction except for DR EPS was significantly and very strongly (0.98) related to FDR only, in the positive direction. This trend is similar to the period 1986 to 1993.

Meanwhile, ROI was found to be significantly related to DR The relationship was very strong and negative. PBT and NI, however, were not significantly related to any of the capital structure variables (this result is similar to the Main Board yearly analysis). Nonetheless, the pattern of relationships are rather different from 1985 results.

4.1.7 Plantation

Referring to Table 6 1 for 1985, it is found that ROE was significantly related to DER, DR, FLR and CDR. All of the relationships were strong and positive except for DR. For EPS, it was significantly related to DER, DR, FLR, FCR, CDR and FAR The relationships were positive in direction except for DR, and ranged from moderate (0.43) to very strong (-0.80). ROI was significantly related to DER, DR, FLR and CDR (as for ROE). All of the relationships were positive except for DR, and ranged from moderate (0.37) to very strong (-0.91). PBT and NI, however, were not significantly related to any of the capital structure variables.

Tables 62 to 69 showed the correlations from 1986 to 1993. The trend of relationships observed is almost similar to 1985 except for two years. In 1991, only EPS had significant relationships with DR and FAR, whereas in 1992, with FAR only. Nonetheless, it could be said that the two years concerned are isolated cases.

As shown in Table 70 for 1994, it is found that the profitability variables ROE, ROI, PBT and NI were not significantly related to any of the capital structure indicators. This result is in total contrast compared to 1985

where ROE and ROI had at least four significant relationships. Nonetheless, EPS was significantly related to DR, FCR, FDR and FAR. The relationships ranged from moderate (-0.34) to very strong (0.94). All of the relationships were positive in direction except for DR

4.1.8 Property

Table 71 shows the correlation for 1985. ROE was significantly and moderately related to DR, and strongly related to FDR Both the relationships were negative in direction. Meanwhile, EPS was significantly related to DER, DR, FLR, FDR and CDR. All of the relationships were negative and ranged from moderate (-0.36) to strong (-0.61).

For ROI, it was significantly related to DR and FDR Both of the relationships were moderate and negative in direction. PBT and NI, however, were not significantly related to any of the capital structure variables. The period from 1986 to 1993 (Tables 72 to 79) presents similar trend of relationships as in 1985. However, a few exceptional cases did occur particularly in 1992 where only one significant relationship was observed that is between ROI and DR

Table 80 shows the correlation for 1994. It is found that ROE was significantly related to DER, DR, FLR and CDR. The relationships ranged from moderate (-0.50) to strong (0.75). All of the relationships were positive in direction except for DR (this result is rather different from the Main Board yearly analysis). However, the rest of the four profitability variables EPS, ROI, PBT and NI were not significantly related to any of the capital structure

indicators. Although ROE showed similar results as in 1985, EPS and ROI had a major change.

4.1.9 Trading / Services

For 1985 as shown in Table 81, ROE was significantly related to DER, FLR, FCR and CDR. The relationships were strong in strength and negative in direction except for FCR which was moderate and positive. EPS was found to be not significantly related to any of the capital structure variables. For ROI, it was significantly related to DER, FLR and CDR. All of the relationships were strong and negative in direction. PBT and NI were significantly related to FDR only. Both were positive and moderate in strength. The period 1986 to 1993 (Tables 82 to 89) presented some rather confusing results with no obvious trend. The years 1986, 1990, 1991 and 1993 indicated very few significant relationships.

The correlation for 1994 is shown in Table 90. It is observed that the profitability variables ROE, EPS, PBT, and NI were not significantly related to any of the capital structure indicators (similar to some of the years between 1986 to 1993). This presented a rather different pattern from 1985 where all variables except EPS had at least one significant relationship. Nevertheless, ROI was significantly related to DER, DR, FLR, FCR and CDR as in 1985. The relationships were all moderate in strength and negative in direction except for FCR

4.2 Time Series Analysis

Referring to Table 91, the Debt/Equity Ratio (DER) of the Construction sector had a sharp increase of 63% to become 1.93 in 1986. This was followed by decreases of DER in 1987 and 1988. Although there was an 18% increase in 1989, there were decreases in 1990 and 1991. A significant increase in 1992 was followed by major decreases in 1993 and 1994. The ups-and-downs of DER with a range from 0.96 to 2.01 has balanced out the average change to an increase of only 0.67% a year. The positive figure was very much influenced by the steep increase in 1985. If not, an even smaller average change would be recorded. This indicated an optimal capital structure being present which was around 1.50 over the ten-year period.

For Consumer Products, there were major increases in 1986, 1987 and 1989. However, this was balanced by the decreases in 1988, 1990 and 1992 which gave the average change of only 4% with the range of DER from 1.00 up to 2.54. The Industrial Products sector showed major increases in 1986 and 1987. These was followed by the decreases from 1988 to 1991. There was almost no change in 1992 and followed by 42% increase in 1992. However, the 34% decrease in 1994 had balanced the DER to 0.799. Hence, the lo-year average change was only 1.3% and the mean was 1.23.

The sector of mining had steep DER fluctuations from 1986 to 1989. Then it was followed by minor decreases until 1994. The average change was also small at 2.1% and the mean was a low 0.59. The Plantation sector showed major increases of DER in 1988, 1989 and 1991. However, these were balanced by the decreases of the rest of the years. Hence, the average change was 6.7% and the mean was only 0.33.

Property sector had a balanced DER where there were five years of decrease and four years of increase. This gave an average change of only 2.4% and the mean was low at 0.74. The sector Trading/Services recorded sharp increases in 1988 and 1991. These were balanced by the major decreases in 1989 and 1992 giving the average change of only 0.9% over the ten-year period. The DER mean was a high 1.71.

The overall Main Board (refer also Figure 2) showed minor increases in 1986 and 1987. Significant decreases happened in 1990 and 1992. The lo-year average change for all companies was only a low 2.2% on the negative side. This is a significant indication of the existence of an optimal capital structure. Over the period of analysis, every sector has fluctuations but all increases were balanced by decreases, hence showing the sign of adjustment where companies tried to achieve an optimal capital structure. Another significant characteristic is that every sector has its own level of capital structure obviously shown by the sectorial mean.

The DER mean for the Main Board was 1.08 with a range from 0.96 to 1.34. This indicates that Malaysian companies were following the conservative financial principle where a DER of 1.00 is believed to be the safest level of capital structure for a company. This means that companies were practising equal funding from debt and equity. In sectorial, however, it is found that Mining, Plantation and Property have DER lower than 1 with the lowest at 0.33 (Plantation). The other sectors had DER more than 1 with Trading/Services highest at 1.71.

Referring to Table 92, the Debt Ratio (DR) of construction firms increased sharply in 1990, but this was followed suit by a decrease about the same magnitude in 1991. The rest of the years showed minor changes and in 1987 and 1988, there were

almost no change. Therefore, the average change over the ten-year period was only 0.7% and the DR mean was 0.579.

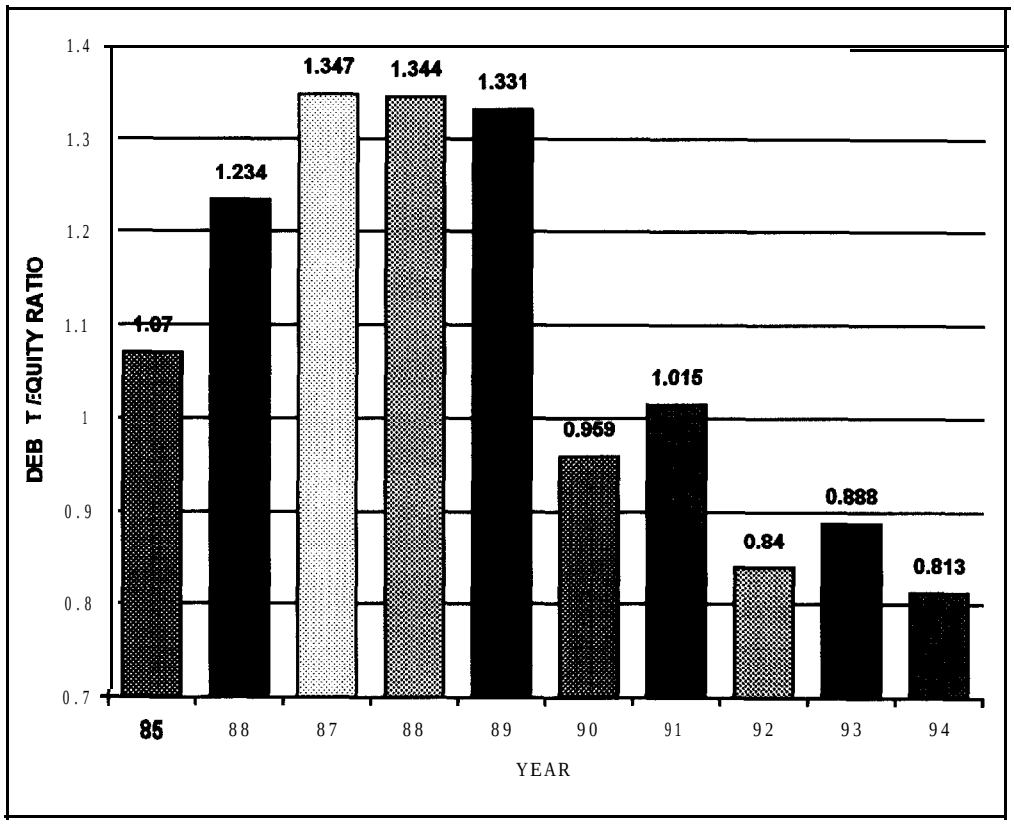

Figure 2: KLSE Main Board Debt / Equity Ratio 1985 - 1994

In Consumer Products, a similar trend was observed where a major increase in 1989 was followed by a decrease in 1990. The other years showed minor fluctuations. Hence, the average change was 2.3% and DR mean was 0.48. The Industrial Products sector recorded three years of significant increase and four years of decrease. This gave an average change of merely 2.6% and the DR mean of 0.55.

Table 91: KLSE Main Board and Sectorial Debt / Equity Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
Construction	1.183	1.927	1.796	1.699	2.007	1.415	1.321	1.432	1.301	0.959	1.504
(change from previous year)	*(%)*	63	-7	-5	*18*	-29	-7	8	-9	-26	0.67
Consumer Products	1.119	1.511	1.786	1.581	2.543	1.527	1.540	1.004	1.063	1.059	1.473
	(%)	35	*18*	*-11*	*61*	*-40*	*1*	*-35*	6	**-0**	3.89
Industrial Products	1.082	1.383	2.072	1.940	1.269	0.859	0.851	0.855	1.218	0.799	1.233
	(%)	*28*	*50*	*-6*	*-35*	*-32*	*-1*	*0*	*42*	*-34*	*1.33*
Mining	0.589	0.435	0.783	0.489	0.720	0.696	0.634	0.611	0.538	0.408	0.59
	(%)	*-26*	*80*	*-38*	*47*	*-3*	*-1*	*-4*	*-12*	*-24*	*2.11*
Plantation	0.246	0.339	0.196	0.312	0.451	0.375	0.520	0.363	0.338	**0.310**	**0.334**
	(%)	-7	*-14*	59	45	*-17*	39	-30	-7	-8	6.67
Property	1.108	1.321	1.007	0.527	0.723	0.495	0.454	0.416	0.513	0.835	0.74
	(%)	I9	-24	-48	37	-32	-8	-8	23	63	2.44
Trading / Services	2.161	1.832	1.787	2.859	1.602	1.347	1.782	1.200	1.244	1.324	1.714
	%	-15	-2	60	-44	*-16*	32	-33	4	6	-0.89
MAIN BOARD	1.070	1.234	1.347	1.344	1.331	0.959	1.015	0.840	0.888	0.813	1.084
	(%)	*15*	*9*	**-0**	*-1*	-28	*5*	*-17*	*5*	*-8*	-2.22

Note: Debt / Equity Ratio: DER = (Total Liabilities) / (Total Stockholders' Equity)

Table 92: KLSE Main Board and Sectorial Debt Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
construction	0.645	0.584	0.583	0.582	0.603	0.967	0.465	0.491	0.455	0.418	0.579
(change from previous year)	0.435	*-9*	*-0*	*-0*	*4*	*60*	*-52*	*6*	*-7*	*-8*	*-0.67*
Consumer Products		0.455	0.494	0.470	0.695	0.464	0.462	0.470	0.444	0.448	0.484
	(%)	5	9	-5	48	-33	-0	2	-6	I	2.33
Industrial Products	0.415	0.483	0.728	0.532	0.669	0.720	0.628	0.429	0.461	0.403	0.547
	(%)	*16*	*51*	*-27*	*26*	*8*	*-13*	-32	7	*-13*	2.56
Mining	0.326	0.271	0.319	0.291	*0.381*	0.326	0.305	0.321	0.356	0.404	0.33
	(%)	*-17*	*18*	*-9*	*31*	*-14*	*-6*	*5*	*11*	*13*	*3.56*
Plantation	0.251	0.259	0.284	0.177	0.201	0.184	0.171	0.186	0.185	0.182	0.208
	(%)	*3*	*10*	*-38*	*14*	*-8*	*-7*	*8*	*-0*	*-2*	*-2.22*
Property	0.389	0.498	0.533	0.630	0.667	0.724	0.690	0.583	0.445	0.464	0.562
	(%)	*28*	*7*	*18*	*6*	*9*	*-5*	*-16*	*-24*	*4*	*3*
Trading / Services	0.469	0.453	0.480	0.506	0.522	0.528	0.469	0.425	0.450	0.477	0.478
	(%)	*-3*	*6*	*5*	*3*	*1*	*-11*	*-9*	*5*	*6*	*0.33*
MAIN BOARD	0.419	0.429	0.489	0.455	0.534	0.559	0.456	0.415	0.399	0.399	0.455
	(%)	*2*	*13*	*-6*	*17*	*4*	*-18*	*-8*	*-3*	*0*	*0.11*

Note: Debt Ratio: DR = (Total Liabilities) / (Total Assets)

Mining recorded DR increases in 1987, 1989, and 1992 to 1994, whereas decreases happened in the other four years. The average change was 3.6% and DR mean was 0.33. For the Plantation sector, a major decrease was recorded in 1988, but this was followed by an increase in 1989. Hence, the average change was 2.2% and the DR mean was 0.21.

The Property sector recorded DR increases from 1986 to 1990. However, the period of increases was followed by adjustment where significant DR decreases happened from 1991 to 1993. This gave an average change of only 3% and a DR mean of 0.56. Trading/Services showed minor fluctuations over the ten-year period, giving an average change of merely 0.3% and DR mean of 0.48.

The DR of overall Main Board (refer also Figure 3) recorded slight increases in the years 1986 to 1987, and 1989 to 1990. However, this was adjusted by decreases in 1988, and 1991 to 1993. There was no change at all in 1994, This gave a very low average change of 0.1%. Therefore, this indicates an optimal capital structure being in existence and the firms were trying to adjust their capital structure to achieve it.

The DR mean for Main Board was 0.46 meaning that only 46% of companies' assets were funded by debt. The other half was by equity. This finding is consistent with the analysis based on Debt/Equity Ratio earlier (Table 27). The DR over the ten-year period ranged from 0.21 (Plantation) to 0.58 (Construction). This showed that Malaysian companies preferred slightly more equity to debt in financing their assets.

Referring to Table 93, the Financial Leverage Ratio (FLR) of Construction increased significantly in 1986 and 1989. However, adjustment was made by major FLR decreases in 1990 and 1994 which resulted in an average change of only 0.4% annually. The mean FLR over the ten-year period is 2.51. Consumer Products

recorded major fluctuations of FLR with the increases in 1986, 1989, 1990, and 1993, and decreases in 1991, 1992 and 1994. Hence, an average change of only 1.9% was recorded and the mean FLR was 2.63.

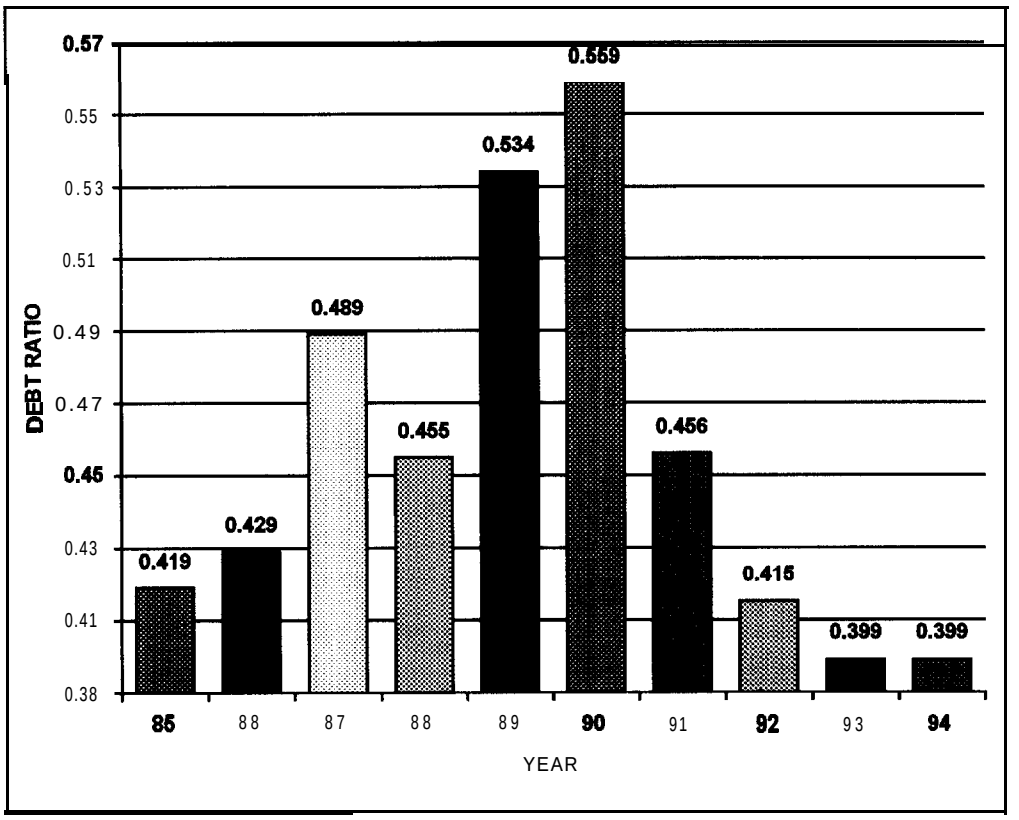

Figure 3: KLSE Main Board Debt Ratio 1985 - 1994

Companies in Industrial Products adjusted their FLR well with the increases in 1986, 1987, 1991, and 1993, and decreases for the rest of the five years. These adjustments had managed to cancel out each other's effects and eventually gave an average change of 0.0%. The mean FLR was 2.28. Mining firms showed a pattern of FLR decrease followed by increase through the years from 1986 to 1989. There was no change in 1990 and slight decreases from 1991 to 1994. Hence, an average change of only 0.2% was recorded and the mean FLR was 1.62.

Table 93: KLSE Main Board and Sectorial Financial Leverage Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
Construction	2.193	2.933	2.724	2.714	3.043	2.214	2.378	2.494	2.388	2.038	2.512
(change from previous year)	*1%)*	33	-7	-0	12	-27	7	4	-4	*-14*	0.44
Consumer Products	2.146	2.526	2.739	2.615	3.110	3.826	2.624	2.082	2.519	2.143	2.633
	(%)	17	8	-4	18	*23*	*-31*	*-20*	*20*	*-14*	*1.89*
Industrial Products	2.108	2.396	3.097	2.938	2.309	1.860	2.067	1.894	2.269	1.848	2.279
	(%)	*13*	29	-5	*-21*	*-19*	*11*	*-9*	*19*	*-18*	*0.0*
Mining	1.590	1.450	1.799	1.514	1.733	1.733	1.675	1.641	1.571	1.445	1.615
	(%)	*-8*	*24*	*-15*	14	*0*	*-3*	-2	-4	-8	-0.22
Plantation	1.317	1.261	1.268	1.383	1.531	1.426	1.638	1.432	1.404	1.359	1.402
	(%)	*-4*	*1*	*9*	10	*-6*	*14*	*-12*	*-1*	-3	0.89
Property	2.121	2.351	2.289	1.520	1.308	1.570	1.469	1.450	1.560	1.888	1.753
	(%)	*10*	*-2*	*-33*	*-13*	*20*	*-6*	*-1*	7	21	0.33
Trading / Services	3.230	2.995	2.850	2.951	2.63 1	2.269	2.153	2.330	2.664	2.417	2.649
	(%)	*-7*	*-4*	*3*	*-IO*	*-13*	*-5*	8	*14*	-9	-2.56
MAIN BOARD	2.101	2.273	2.109	2.234	2.238	2.128	2.001	1.903	2.054	1.877	2.092
	(%)	8	-7	5	0	*-4*	*-5*	-4	7	-8	-0.89

Note: Financial Leverage Ratio: FLR = (Total Assets) / (Common Stockholders' Equity)

Table 94: KLSE Main Board and Sectorial Funded Capital Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
Construction	1.499	1.249	1.308	1.254	1.230	1.294	1.287	1.414	1.487	1.396	1.342
(change from previous year)	*(%)*	*-16*	*4*	*-4*	*-1*	*5*	*-1*	*9*	*5*	*-6*	*-0.56*
Consumer Products	1.305	1.365	1.364	1.446	1.952	1.638	1.515	1.596	1.684	1.416	1.528
	(%)	*4*	*-0*	*6*	*34*	*-16*	*-7*	*5*	*5*	*-15*	*1.78*
Industrial Products	1.352	1.246	1.163	1.303	1.803	1.717	1.242	1.150	1.185	1.281	1.344
	(%)	*-7*	*-6*	*12*	*38*	*-4*	*-27*	*-7*	*3*	*8*	*1.11*
Mining	1.860	2.002	1.967	1.793	1.571	2.214	1.605	1.564	1.269	1.378	1.722
	(%)	*7*	*-1*	*-8*	*-12*	*40*	*-27*	*-2*	*-18*	*8*	*-1.44*
Plantation	1.184	1.297	1.247	1.083	1.054	1.463	1.010	0.972	1.249	1.231	1.179
	(%)	*9*	*-3*	*-13*	*-2*	*38*	*-30*	*-3*	*28*	*-1*	*2.56*
Property	1.628	1.332	1.252	0.917	1.241	1.104	1.802	1.708	1.969	1.540	1.449
	(%)	*-18*	*-6*	*-26*	*35*	*-11*	*63*	*-5*	*15*	*-21*	*2.89*
Trading / Services	1.371	1.747	1.838	1.106	1.143	1.323	1.099	1.271	1.251	1.264	1.341
	(%)	*27*	*5*	*-39*	*3*	*15*	*-16*	*15*	*-1*	*1*	*1.11*
MAIN BOARD	1.457	1.463	1.448	1.272	1.428	1.536	1.366	1.382	1.442	1.358	1.415
	(%)	*0*	*-1*	*-12*	*12*	*7*	*-11*	*1*	*2*	*-5*	*-0.78*

Note: Funded Capital Ratio: FCR = (Long-term Debt + Owners' Equity) / (Fixed Assets)

The Plantation sector showed only significant increase of 14% in 1991 followed by decrease of 12% in 1992. The average change was merely 0.9% and mean FLR at a low of 1.40. Property firms recorded significant increases in 1990 and 1994, while decreases in 1988 and 1989. Hence, the average change was 0.3% and mean FLR of 1.75. Trading/Services showed significant changes in FLR only for two years where a decrease of 13% occurred in 1990 and an increase of 14% in 1993. This gave an average change of only 2.6% and the mean FLR at 2.65.

The overall Main Board (refer also Figure 4) recorded only minor fluctuations of FLR over the ten-year period with almost no change in 1989. Therefore, the average change was only 0.9% annually on the decreasing side. This results again indicated the existence of an optimal capital structure being practised by Malaysian firms. The mean FLR was 2.09 meaning that total assets value was double of common stockholders' equity. Therefore, the total assets of Malaysian firms was financed almost equally by equity and debt. This result is in agreement with the previous findings using Debt/Equity Ratio and Debt Ratio. The FLR analysis also indicated that Malaysian firms were using leverage to enhance their return on equity with the highest FLR recorded by Trading/Services (2.65) and lowest by Plantation (1.40).

Referring to Table 94, the Construction sector recorded only two years of significant change in Funded Capital Ratio (FCR) which were 16% decrease in 1986 and 9% increase in 1992. Therefore, an average change of only 0.6% was found and the mean FCR was 1.34. Consumer Products showed a major increase of 34% in 1989.

However, this was stabilized by the 16% decrease in 1990 and 15% in 1994. The average change was merely 1.8% and mean FCR was 1.53.

The Industrial Products sector recorded adjustments in the FCR with five years of decrease (1986, 1987, 1990 to 1992) and the other four years of increase. The average change was 1.1% and mean FCR was 1.34. Mining companies had six years of FCR decrease (1987 to 1989, and 1991 to 1993). Nevertheless, it was adjusted by the steep increase of 40% in 1990. This gave an average change of only 1.4% annually and mean FCR of 1.72.

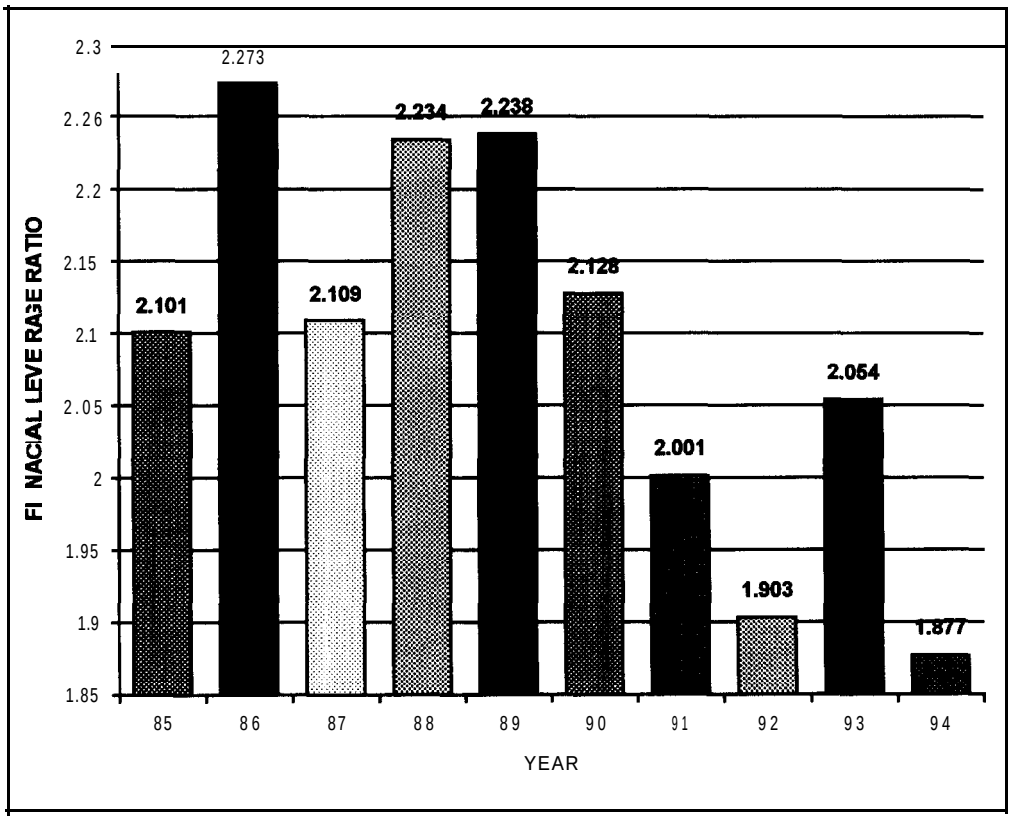

Figure 4: KLSE Main Board Financial Leverage Ratio 1985 - 1994

Table 95: KLSE Main Board and Sectorial Funded Debt Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
Construction	0.545	0.365	0.314	0.356	0.557	0.359	0.441	0.750	0.609	0.551	0.485
(change from previous year)	*(%)*	-33	*-13*	*13*	*56*	*-35*	22	*70*	-18	-9	5.89
Consumer Products	0.240	0.306	0.322	0.247	0.322	0.253	0.204	0.254	0.231	0.319	0.27
	(%)	27	5	*-23*	*30*	*-21*	-19	24	-9	38	5.78
Industrial Products	0.404	0.419	0.342	0.321	0.439	0.409	0.388	0.468	0.507	0.533	0.423
	(%)	3	*-18*	*-6*	*36*	*-6*	-5	20	8	5	*4.11*
Mining	0.579	0.558	0.665	0.525	0.519	0.412	0.645	0.628	0.582	0.864	0.598
	(%)	-3	*19*	*-21*	*-1*	*-20*	56	-2	-7	48	7.67
Plantation	0.158	0.176	0.145	0.200	0.260	0.229	0.138	0.161	0.184	0.252	0.19
	(%)	*11*	*-17*	*37*	*30*	*-11*	-39	16	14	36	8.56
Property	0.552	0.480	0.356	0.339	0.309	0.363	0.383	0.473	0.562	0.705	0.452
	(%)	*-13*	*-25*	-4	-8	*17*	*5*	23	18	25	4.22
Trading / Services	1.642	0.816	0.861	1.019	1.115	1.136	0.593	0.592	0.635	0.814	0.922
	(%)	*-50*	*5*	*18*	*9*	*1*	-47	-0	7	28	-3.22
MAIN BOARD	0.589	0.446	0.429	0.430	0.503	0.594	0.399	0.618	0.473	0.577	0.506
	(%)	*-24*	*-3*	*0*	*16*	*18*	-32	54	-23	*21*	3

Note: Funded Debt Ratio: FDR = (Long-term Debt) / (Ordinary Share Capital)

Table 96: KLSE Main Board and Sectorial Current Debt Ratio 1985 - 1994

SECTOR	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
Construction	1.255	1.429	1.375	1.359	1.621	1.159	1.101	1.109	1.068	0.577	1.205
(change from previous year)	*(%)*	*13*	*-3*	*-1*	*19*	*-28*	*-5*	*1*	*-3*	*-45*	*-5.78*
Consumer Products	0.968	1.367	1.548	1.392	1.688	1.386	1.413	0.915	1.571	0.920	1.317
	(%)	41	13	*-10*	21	-17	*1*	*-35*	*71*	*-41*	*4.89*
Industrial Products	0.898	1.058	1.645	1.669	1.027	0.617	0.664	0.661	0.978	0.578	0.979
	(%)	*17*	*55*	*1*	*-38*	*-39*	7	-0	47	-40	***I.11***
Mining	0.392	0.255	0.441	0.259	0.431	0.511	0.454	0.43 1	0.558	0.349	0.408
	(%)	*-34*	*72*	*-41*	*66*	*18*	*-11*	*-5*	*29*	-37	6.33
Plantation	0.187	0.166	0.139	0.230	0.336	0.291	0.426	0.297	0.269	0.229	0.257
	(%)	*-11*	-16	65	46	*-13*	*46*	*-30*	*-9*	*-14*	*7.11*
Property	0.900	1.057	1.216	0.334	0.522	0.317	0.584	0.275	0.386	0.461	0.605
	(%)	17	*15*	-88	*56*	-39	*84*	*-52*	*40*	*19*	*5.78*
Trading / Services	1.887	1.663	1.459	2.372	1.364	0.870	1.009	0.918	0.919	0.919	1.338
	(%)	*-11*	-12	62	-42	-36	*15*	*-9*	*0*	*0*	*-3.67*
MAIN BOARD	0.927	0.999	1.118	1.088	0.998	0.736	0.807	0.658	0.821	0.576	0.873
	%	7	II	-2	-8	-26	*9*	*-18*	*24*	*-29*	*-3.56*

Note: Current Debt Ratio: CDR = (Total Current Liabilities) / (Shareholders' Funds)

Plantation firms showed their adjustment patterns with the 13% **decrease** in 1988 followed by 38% increase in 1990, then 30% decrease in 1991 followed by 28% increase in 1993. The stabilization gave an average change of 2.6% and mean FCR of 1.18. The Property sector recorded steep fluctuations of increases (1989, 1991 and 1993) and decreases (1986, 1988, 1990 and 1994). This gave an average change of 2.3% and mean FCR was 1.45. Major changes in Trading/Services happened in 1986, 1990 and 1992 with increases, and 1988 and 1991 with decreases. Hence, only 1.1% of average change was observed and mean FCR of 1.34.

The Main Board (refer also Figure 5) showed **almost** no change of FCR in 1986. Although a decrease of 12% happened in 1988, it's effect was **nullified** by the ensuing 12% increase in 1989. Hence, the average change over the ten-year period was only 0.8%. This finding, like the previous three capital structure variables, indicated the existence of an optimal capital structure which had been tried to be achieved by the individual sectors.

The mean FCR for the Main Board was 1.42 meaning that the long-term commitments from creditors in terms of long-term debt and investors in terms of equity had financed the fixed assets by 1.42 times. According to conservative financial principles, the figure showed a low-risk and ***playing*** *it safe* capital structure among Malaysian firms. Nonetheless, the Mining sector recorded the highest FCR at 1.72 and the lowest by Plantation at 1.18.

Referring to Table 95, Construction firms recorded wide fluctuations **in** their Funded Debt Ratio (FDR) over the ten-year period particularly the 56% increase in 1989 and 70% in 1992. Therefore, the average change was 5.9% **annually** and the mean **FDR** was 0.49. The Consumer Products sector also showed steep changes

except for the years 1987 and 1993. This resulted in an average change of 5.8% and mean FDR of 0.27.

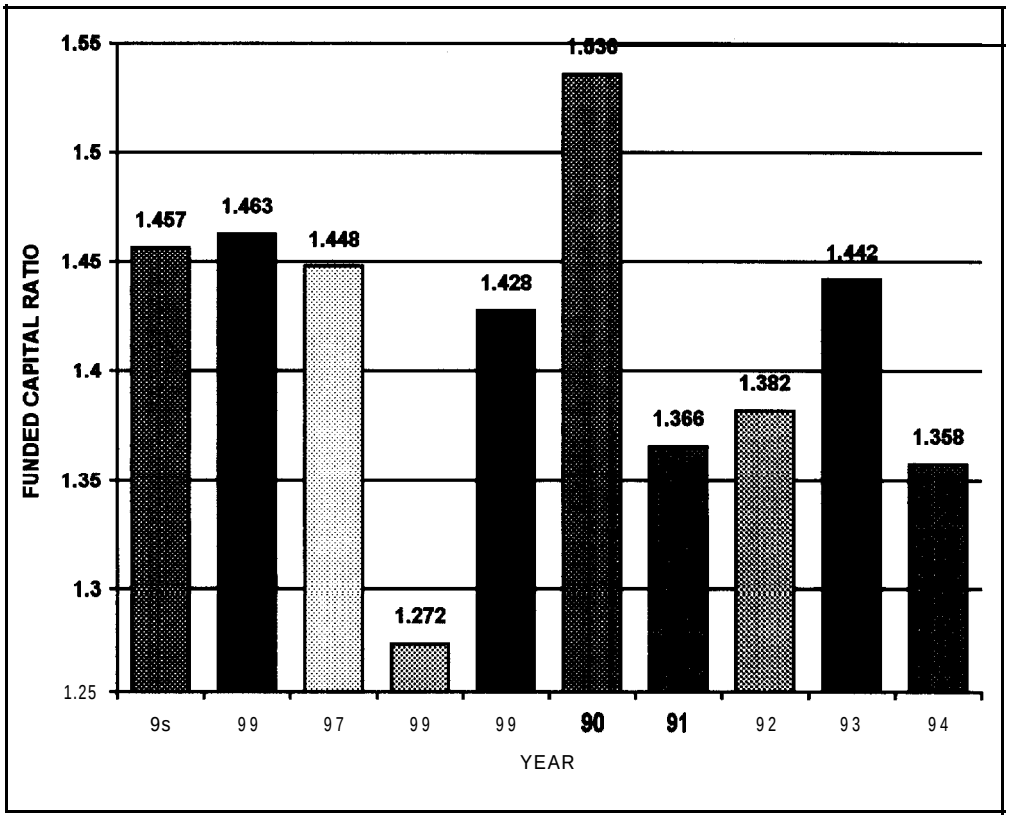

Figure 5: KLSE Main Board Funded Capital Ratio 1985 - 1994

Significant changes in the FDR of Industrial Products were observed for 1987, 1989 and 1992. The average change found was 4.1% and mean FDR of 0.42. Mining firms gave some major increases in 1991 (56%) and 1994 (48%), hence causing high average change of 7.7% annually. The mean FDR was found to be 0.60. The Plantation sector showed steep fluctuations of FDR causing an average change of 8.7% and mean FDR of 0.19.

FDR decreased in the period from 1986 to 1989 for Property companies. However, the decrease was adjusted by the increases from 1990 to 1994 giving an

average change of 4.2% and mean FDR at 0.45. The FDR of Trading/Services almost did not change in 1992. The major decreases in 1986 (50%) and 1991 (47%) were adjusted by the increases in 1988 (18%) and 1994 (28%). This gave an average change of 3.2% and mean FDR of 0.92.

The Main Board (refer also Figure 6) had recorded rough fluctuations over the ten-year period except for the years 1987 (3%) and 1988 (almost ml). Nevertheless, the adjustments did their work resulting in the average change of only 3% annually on the positive side. Although the time-series analysis had shown a significant increase of FDR over the period, it is still safe to say that firms did work towards adjusting their capital structure in order to achieve an optimal level. Maybe it takes a longer period of analysis to show the adjustments for optimality like the ones observed for the past four capital structure variables.

The mean FDR recorded for Main Board was 0.5 1 meaning that equity capital is twice as much as long-term debt. This could also be inferred that total debt would be as much as the equity, or financing through debt is in equal proportion with equity. This finding is in agreement with the previous results using Debt/Equity Ratio, Debt Ratio, and Financial Leverage Ratio. Nonetheless, Trading/Services recorded the highest FDR at 0.92 and lowest by Plantation at 0.19.

Referring to Table 96, Construction firms recorded major increases of Current Debt Ratio (CDR) in 1986 (13%) and 1989 (19%). This was stabilized by the decreases in 1990 (28%) and 1994 (45%) giving an average change of 5.8% a year and mean CDR over the ten-year period at 1.2 1. The Consumer Products sector showed steep fluctuations over the analysis period ranging from 71% increase down to 41% decrease. Therefore, the average change a year was 4.9% and mean CDR at 1.32.

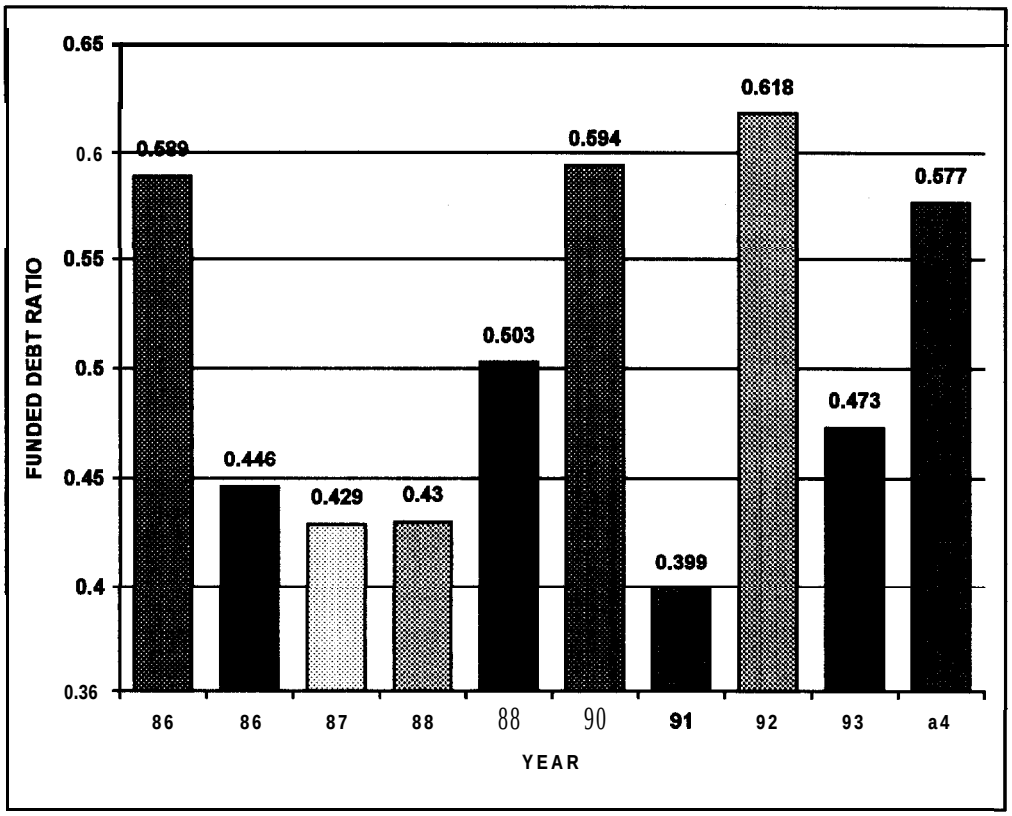

Figure 6: KLSE Main Board Funded Debt Ratio 1985 - 1994

Industrial Products recorded almost no change in 1992. However, significant increases were observed in 1986 (17%), 1987 (55%), and 1993 (47%). On the other hand, major decreases happened in 1989 (38%), 1990 (39%), and 1994 (40%). This gave an average change of only 1.1% and mean CDR at 0.98. Steep fluctuations were also observed for Mining firms ranging from 72% increase in 1987 down to 41% decrease in 1988. The average change a year was high at 6.3% and mean CDR at 0.41.

A similar trend of fluctuations were recorded for Plantation where a 65% increase happened in 1988 and 30% decrease in 1992. This gave a high average change of 7.1% a year and mean CDR of 0.26. Property companies showed no lesser fluctuations than the other sectors, with 84% increase in 1991 and 88% decrease in

1988. Hence, an average change of 5.8% a year was found and mean CDR at 0.61. The adjustment pattern for Trading/Services was rather different from the other sectors in the sense that moderate changes only happened in the first seven years. The last two years of 1993 and 1994 recorded almost no change. This gave an average change of 3.7% and mean CDR at 1.34.

Due to the steep fluctuations in the different sectors, the overall Main Board recorded significant increases in 1987 (11%) and 1993 (24%). Major decreases happened in 1990 (26%), 1992 (18%), and 1994 (29%). Hence, an average change was observed at 3.6% a year on the negative side. Although this was a significant magnitude of change, we could not conclude that there did not exist an optimal CDR. Therefore, a longer period of analysis is required to formulate a more concrete finding.

The mean CDR for the Main Board (refer also Figure 7) was 0.87 meaning that current liabilities of are only 87% as much as shareholders' funds. Hence, Malaysian firms were using short-term credit to support daily operations but not excessively particularly the sectors which had CDR less than the value one i.e. Industrial Products, Mining, Property, and Plantation at the lowest (0.26). Trading/Services had the highest CDR at 1.34 which indicated that short-term creditors were furnishing rather excessive capital resources to support the firms' operations.

Referring to Table 97, the Funded Assets Ratio (FAR) of Construction firms underwent significant increases in the years of 1989 (1 1%), 1991 (17%), 1992 (49%), and 1994 (27%). Hence, the average change over the ten-year period was high at 9.9%

a year, while the mean FAR was 2.18. Consumer Products recorded a rather different pattern with major decreases in 1986 (23%), 1988 (23%), and 1992 (32%). This caused average change to be at 6.9% on the negative side and mean FAR at 1.82.

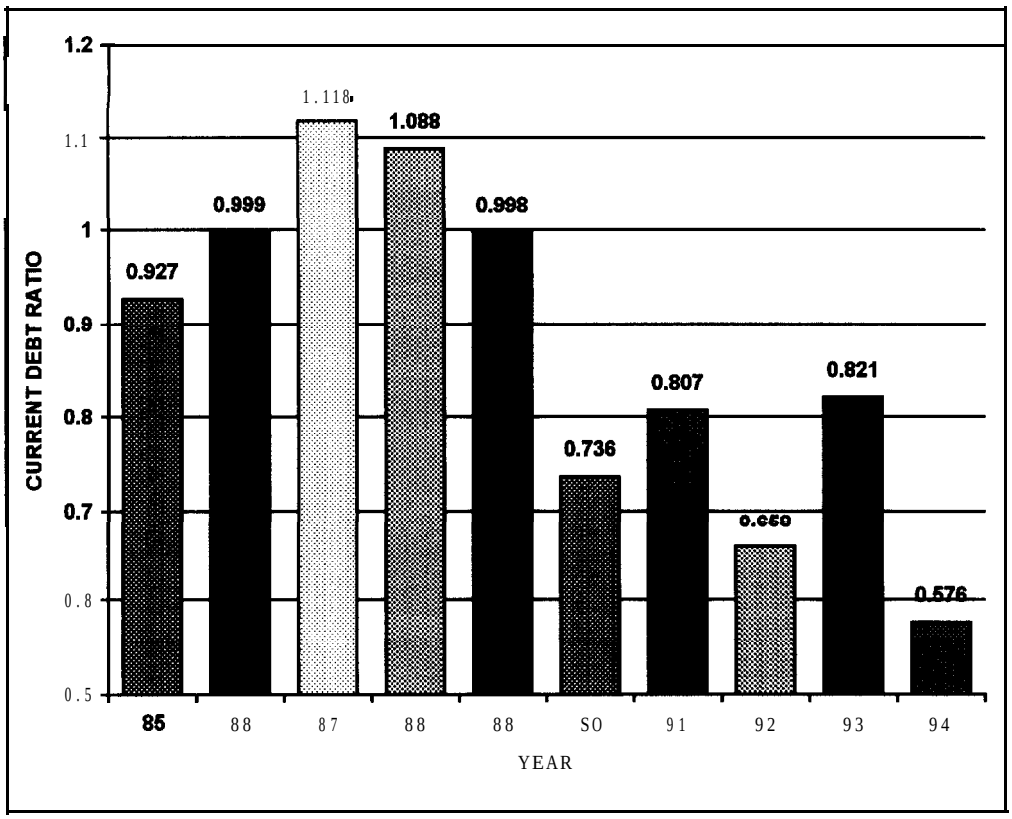

Figure 7: KLSE Main Board Current Debt Ratio 1985 - 1994

The Industrial Products sector showed moderate fluctuations with increases in 1988 (23%), 1990 (28%), and 1994 (11%); decreases in 1989 (21%) and 1991 (14%). Hence, the average change was only 1.6% a year and mean FAR at 3.0 1. Steep changes were observed in Mining companies in 1991 (65% increase) and 1992 (38% increase). This gave an average change of 3.3% and mean FAR of 4.59.

Table 97: KLSE Main Board and Sectorial Funded Assets Ratio 1985 - 1994

SE(	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	MEAN
construc SECTOR	1.730	1.696	1.718	1.564	1.738	1.743	2.047	3.066	2.851	3.646	2.18
(change from previous year)	*I (%)*	*I -1*	*1*	-8	*11*	*0*	I7	49	-7	27	9.89
Consumer Products	3:195	2.440	2.139	1.635	1.432	1.560	1.822	1.226	1.336	1.449	1.823
	(%)	-23	*-12*	-23	-12	8	*16*	-32	8	8	*-6.89*
Industrial Products	3.078	2.919	2.742	3.378	2.665	3.413	2.926	2.937	2.863	3.198	3.012
	(%)	-5	-6	23	-21	28	*-14*	*0*	*-2*	*11*	*1.56*
Mining	4.385	4.851	4.324	3.994	2.881	3.128	5.171	7.183	5.849	4.113	4.588
	(%)	*10*	*-10*	-7	-27	8	65	*38*	*-18*	*-29*	*3.33*
Plantation	9.799	11.991	11.798	9.636	12.744	10.736	14.962	14.208	14.663	11.051	13.259
	(%)	22	*-1*	-18	32	-15	39	-5	3	-24	3.67
Property	3.419	3.099	3.650	3.586	2.750	3.392	3.157	3.141	2.803	3.426	3.242
	(%)	*-9*	*17*	*-1*	*-23*	*23*	*-6*	*-1*	*-10*	*22*	*1.33*
Trading / Services	2.675	2.763	2.417	2.714	2.584	2.546	2.561	3.003	2.731	3.541	2.754
	(%)	*3*	*-12*	*12*	*-4*	*-1*	*1*	*17*	*-9*	*29*	*4*
MAIN BOARD	4.040	4.251	4.113	3.787	3.828	3.788	4.664	4.966	4.728	4.346	4.251
	(%)	*5*	*-3*	*-7*	*1*	*-1*	*23*	*6*	*-4*	*-8*	*1.33*

Note: Funded Assets Ratio: FAR = (Total Fixed Assets) / (Short-Term Debt)

Plantation firms showed a pattern of adjustments with increase in 1986 (22%) followed by decrease in 1988 (18%); increase in 1989 (32%) followed by decrease in 1990 (15%); and, increase in 1991 (39%) followed by decrease in 1994 (24%). This gave an average change of 3.7% and mean FAR of 13.26. The sector of Property recorded moderate fluctuations with the strongest increase in 1990 (23%) and decrease in 1989 (23%). The average change a year was 1.3% and mean FAR at 3.24. Trading/Services also showed moderate adjustments particularly the increases in 1988 (12%), 1992 (17%), and 1994 (29%); and the decrease in 1987 (12%). The average change was 4% a year and mean FAR at 2.75.

The overall Main Board (refer also Figure 8) had recorded minor FAR fluctuations over the ten-year period except in 1991 where a 23% increase happened. Therefore, the average change a year was only at 1.3% on the positive side. This indicated the existence of an optimal FAR based on the observations that only minor fluctuations happened and the adjustments made by companies to achieve optimality.

The mean FAR for the overall Main Board was 4.25 meaning that the value of fixed assets were 4.25 times more than short-term debt. This is definitely a healthy sign that Malaysian firms were not overborrowing short-term credit. The highest FAR observed was Plantation at 13.26 and the lowest was Consumer Products at 1.82. The differences of FAR mean for every sector also indicated that every sector had a unique level of FAR.

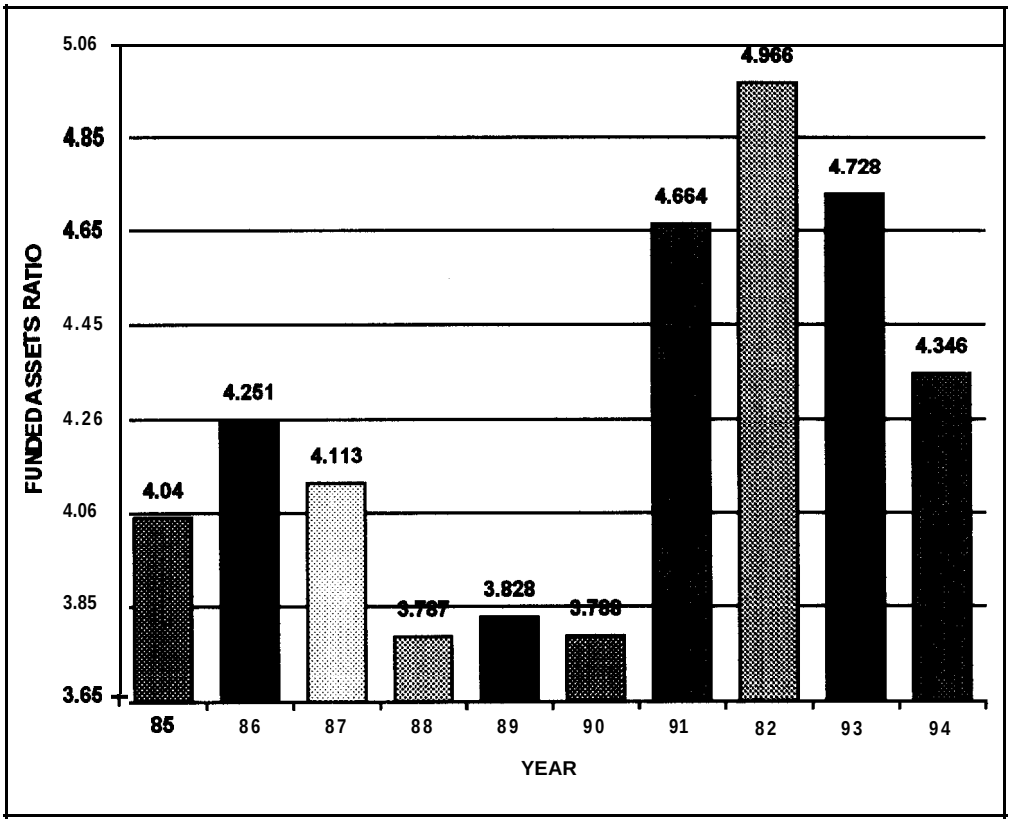

Figure 8: KLSE Main Board Funded Assets Ratio 1985 - 1994

CHAPTER V

SUMMARY, CONCLUSIONS and RECOMMENDATIONS

5.1 Summary

This study had been carried out with the purpose of finding empirical evidence to support whether business firms' profitability is related with the capital structure being practised. In addition to discovering the relationship, this study also worked on solving the issue of the existence of an optimal capital structure among listed Malaysian firms. Finally, this study attempted to investigate the trend of capital structure being practised by listed Malaysian firms in the period from 1985 until 1994.

In order to achieve the abovementioned purposes, the financial data covering a total of 267 listed firms from the KLSE Main Board were analysed. The organizations were further categorized into ten business sectors where out of them, seven sectors were studied meticulously. The huge mass of data from the firms over the ten-year period were manipulated to generate five variables as profitability indicators and another seven as capital structure indicators. Statistical tools were employed to process the variables in a time-series cross-sectional research style and the results are summarized in the following parts.

5.1.1 Correlation Analysis

The Pearson Product-Moment Correlation was used to test the major null hypothesis which was:

H_o: A firm's profitability is not significantly related to its capital structure

There were a total of ninety tables (Tables 1 to 90 in Appendix B) which contain Pearson Product-Moment Correlation Matrices that correlate the profitability variables to the capital structure indicators for the Main Board as well as every sector over the ten-year period. There were a number of significant and strong correlations between profitability and capital structure variables which proved that the above null hypothesis is to be rejected.

All of the profitability variables had one or more significant relationship with the capital structure indicators. Nonetheless, out of these, the ones which stood out from the rest are between ROE with DER and FIR Significant relationships ranging from moderate to very strong between ROE with DER and FLR were observed in the Main Board over the ten-year period. Similar finding was recorded for all individual sector except for Finance companies.

It is interesting to note that the profitability variables of PBT and NI have the least number of significant relationships with capital structure indicators. Not only on the Main Board, in the individual sectors also, PBT and NI were the most unlikely to have any significant relationship. The rest of the profitability variables i.e. EPS and ROI, had a handful of significant relationships. However, they did not make up a finding worth paying more attention to.

5.1.2 Time-Series Inference

In order to determine the trend and optimality of capital structure among Malaysian firms, a total of seven comprehensive tables (Table 91 to 97) were built for each of the capital structure variable. In addition, seven bar charts were also drawn for each of the capital structure variable showing the Main Board from 1985 to 1994.

The results are very encouraging by showing a glimpse that there exists a form of optimality of capital structure among Malaysian listed companies. No doubt that over the ten-year period, ups-and-downs or fluctuations in capital structure happened. However, from further observation, one could see that the fluctuations were actually adjustments done by the organizations in their effort to achieve an optimal capital structure.

The fluctuations could be inferred as adjustments when one notice the average change shown for every variable for the ten-year period. It is very interesting to say that the average change was as low as nil (due to the cancellation between equal positive and negative change) and the highest was only at 10 percent which is low considering the fact that it was for a ten-year period.

Even if one is to observe through the naked eye, a single glance on the bar charts would convince one of the optimality of the capital structure indicators, especially for the variable Funded Capital Ratio (Figure 5). On the issue of the value of the capital structure indicators, Table 98 gives a summary of the seven variables.

Table 98: Capital Structure Mean for Main Board

CAPITAL STRUCTURE INDICATOR	MAIN BOARD MEAN (1985 - 1996)
Debt / Equity Ratio	1.08
Debt Ratio	0.46
Financial Leverage Ratio	2.09
Funded Capital Ratio	1.42
Funded Debt Ratio	0.51
Current Debt Ratio	0.87
Funded Assets Ratio	4.25

Table 98 shows an overall capital structure practise among business organizations in the Malaysian context. Nonetheless, as explained in Chapter 3, it is not the prerogative of this study to discuss about the values of the capital structure variables, but rather the trend of the values. Therefore, the details of the figures in Tables 91 to 97 were left as it is.

5.2 Conclusions

Based on the research questions being presented in Chapter 1 and the findings in Chapter 4, this study thus far has come to the following conclusions:

Research Ouestion 1:

Is a firm's profitability significan tly related with its capital structure?

By employing the Pearson Product-Moment Correlation analysis, profitability is found to be significantly related to capital structure. In more detail, however, out of the five

profitability variables, only one i.e. Return On Equity had consistently rejected the null hypothesis that ***'A firm 's profitability is not significantly related to its capital structure. '*** ROE has been significantly related to various capital structure indicators as found by **Chudson (1945),** Long and Malitz **(1985),** and Mohamed Khan (1994).

Nevertheless, Earnings Per Share and Return On Investment have not shown concrete results of their significance with capital structure indicators. The major limitation here is the length of the research period. Ten years seem to be inadequate for EPS and ROI to generate convincing findings, hence a major weakness of this study is the period of analysis.

The last two profitability variables ie. PBT and NI had shown very meagre significant relationship with capital structure. A major reason is that the two variables are raw figures in terms of money **value** which means they are low in analytical strength to represent the concept of 'profitability'. Therefore, it could be concluded that a research of this nature need powerful analytical variables such as ratios which could define more clearly the concept being studied e.g. ROE to explain profitability.

Another major conclusion to be made is that ROE was consistently related to capital structure indicators in the negative direction, particularly Debt/Equity Ratio and Financial Leverage Ratio. It means that higher liability will hurt the earnings. The rationale here is that the more debt **firms'** incur, the more interest charges they have to pay. This conclusion strengthen the findings of previous studies or expert opinion such as Kester **(1986),** Canda **(1991),** and Myers (1995).

Research Ouestion 2:

Is there an optimal capital structure in listed Malaysian firms?

The time-series analysis employed in this study had convincingly showed that there exists or will exist an optimal capital structure among listed Malaysian firms. The cross-sectional analysis clearly indicated that companies readjust their capital structure towards a common level of optimality. Even if confidence level is set at the highest, Malaysian firms showed a tendency to achieve a certain combination of capital structure.

Table 98 earlier gave a rough idea of the optimal capital structure which the organizations were trying to achieve. As instance, the Debt/Equity Ratio was at 1.08 meaning that Malaysian companies prefer an almost equal share of debt and equity with debt given a little more preference. The rest of the six capital structure indicators gave similar conclusion.

This conclusion on the existence of an optimal capital structure was also made by a number of previous researchers such as Lamothe (1982), Bradley, Jarrell and Kim (1984), and Sreenivas (1986). However, it was in direct antagony to Mohamed Khan (1994, p107) who concluded that ***"there were no strong evidences to justify the existence of optimal capital structure in Malaysian corporate firms."*** Nonetheless, his research beared major weaknesses as discussed in Chapter 2 which have been encompassed in this study. Therefore, the results of this study bear a more up-to-date and comprehensive conclusion. One has to remember, however, that this study is still limited to two major constraints in term of its generalizability:

- The conclusions made are only applicable for the KLSE Main Board.

- Statistical findings are only for the period of analysis (1985 - 1994).

Research Question 3:

What is the trend of capital structure being practised by listed firms in Malaysia?

The time-series cross-sectional analysis gave conclusion that the firms under study were trying to achieve an optimal level of capital structure through readjustments over the years. Nevertheless, it is not the objective of this study to determine what the optimal capital structure is, although the ratios did indicate that an equal amount of liability and equity with slight tendency towards debt was preferred.

5.3 Recommendations

The conclusions made from this research had bearings not only on the academic world, but also the business or enterprise players particularly the professionals involved in the formulation of financial policies. In terms of the academia, this study had generated empirical evidence that the M&M Propositions were not applicable in the practical business enterprise in the Malaysian context.

Therefore, this study strengthened the view kept by many financial experts that The M&M Propositions, which contended that capital structure has no influence on a firm's value, was not applicable in an imperfect market with corporate taxes or any costs associated with trading securities. In short, the major recommendation for academicians is that the use of the M&M Propositions, in the context of Malaysian

companies, should be limited to conditions where company taxes could be held non-existent.

For practitioners, this study strongly recommends that business organizations should strive towards achieving an optimal capital structure. Financial controllers, in particular, should by all means adjust and readjust the capital structure of their firms in order to reach optimality. If the general practise was to be taken as a guide, companies should keep the total debt to equity at equality between the two sources of funding, with slight tendency towards debt, perhaps.

In order to give an idea on the general practise of capital structure policy, practitioners could refer to Table 98 (presented earlier) for a guide on the combination of debt and equity in different business sectors. For details such as short-term debt and fixed assets, this study recommends that practitioners refer to Tables 91 to 97. This study also recommend that care has to be taken when companies increase their liabilities. As high interest charges would hurt profits, managers must always be alert on the level of debt to equity so as not to affect profitability negatively.

Finally, for researchers who are keen to study more into the issue of capital structure and profitability, it is recommended that this study be improved and expanded in the following ways:

- A longer period of analysis should be used. It is recommended that financial data ranging over 20 years would be marvellous.

- Categorize the organizations into more business sectors in order to see better the optimality of capital structure in different sectors. For a comprehensive division of sectors, it is recommended that one refer to El-Khouri (1989, p68) where he classified firms into 27 different business sectors.
- The number of companies could be increased by including the KLSE Second Board. This will definitely widen the scope and quality of the study.

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APPENDIX A

Complete Listing of Firms in the Population Frame by Sector

CONSTRUCTION

GENERAL CORPORATION BERHAD
IJM CORPORATION BERHAD
NAM FATT BERHAD
PILECON ENGINEERING BERHAD
PROMET BERHAD
SUNGEI WAY HOLDINGS BERHAD
UNITED ENGINEERS (MALAYSIA) BERHAD
YTL CORPORATION BERHAD
RENONG BERHAD
PJ DEVELOPMENT HOLDINGS BERHAD

CONSUMER PRODUCTS

AJINOMOTO (MALAYSIA) BERHAD
CARLSBERG BREWERY MALAYSIA BERHAD
CHOCOLATE PRODUCTS (MALAYSIA) BERHAD
COLD STORAGE (MALAYSIA) BERHAD
CYCLE AND CARRIAGE BINTANG BERHAD
DNP HOLDINGS BERHAD
KANZEN BERHAD
DUTCH BABY MILK INDUSTRIES (MALAYA) BERHAD
FA PENINSULAR BERHAD
FEDERAL FLOUR MILLS BERHAD
GOLD COIN (MALAYSIA) BERHAD
GUINNESS ANCHOR BERHAD
HONG LEONG INDUSTRIES BERHAD
INNOVEST BERHAD
KFC HOLDINGS (MALAYSIA) BERHAD
KHONG GUAN HOLDINGS MALAYSIA BERHAD
PUTERA CAPITAL BERHAD
LEONG HUP HOLDINGS BERHAD
MALAYAN FLOUR MILLS BERHAD
MALAYSIAN TOBACCO COMPANY BERHAD
MATSUSHITA ELECTRIC COMPANY (MALAYSIA) BERHAD
MWE HOLDINGS BERHAD
NESTLE (MALAYSIA) BERHAD
ORIENTAL HOLDINGS BERHAD
OYL INDUSTRIES BERHAD
PERLIS PLANTATIONS BERHAD
ROTHMANS OF PALL MALL (MALAYSIA) BERHAD

SANYO INDUSTRIES (MALAYSIA) BERHAD
SETRON (MALAYSIA) BERHAD
BERJAYA SINGER BERHAD
SIN HENG CHAN (MALAYA) BERHAD
JAYA TIASA HOLDINGS BERHAD
TAN CHONG MOTOR HOLDINGS BERHAD
TRADEWINDS (MALAYSIA) BERHAD
UNITED MALAYAN FLOUR MILLS BERHAD
UMW HOLDINGS BERHAD
YEO HIAP SENG (MALAYSIA) BERHAD
RJ REYNOLDS BERHAD
KELANAMAS INDUSTRIES BERHAD
GADEK (MALAYSIA) BERHAD

FINANCE

DATUK KERAMAT HOLDINGS BERHAD
INSAS BERHAD
PHILEO ALLIED BERHAD
INTJPLUS BERHAD
AMMB HOLDINGS BERHAD
COMMERCE ASSET-HOLDING BERHAD
BRITISH AMERICAN LIFE INSURANCE BERHAD
DEVELOPMENT & COMMERCIAL BANK BERHAD
HONG LEONG CREDIT BERHAD
IDRIS HYDRAULIC (MALAYSIA) BERHAD
KILLINGHALL (MALAYSIA) BERHAD
PENGKALEN CAPITAL BERHAD
MALAYANBANKINGBERHAD
MALAYSIA BRITISH ASSURANCE BERHAD
MALAYSIA BUILDING SOCIETY BERHAD
MALAYSIAN ASSURANCE ALLIANCE BERHAD
MALAYSIAN GENERAL INVESTMENT CORPORATION BERHAD
MBF CAPITAL BERHAD
MBF HOLDINGS BERHAD
PACIFIC BANK BERHAD
PANGLOBAL EQUITIES BERHAD
PENGKALEN HOLDINGS BERHAD
PUBLIC BANK BERHAD
RASHID HUSSAIN BERHAD
SOUTH EAST ASIA DEVELOPMENT CORPORATION BERHAD
SOUTHERNBANKBERHAD
TA ENTERPRISE BERHAD
UNIPHOENIX CORPORATION BERHAD
ARAB MALAYSIAN CORPORATION BERHAD

HOTEL

FABER GROUP BERHAD
LANDMARKS BERHAD
PERNAS INTERNATIONAL HOTELS AND PROPERTIES BERHAD

INDUSTRIAL PRODUCTS

ACIDCHEM (MALAYSIA) BERHAD
ALUMINIUM COMPANY OF MALAYSIA BERHAD
AMALGAMATED INDUSTRIAL STEEL BERHAD
AMSTEEL CORPORATION BERHAD
ANCOM BERHAD
AOKAM PERDANA BERHAD
FCW HOLDINGS BERHAD
BERJAYA INDUSTRIAL BERHAD
CEMENT INDUSTRIES OF MALAYSIA BERHAD
CEMENTMANUFACTURERS SARAWAKBERHAD
CHEMICAL COMPANY OF MALAYSIA BERHAD
CI HOLDINGS BERHAD
CONSTRUCTION AND SUPPLIES HOUSE BERHAD
DMIBBERHAD
OLYMPIA INDUSTRIES BERHAD
ESSO MALAYSIA BERHAD
FEDERAL CABLES, WIRES & METAL MANUFACTURING BERHAD
FIMA CORPORATION BERHAD
GOH BAN HUAT BERHAD
GRAND UNITED HOLDINGS BERHAD
HEXZA CORPORATION BERHAD
HUME INDUSTRIES (MALAYSIA) BERHAD
KECK SENG (MALAYSIA) BERHAD
KIAN JOO CAN FACTORY BERHAD
LION CORPORATION BERHAD
MALAYA GLASS BERHAD
MALAYAN CEMENT BERHAD
MALAYAN UNITED INDUSTRIES BERHAD
MALAYAN UNITED MANUFACTURINGBERHAD
MALAYAWATA STEEL BERHAD
MALAYSIA AICA BERHAD
MALAYSIAN OXYGEN BERHAD
MALAYSIAN PACIFIC INDUSTRIES BERHAD
MALEX INDUSTRIES BERHAD
MARUICHI MALAYSIA STEEL TUBE BERHAD
MEGA FIRST CORPORATION BERHAD
MUDA HOLDINGS BERHAD
PACIFIC CHEMICALS BERHAD
PALMCO HOLDINGS BERHAD
PAN MALAYSIA CEMENT WORKS BERHAD
PAN MALAYSIAN INDUSTRIES BERHAD
SAMANDA HOLDINGS BERHAD
SCIENTEX INCORPORATED BERHAD
SEAL INCORPORATED BERHAD
SHELL REFINING COMPANY (FOM) BERHAD
SITT TATT BERHAD
TASEK CEMENT BERHAD

TRACTORS MALAYSIA HOLDINGS BERHAD
UAC BERHAD
LEADER UNIVERSAL HOLDINGS BERHAD
WING TIEK HOLDINGS BERHAD
WESTMONT BERHAD
ADVANCE SYNERGY BERHAD
DIVERSIFIED RESOURCES BERHAD
GOPENG BERHAD
TONGKAH HOLDINGS BERHAD
HICOM HOLDINGS BERHAD

MINING

GOLDEN PLUS HOLDINGS BERHAD
AYER HITAM TIN DREDGING MALAYSIA BERHAD
BERJUNTAI TIN DREDGINGBERHAD
KRAMAT TIN DREDGINGBERHAD
KUCHAI DEVELOPMENT BERHAD
MALAYSIA MINING CORPORATION BERI-IAD
PETALING TIN BERHAD
RAHMAN HYDRAULIC TIN BERHAD
TIMAH LANGAT BERHAD
TRONOH MINES MALAYSIA BERHAD

PLANTATION

WESMONT LAND (ASIA) BERHAD
THE NORTH BORNEO TIMBERS BERHAD
FAR EAST HOLDINGS BERHAD
AUSTRAL ENTERPRISES BERHAD
BATUKAWANBERHAD
BENTA PLANTATIONS BERHAD
CHIN TECK PLANTATIONS BERHAD
CONSOLIDATED PLANTATIONS BERHAD
GOLDEN HOPE PLANTATIONS BERHAD
GULA PERAK BERHAD
101 CORPORATION BERHAD
KRETAM HOLDINGS BERHAD
KULIM (MALAYSIA) BERHAD
KUMPULANGUTHRIEBERHAD
LINGUI DEVELOPMENTS BERHAD
NEGRI SEMBILAN OIL PALMS BERHAD
SELANGOR COCONUTS BERHAD
TDMBERHAD
UNITED PLANTATIONS BERHAD
ASIATIC DEVELOPMENT BERHAD
THE AYER HITAM PLANTING SYNDICATE BERHAD
THE AYER MOLEK RUBBER COMPANY BERHAD
THE BUKIT KATIL RUBBER ESTATES BERHAD
GLENEALY PLANTATIONS (MALAYA) BERHAD
GUTHRIE ROPEL BERHAD

HIGHLANDS & LOWLANDS BERHAD
INCH KENNETH KAJANG RUBBER PLC BERHAD
JERAM KUANTAN (MALAYA) BERHAD
KLUANG RUBBER COMPANY (MALAYA) BERHAD
KUALA LUMPUR KEPONG BERHAD
KUALA SIDIM BERHAD
MALAYSIAN PLANTATIONS BERHAD
MENTAKAB RUBBER COMPANY (MALAYA) BERHAD
PARIT PERAK HOLDINGS BERHAD
RIVERVIEW RUBBER ESTATES BERHAD
SUNGEI BAGAN RUBBER COMPANY (MALAYA) BERHAD
THE UNITED MALACCA RUBBER ESTATES BERHAD

PROPERTY

FACB BERHAD
LAND & GENERALBERHAD
EASTERN & ORJENTAL BERHAD
DAMANSARAREALTYBERHAD
LARUT CONSOLIDATED BERHAD
SATERAS RESOURCES (MALAYSIA) BERHAD
SOUTH MALAYSIA INDUSTRIES BERHAD
LION LAND BERHAD
ARAB-MALAYSIAN DEVELOPMENT BERHAD
KUALA LUMPUR INDUSTRIES HOLDINGS BERHAD
ASIA PACIFIC LAND BERHAD
BANDAR RAYA DEVELOPMENTS BERHAD
HONG LEONG PROPERTIES BERHAD
BOLTON PROPERTIES BERHAD
IGB CORPORATION BERHAD
ISLAND AND PENINSULAR BERHAD
101 PROPERTIES BERHAD
LIEN HOE CORPORATION BERHAD
MCB HOLDINGS BERHAD
MENANG CORPORATION (MALAYSIA) BERHAD
METROPLEX BERHAD
PARAMOUNT CORPORATION BERHAD
PELANGI BERHAD
PETALING GARDEN BERHAD
SELANGOR DREDGING BERHAD
SELANGOR PROPERTIES BERHAD
SIME UEP PROPERTIES BERHAD
SPK-SENTOSA CORPORATION BERHAD
SRI HARTAMAS CORPORATION BERHAD
TALAM CORPORATION BERHAD
WORLDWIDE HOLDINGS BERHAD
AUSTRAL AMALGAMATED TIN BERHAD
KAMPONG LANJUT TIN DREDGING BERHAD
KEMAYAN CORPORATION BERHAD
ANSON PERDANA BERHAD

NEGARA PROPERTIES (MALAYSIA) BERHAD
TAIPING CONSOLIDATED BERHAD

TRUST

ARAB-MALAYSIAN FIRST PROPERTY TRUST
FIRST MALAYSIA PROPERTY TRUST

TRADING / SERVICES

ANTAH HOLDINGS BERHAD
BOUSTEAD HOLDINGS BERHAD
THE EAST ASIATIC COMPANY (MALAYSIA) BERHAD
EDARAN OTOMOBIL NASIONAL BERHAD
GENTING BERHAD
GEORGE KENT (MALAYSIA) BERHAD
GEORGE TOWN HOLDINGS BERHAD
BERJAYA GROUP BERHAD
JOHAN HOLDINGS BERHAD
KAMUNTING CORPORATION BERHAD
KINTA KELLAS PUBLIC LIMITED COMPANY BERHAD
KUMPULANEMAS BERHAD
MAGNUM CORPORATION BERHAD
MALAYSIAN AIRLINE SYSTEM BERHAD
MALAYSIAN HELICOPTER SERVICES BERHAD
MALAYSIAN MOSAICS BERHAD
MECHMAR CORPORATION (MALAYSIA) BERHAD
MULPHA INTERNATIONAL BERHAD
MULTI-PURPOSE HOLDINGS BERHAD
MUN LOONG BERHAD
MYCOM BERHAD
NANYANG PRESS (MALAYA) BERHAD
THE NEW STRAITS TIMES PRESS (MALAYSIA) BERHAD
PARK MAY BERHAD
PEG1 MALAYSIA BERHAD
RESORTS WORLD BERHAD
TECHNOLOGY RESOURCES INDUSTRIES BERHAD
SIME DARBY BERHAD
SISTEM TELEVISYEN MALAYSIA BERHAD
SOUTH JOHORE AMALGAMATED HOLDINGS BERHAD
BERJAYA SPORTS TOT0 BERHAD
TELEKOM MALAYSIA BERHAD
TIME ENGINEERING BERHAD
INCHCAPE TIMURAN BERHAD
UNIPHONE TELECOMMUNICATIONS BERHAD
GRANITE INDUSTRIES BERHAD
MALAYSIAN RESOURCES CORPORATION BERHAD
MMC ENGINEERING GROUP BERHAD
TANJONG PUBLIC LIMITED COMPANY BERHAD
DUNLOP ESTATES BERHAD
MALAKOFF BERHAD

APPENDIX B

Pearson Product-Moment Correlation Matrices 1986 - 1993

MAIN BOARD

Table 1: Pearson Product-Moment Correlation Matrix Main Board 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROES5	-.2952	-.1347	-.2911	.0150	.0816	-.3819	.0345
	P= .OOO	P= .039	P= .OOO	P= .832	P= .247	P=.OOO	P= .603
EPS85	.1601	.1088	.1568	.0173	-.0047	.1880	-.0336
	P= .014	P= .097	P= .016	P= .807	P= .947	P= .004	I'= .612
RO185	-.2403	-.4271	-.2377	-.0228	-.0598	-.2976	.1030
	P= .000	P= .ooo	P= .ooo	P= .744	P= .391	P=.ooo	P= .711
PBT85	-.0236	-.0845	-.0281	-.0263	.2639	-.0226	.0242
	I'= .716	P= .192	P= .665	P= .706	P=.OOO	P= .729	P= .711
N185	-.0071	-.0904	-.0135	-.0138	.2462	-.0038	.0564
	P= .913	P= .163	P= .836	P= .843	P= .000	P= .953	P= .389

Table 2: Pearson Product-Moment Correlation Matrix Main Board 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROES6	-.3030	-.1981	-.0286	.0355	-.0263	-.3298	.0568
	P= .000	P= .002	P= .657	P= .611	P= .707	P= .ooo	P= .379
EPS86	.0201	.0481	.0133	-.0140	.0871	.0403	-.0200
	P= .752	P= .448	P= .834	I'=.838	P= .201	P= .525	P= .754
RO186	.0673	-.6066	.0252	.0726	.0403	.0747	.0662
	P= .282	P=.OOO	P= .687	I'=.280	P= .549	P= .232	I'= .290
PBT86	-.0204	-.1095	.0351	.0089	.2716	-.1076	.0392
	P= .745	P= .081	P= .577	P= .895	P=.ooo	P= .087	P= .534
NI86	-.0087	-.1697	.0172	.0191	.2102	-.0662	.0550
	P= .890	P= .006	P= .783	P= .777	P= .002	P= .289	P= .380

Table 3: Pearson Product-Moment Correlation Matrix Main Board 1987

	DER87	DR87	FLR87	FCRS7	FDR87	CDR87	FAR87
ROES7	-.6625	-.0555	-.6614	.0209	.1063	-.7208	.0644
	I'= .OOO	P= .381	P=.OOO	P= .761	P= .121	P= .ooo	P= .311
EPS87	-.0115	.0109	-.0157	-.0083	.1067	-.0066	-.0366
	P= .855	P= .862	P= .804	P= .903	P= .116	P= .917	P= .562
RO187	-.0405	-.8984	-.0403	.0491	.0659	-.0476	.0767
	P= .514	P = . O O O	P= .516	P= .465	P= .326	P= .443	P= .218
PBT87	-.0186	-.0735	-.0181	-.0009	.1489	-.0763	.0387
	P= .765	I'= .236	P= .771	P= .989	P= .026	P= .219	P= .535
N187	-.0546	-.1257	-.0552	-.0006	.0551	-.0748	.0423
	P= .379	P= .042	P= .374	P= .993	P= .412	P= .229	P= .497

Table 4: Pearson Product-Moment Correlation Matrix Main Board 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-.2287	-.0223	-.2250	.0427	.0562	-.2003	.0713
	P= .000	P= .721	P=.OOO	P= .526	P= .405	P= .001	P= .254
EPS88	-.0076	-.0013	-.0120	-.0054	.0272	-.0036	-.0357
	P= .903	P= .984	P= .847	P= .936	P= .686	P= .954	P= .567
ROI88	.0048	-.8388	.0052	.1661	.0600	.0044	.0972
	P= .938	P=.OOO	P= .932	P= .012	P= .370	P= .944	P= .116
PBT88	.0021	-.0543	.0065	-.0130	.2053	-.0208	.0529
	P= .973	P= .380	P= .917	P= .846	P= .002	P= .736	P= .241
NI88	-.0115	-.0435	-.0090	-.0054	.2462	-.0277	.0725
	P= .853	P= .481	P= .885	P= .936	P=.OOO	P= .654	P= .241

Table 5: Pearson Product-Moment Correlation Matrix Main Board 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.2251	-.0728	.1829	.0367	.1220	.2412	.0281
	P= .ooo	P= .246	P= .003	P= .589	P= .072	P= .ooo	P= .654
EPS89	-.0101	-.0059	-.0163	-.0021	.7506	-.0055	-.0200
	P= .872	P= .924	P= .795	P= .975	P= .ooo	P= .930	P= .749
ROI89	.0305	.1680	.0292	.0675	.0742	.0317	.0256
	P= .623	P= .007	P= .639	P==.314	P= .270	P= .610	P= .680
PBT89	.0434	-.0566	.0234	.0224	.1604	.0133	.0102
	P= .485	P= .363	P= .707	P= .739	P= .016	P= .830	P= .869
NI89	.0266	-.0283	.0043	.0089	.1806	.0103	.0125
	P==.669	P= .649	P= .944	P= .895	P= .007	P= .869	P= .841

Table 6: Pearson Product-Moment Correlation Matrix Main Board 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.3171	-.0596	-.2721	.0021	.0227	-.3605	.0836
	P=.OOO	P= .348	P=.OOO	P= .975	P= .738	P= .ooo	P= .188
EPS90	-.0168	-.0234	-.0179	-.0103	.8123	-.0173	-.0026
	P= .790	P= .710	P= .776	P= .878	P= .000	P= .784	P= .967
ROI90	.0946	-.4193	.0638	-.0148	.0925	.0969	.0732
	P= .130	P= .000	P= .308	P= .825	P= .166	P= .121	P= .242
PBT90	.0860	-.0335	.0611	-.0277	.0124	.0047	-.0463
	I'= .169	P= .592	P= .329	P= .678	P= .854	P= .940	P= .459
NI90	.0408	-.0380	.0178	-.0187	.0324	-.0109	-.0071
	P= .515	P= .543	P= .777	P= .780	P= .628	P= .862	P== .909

Table 7: Pearson Product-Moment Correlation Matrix Main Board 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	-.8055	.0051	-.8160	-.0102	-.0107	-.8363	.0497
	P= .OOOO	P = .937	P= .000	P= .879	P = .874	P= .ooo	P= .435
EPS91	.0552	-.3254	-.0511	-.0353	.1145	-.0626	.0425
	P= .389	P=.OOO	P= .425	P= .601	P= .089	P= .328	P= .507
ROI91	-.0076	-.5890	-.0988	-.0286	.0327	-.0960	.0455
	P= .904	P=.OOO	P= .117	P= .669	P= .624	P= .128	P= .471
PBT91	.0267	-.0667	.0147	-.0263	.0217	.0019	-.0509
	P= .672	P= .289	P= .815	P= .693	P= .745	I'= .976	I'= .419
N191	.0331	-.0894	.0211	-.0297	.1177	-.0094	-.0114
	P= .600	P= .156	P= .738	P= .656	P= .077	P= .882	P= ,857

Table 8: Pearson Product-Moment Correlation Matrix Main Board 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	-.0314	-.1177	-.0349	.0063	-.0106	-.0297	.0568
	P= .620	P= .062	P= .581	P= .924	P= .874	P= .639	P= .369
EPS92	.0669	-.0773	.0719	.0546	.1364	.0660	.1571
	P= .289	P= .220	P= .255	P= .413	P= .040	P= .296	P= .012
RO192	-.0584	-.2022	-.0631	.0532	-.0257	-.0564	.0023
	P= .350	P= .001	P= .313	P= .420	P= .697	P= .367	P= .971
PBT92	.1440	.0250	.1578	.0016	.0298	.1439	-.0359
	P= .021	P= .690	P= .011	P= .980	P= .651	P= .021	P= .566
NI92	.0361	-.0502	.0353	.0601	-.0062	.0407	-.0234
	P= .564	P= .422	P= .572	P= .362	P= .925	P= .515	P= .709

Table 9: Pearson Product-Moment Correlation Matrix Main Board 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	-.2169	-.1818	-.2216	-.0302	.0054	-.2070	.0630
	P= .001	P= .004	P= .000	P= .650	P= .935	P= .001	P= ,318
EPS93	.1237	-.0072	.1466	.0723	.0617	.1232	.1771
	P= .048	P= .909	P= .019	P= .273	P= .349	P= .049	P= .005
RO193	-.3025	-.2943	-.3048	.1777	-.0280	-.2590	.0402
	P= .000	P= .000	P= .000	P= .007	P= .671	P= .OOO	P= .521
PBT93	.1806	.0201	.1970	.0398	.0288	.1673	-.0470
	P= .004	P= .748	P= .002	P= .545	P= .662	P= .007	P= .454
NI93	.1040	-.0435	.1303	.0267	.0471	.0966	-.0316
	P= .096	P= .487	P= .037	P= .685	P= .475	P= .123	P= .615

Table 10: Pearson Product-Moment Correlation Matrix Main Board 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	-.0073	-.0767	-.0113	.1791	-.0358	-.0024	.0071
	P= .908	P= .226	P= .858	P= .006	P= .589	P= .970	P= .911
EPS94	.1491	.0047	.1519	.2513	.2203	.1597	.1561
	P= .018	P= .941	P= .016	P= .000	P= .001	P= .011	P= .013
RO194	-.0822	-.4324	-.0840	.0739	-.0951	-.0694	.0146
	P= .192	P= .000	P= .182	P= .264	P= .150	P= .270	P= .817
PBT94	.2219	.0953	.2233	.0928	.0405	.2281	-.0600
	P= .000	P= .130	P= .000	P= .160	P= .540	P= .000	P= .554
N194	.1426	.0096	.1431	.0590	.0353	.1483	-.0373
	P= .023	P= .879	P= .023	P= .372	P= .593	P= .018	P= .554

CONSTRUCTION

Table 11: Pearson Product-Moment Correlation Matrix Construction 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROE85	.7928	-.5658	.7893	.3389	-.9129	.7067	-. 1494
	P= .011	P= .112	P= .011	P= .457	P= .004	P= .033	P= .701
EPS85	.7959	-.2611	.7911	.3615	-.8340	.8606	-.2778
	P= .010	P= .497	P= .011	P= .426	P= .020	P= .003	P= .469
ROI85	.8082	-.6478	.8061	.2670	-.9385	.6524	-.1316
	P= .008	P= .059	P= .009	P= .563	P= .002	P= .057	P= .736
PBT85	.1537	-. 1371	.1470	.4317	-.3347	.2711	-.0669
	P= .693	P= .725	P= ,706	P= .333	P= .463	P= .481	P= .864
NI85	.1918	-. 1802	.1853	.4144	-.3723	.2931	-.0589
	P= .621	P= .643	P= .633	P= .355	P= .411	P= .444	P= .880

Table 12: Pearson Product-Moment Correlation Matrix Construction 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROES6	.5507	.4423	.5486	.5097	-.0848	.5899	-.2198
	P= .099	P= .201	P= .101	P= .132	P= .816	P= .073	P= .542
EPS86	.8788	.7117	.8778	.5787	-. 1900	.8740	-.5177
	P= .004	P= .048	P= .004	P= .133	P= .652	P= .005	P= .189
ROI86	.4055	.4005	.4037	.3886	.0604	.3487	-.2073
	P= .245	P= .251	P= .247	P= .267	P= .868	P= .323	P= .566
PBT86	.2622	.4054	.2606	.2626	.1700	.3373	-.4503
	P= .464	P= .245	P= .467	P= .464	P= .639	P= .340	P= .192
N186	.3512	.4485	.3486	.2508	.2723	.2778	-.2505
	P= .320	P= .194	P= .324	P==.485	P= .447	pl.437	P= ,485

Table 13: Pearson Product-Moment Correlation Matrix Construction 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDRS7	FAR87
ROES7	-. 1574	.0331	-. 1368	.2189	.3004	-.4127	-.0263
	P= .686	P= .933	I'= .726	P= .571	P= .432	P= .270	P= .946
EPS87	-. 1459	.0469	-.1196	.1987	-. 1684	-.0785	-. 1637
	P= .688	P= .898	P= .742	P= .582	pl.642	P= .829	I'= .639
ROI87	-.0119	.2946	.0947	-.2763	.2120	-. 1433	-.4896
	P= .974	P= .409	P= .795	P= .440	P= .557	P= .693	P= .151
PBT87	-.2193	-.0130	-. 1841	.1700	-. 1069	-.2045	-.2348
	P= .543	P= .972	P= .611	P= .639	P= .769	P= .571	P= .514
N187	.0361	.3039	.1353	-.2888	.0575	-.0495	-.5991
	P= .921	P= .393	P= .709	P= .418	P= .875	P =	.8P= .067

Table 14: Pearson Product-Moment Correlation Matrix Construction 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-.0479	.0144	-.0477	.0423	.2665	-.1104	.1292
	P=.903	P=.971	P=.903	P=.914	P=.488	P=.777	P=.740
EPS88	-.0682	.0432	-.0676	.2116	.2270	-.1162	.0152
	P=.862	P=.912	P=.863	P=.585	P=	.557	P=.766 P=.969
ROI88	.0239	.1242	.0230	.1708	.2059	.0037	-.1185
	P=.948	P=.732	P=.950	P=.637	P=.568	P=.992	P=.744
PBT88	.1952	.3509	.1914	-.0097	.4574	.0939	-.1761
	P=.589	P=.320	P=.596	P=.979	P=.184	P=.796	P=.627
NI88	.2814	.4199	.2777	.0411	.4128	.1931	-.2506
	P=.431	P=.227	P=.437	P=.910	P=.236	P=.593	P=.485

Table 15: Pearson Product-Moment Correlation Matrix Construction 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	-.2022	-.1976	-.1687	.3382	.5275	-.2402	.1728
	F'=,602	P=.610	P=.664	P=.373	P=.144	P=.534	P=.657
EPS89	.0689	.1111	.1164	.2251	.8301	-.1125	.1665
	P=.850	P=.760	P=.749	P .5322	P=.003	P=.757	P=.646
ROI89	-.0678	-.0128	-.0418	.4085	.4212	-.0929	-.1120
	P=.852	P .9722	P=.909	P=.241	P=.225	P=.799	P=.758
PBT89	-.0764	.0110	-.0260	.0106	.9264	-.2990	.2952
	P=.834	P=.976	P=.943	P=.977	P=.000	P=.401	P=.408
NI89	-.0614	-.0340	-.0118	.1144	.8889	-.2835	.2827
	P=.866	P=.926	P=.974	P=.753	P=.001	P=.427	P=.429

Table 16: Pearson Product-Moment Correlation Matrix Construction 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	.3426	.0168	.3421	-.0014	.4847	.2571	-.0759
	P=.333	P=.963	P=	.333	P=.997	P=.156	P=.473 P=.835
EPS90	.7663	.1439	.6288	.2272	.0536	.7249	-.4273
	P=.010	P=.692	P=.052	P=.528	P=.883	P=.018	P=.218
ROI90	.0467	.8003	-.4363	-.2785	.2489	-.0170	-.0112
	P=.898	P=.005	P=.207	P=.436	I'=.488	P=.963	P=.975
PBT90	.0262	-.0503	.1043	-.2051	.7413	-.0841	.3493
	P=.943	P=.890	P=.774	P=.570	P=.014	P=.817	P=.323
NI90	-.0984	-.0726	.0040	-.3121	.7385	-.2042	.4897
	P=.787	P=.842	P=.991	P=.380	P=.015	P=.571	P=.151

Table 17: Pearson Product-Moment Correlation Matrix Construction 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	.6863	.6794	.7069	.4907	.2140	.6270	-.5638
	P=.028	P=.031	P=.022	P=,150	P=.553	P=.052	P=.090
EPS91	.7876	.6527	.8137	.3748	-.1524	.7939	-.5226
	P=.012	P=.057	P=	.008	P=.320	P=.695	P=.011 P=.149
ROI91	-.2407	-.1785	-.2304	-.2479	.4411	-.2985	.7529
	P=.503	P=.622	I'=.5222	P=.490	P=.202	P=.402	P=.012
PBT91	-.3090	-.3504	-.2502	-.0540	.0831	-.3047	.2668
	P=.385	P=.321	P=.486	P=.882	P=.819	P=.392	P=.456
NI91	-.2942	-.2602	-.2918	-.2905	.4505	-.3481	.9077
	P=.409	P=.468	P=.413	P=.416	P=.191	P=.324	P=.000

Table 18: Pearson Product-Moment Correlation Matrix Construction 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	.7579	.7549	.7727	.4580	.4787	.6001	-.3502
	P= .011	P= .012	P= .009	P= .183	P= .162	P= .067	P= .321
EPS92	.8063	.7494	.8258	.3493	.1677	.7562	-.3533
	P= .005	P= .013	P= .003	P= .322	P= .643	P= .011	P= .317
RO192	-.0411	.0366	-.0468	-.1225	-.0655	-.0213	-.1352
	P= .910	P= .920	P= .898	P= .736	P= .857	P= .953	P= .710
PBT92	-.3201	-.3185	-.2737	-.3647	.1887	-.3568	.5615
	P= .367	P= .370	P= .444	P= .300	P= .602	P= .312	P= .091
N192	-.3597	-.3063	-.3334	-.4281	.1143	-.3737	.5507
	P= .307	P= .389	P= .346	P= .217	P= .753	P= .287	P= .099

Table 19: Pearson Product-Moment Correlation Matrix Construction 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	.7297	.8028	.7348	.2181	.4310	.6576	-.4723
	P= .017	P= .005	P= .015	P= .545	P= .214	P= .039	P= .168
EPS93	.6901	.7020	.6954	.3237	.2097	.6559	-.4375
	P= .027	P= .024	P= .026	P= .362	P= .561	P= .039	P= .206
RO193	-.2048	-.1322	-.2008	-.0450	.6623	-.2747	.4455
	P= .570	P= .716	P= .578	P= .902	P= .037	P= .442	P= .197
PBT93	-.3169	-.3294	-.2945	-.2901	.3604	-.3357	.6177
	P= .372	P= .353	P= .409	P= .416	P= .306	P= .343	P= .057
N193	-.3483	-.3849	-.3448	-.1974	.3995	-.3704	.8727
	P= .324	P= .272	P= .329	P= .585	P= .253	P= .292	P= .001

Table 20: Pearson Product-Moment Correlation Matrix Construction 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	.4962	.6212	.4815	-.1849	.4085	.5410	-.2906
	P= .145	P= .055	P= .159	P= .609	P= .241	P= .106	P= .415
EPS94	.3955	.5766	.3931	-.0395	.3530	.4466	-.3286
	P= .258	P= .081	P= .261	P= .914	P= .317	P= .196	P= .354
RO194	.4314	.4157	.4375	.3019	.6468	.1145	.2557
	P= .213	P= .232	P= .206	P= .397	P= .043	P= .753	P= .476
PBT94	-.3148	-.4131	-.2819	.3838	.2010	-.5256	.3407
	P= .376	P= .235	P= .430	P= .274	P= .578	P= .119	P= .335
N194	-.0095	-.0468	.0172	-.1540	.5034	-.3483	.7250
	P = .979	P= .898	P = .962	P= .671	P = .138	P= .324	P= .018

CONSUMER PRODUCTS

Table 21:Pearson Product-Moment Correlation Matrix Consumer Products 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROES5	-.8891	-.5963	-.8847	.1889	-.3524	-.8673	.0486
	P= .000	P= .000	P= .000	P= .317	P= .056	P= .000	P= .782
EPS85	-.4069	-.1751	-.4065	-. 1229	-.0779	-.3732	-.1180
	P= .017	I'= .322	P= .017	P= .525	P= .688	P= .030	P= .506
RO185	-.6776	-.6463	-.6813	.2497	-.2955	-.6423	.1407
	P= .000	P= .000	P= .000	P= .175	P= .107	P= .000	P= .413
PBT85	-.3863	-.3615	-.3924	.0882	-. 1550	-.3782	-.0808
	P= .020	P= .030	P= .018	P= .637	P= .405	P= .023	P= .639
NI85	-.4844	-.4644	-.4918	.1047	-.2489	-.4786	.0723
	P= .003	P= .004	P= .002	P= .575	P=,177	P= .003	P= .675

Table 22:Pearson Product-Moment Correlation Matrix Consumer Products 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	-.363 1	-.5548	-.3585	.2453	-.2112	-.3260	.0833
	P= .027	P= .OOO	P= .029	P= .162	P= .230	P= .049	P= .624
EPS86	-. 1593	.0462	-. 1787	-. 1864	.4939	-. 1795	-. 1021
	P= .346	P= .786	P= .290	P= .291	P= .003	P= .288	P= .548
RO186	-.2472	-.2672	-.2508	-. 1447	.0067	-.2365	-.0480
	P = .140	P= .110	P= .134	P= .414	P= .970	P= .159	P= .778
PBT86	-.3083	-.3780	-.3096	.0924	-. 1583	-.2742	-.0482
	P= .067	P= .023	P= .066	P= .609	P= .379	P= .106	P= .780
N186	-.3317	-.4035	-.3334	.1250	-. 1642	-.2898	-.0125
	P= .045	P= .013	P= .044	P= .481	P= .354	P= .082	P= .941

Table 23:Pearson Product-Moment Correlation Matrix Consumer Products 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDR87	FAR87
ROE87	.0569	.1030	.0565	-.2188	-.0773	.0421	-.0837
	P= .734	P= .538	P= .736	P= .221	P r . 6 6 9	P= .802	P= .617
EPS87	-.4312	-.0898	-.4453	-. 1238	.2698	-.4401	.0870
	P= .007	P= .592	P= .005	P= .493	P= .129	P= .006	P= .604
RO187	-.3010	-. 193 1	-.3144	.0373	-.0182	-.2904	.1159
	P= .066	P= .245	P= .055	P= .837	P= .920	P= .077	P . 4 8 8
PBT87	-.2546	.0915	-.3014	.0542	-.0978	-.2825	.0165
	P= .123	P= .585	P= .066	P= .764	P= .588	P= .086	P= .922
N187	-.2235	.1202	-.2750	.0839	-.1315	-.2526	.0144
	P= .177	I L . 4 7 2	P= .095	P= .643	P= .466	P= .126	P= .931

Table 24:Pearson Product-Moment Correlation Matrix Consumer Products 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-2015	-.3411	-.2018	.3278	-.1981	-.1922	.0015
	P= .219	P= .034	P= .218	P= .058	P= .261	P= .241	P= .993
EPS88	-.2943	-.3076	-.2927	.2410	-.0936	-.2707	-.0493
	P= .069	P= .057	P= .071	P= .170	P= .598	P= .096	P= .765
ROI88	-.505 1	-.6227	-.5093	.3249	-.3133	-.4817	.1732
	P= .001	P= .000	P= .001	P= .061	P= .071	P= .002	P= .292
PBT88	-.2406	-.3344	-.2341	-.0941	-.0966	-.2260	.1278
	P= .140	P= .037	P= .151	P= .597	P= .587	P= .166	P= .438
NI88	-.2903	-.3738	-.2870	.0004	-.1871	-.2677	.0913
	P= .073	P= .019	P= .076	P= .998	P= .289	P= .099	P= .580

Table 25:Pearson Product-Moment Correlation Matrix Consumer Products 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.0853	-.0167	.1134	.2666	-.3420	.1062	-.1306
	P= .616	P= .922	P= .504	P= .127	P= .051	P= .531	P= .441
EPS89	-.0468	-.0477	-.0109	.4227	-.1624	-.1049	-.1756
	P= .783	P= .779	P= .949	P= .013	P= .367	P= .537	P= .298
ROI89	.0723	-.2042	.1321	.5199	-.3537	.1175	.0969
	P= .671	P= .225	P= .436	P= .002	P= .043	P= .489	P= .568
PBT89	-.1446	-.1286	-.1086	-.1336	-.2583	-.1302	-.0295
	P= .393	P= .448	P= .522	P= .451	P= .147	P= .442	P= .863
NI89	-.1601	-.1410	-.1354	-.0777	-.2619	-.1583	-.0327
	P= .344	P= .405	P= .424	P= .662	I'= .141	P= .349	P= .848

Table 26:Pearson Product-Moment Correlation Matrix Consumer Products 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.0826	-.0970	-.0572	.1782	-.6817	-.0197	-.0177
	P= .622	P= .562	P= .733	P= .321	P= =.OOO	P= .907	P= .916
EPS90	-.1263	.1738	-.2126	.3426	.0433	-.1140	-.1996
	P= .450	P= .297	P= .200	P= .047	P= .808	P= .496	I'=.229
ROI90	.1412	-.6778	.05 1 4	.3875	-.2373	.1478	.0446
	P= .391	P= .000	P= .756	P= .024	P= .177	P= .369	P= .787
PBT90	-.1175	-.0598	-.1699	.1322	-.1394	-.1092	-.1590
	P= .476	P= .718	P= .301	P= .456	P= .432	P= .508	P= .334
NI90	-.1303	-.0891	-.1759	.1774	-.1827	-.1183	-.1576
	P= .429	P= .590	P= .284	P= .316	P= .301	P= .473	P= .338

Table 27:Pearson Product-Moment Correlation Matrix Consumer Products 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	-.7550	-.3598	-.7674	.2161	-.1542	-.7530	.0046
	P=.OOO	P= .029	P=.OOO	P= .212	P= .377	P=.OOO	P= .978
EPS91	-.3351	-.1888	-.3362	.1659	.2063	-.3302	-.1411
	P= .040	P= .256	P= .039	P= .334	P= .227	P= .043	P= .398
ROI91	-.5452	-.3582	-.5570	.3176	-.1063	-.5399	-.0541
	P= .OOO	P= .025	P= .OOO	P= .055	P= .531	P= .OOO	P= .744
PBT91	-.1320	-.0847	-.1346	.0756	-.0737	-.1279	-.0848
	P = .423	P= .608	P= .414	P= .657	P = .665	P= .438	P= .608
NI91	-.3122	-.1704	-.3183	.3143	.0279	-.3008	-.1611
	P= .053	P= .300	P= .048	P= .058	P= .870	P= .063	P= .327

Table 28:Pearson Product-Moment Correlation Matrix Consumer Products 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	-. 1741	-.4290	-. 1960	.1556	.1341	-. 1707	.0905
	P= .296	P= .007	P= .238	P= .372	P= .442	P= .306	P= .589
EPS92	-.0254	-. 1243	-.0336	-.0315	.3790	-.0309	-.0510
	P= .878	P= .451	P= .839	P= .855	P= .023	P= .852	P= .758
RO192	.0133	-.2092	.0041	.2417	.0380	.0155	-. 1000
	P= .936	P= .201	P= .980	P= .156	P= .826	P= .925	P= .545
PBT92	-.0850	-.2520	-.0883	.0843	.1278	-.0846	-.0226
	P= .607	P= .122	P= .593	P= .625	P= .458	P= .608	P= .891
N192	-.0385	-. 1104	-.0429	.2204	.0266	-.0377	-. 1346
	P= .816	P= .503	P= .795	P= .197	P= .878	P= .820	P= .414

Table 29:Pearson Product-Moment Correlation Matrix Consumer Products 1993

	DER93	DR93	FLR93	FCR93	FDR93	FAR93	CDR93
ROE93	-.2919	-.3001	-. 1970	.3734	.2097	-.0433	-.1130
	P= .075	P= .067	P= .236	P= .027	P= .227	P= .796	IS .499
EPS93	-.0968	-.2027	.0585	.2455	.3204	-. 1307	-.0961
	P= .558	P= .216	P= .724	P= .149	P= .057	P= .428	P= .561
RO193	-.0490	-.2338	-.0899	.0438	.1068	.1251	.0130
	P= .767	P= .152	P= .586	P= .800	P= .535	P= .448	P= .937
PBT93	-. 1033	-.2808	.2707	.3176	.2050	-. 1055	-. 1052
	P= .531	P= .083	P= .096	P= .059	P= .230	P= .523	P= .524
N193	-.0825	-.2912	.4076	.1688	.1778	-.0106	-.0496
	P= .618	P= .072	P= .010	P= .325	P= .300	P= .949	P= .764

Table 30:Pearson Product-Moment Correlation Matrix Consumer Products 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	.1289	.0320	.0924	.5437	.2306	.1437	-.2450
	P= .447	P= .851	P= .586	P=,001	P= .183	P= .396	P= .144
EPS94	.1661	-.0497	.1557	.2889	.1587	.1855	-.2241
	P= .333	P= .773	P= .365	P= .098	P= .370	P= .279	P= .189
RO194	-. 1104	-.2802	-. 1329	.5257	-.2034	-.0858	-.1141
	P=,509	P= .088	P=,426	P= .001	P= .241	P= .609	P= .495
PBT94	.0129	-.0731	.0107	.2182	.0069	.0283	-.1513
	P= .939	P= .663	P= .949	P= .208	P= .968	P= .866	P= .365
N194	-.0014	-.0906	-.0065	.2588	-.0095	.0158	-. 1695
	P= .993	P= .588	P= .969	P= .133	P= .957	P= .925	P= .309

FINANCE

Table 31: Pearson Product-Moment Correlation Matrix Finance 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROE85	-.0074	-.0271	-.0050	.0556	.1211	.3164	-.0183
	I?= .974	P= .905	P= .982	P= .838	I'= .655	P= .151	P= .937
EPS85	.1732	.1475	.1700	.0937	.3356	.0758	-.0850
	P= .465	P= .535	P= .474	P= .750	P= .241	P= .751	P= .729
ROI85	-. 1091	-.2380	-. 1079	-.0343	.0218	-.0699	.0666
	I'= .629	P= .286	P= .633	P= .900	I'= .936	P= .757	P= .774
PBT85	.2805	.3307	.2773	.0464	.2636	.3880	-. 1449
	I'= .206	P= .133	P= .212	P= .865	P= .324	P= .074	P= .517
NI85	.2112	.2378	.2078	-.0576	.1100	.3663	-. 1066
	P= .345	P= .286	P= .354	P= .832	P= .685	P= .094	P= .646

Table 32: Pearson Product-Moment Correlation Matrix Finance 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	.2358	.0933	.2381	.2759	.2254	.1161	.1010
	P= .257	P= .657	I' = . 2 5 2	P= .320	P= .419	P= .581	P= .639
EPS86	.1865	.1629	.1845	.5478	.4542	.0271	.0180
	P= .362	P= .427	P= .367	P= .028	P= .077	P= .895	P= .932
RO186	.2348	.1270	.2357	.1954	.1676	.0974	.0365
	P= .248	P= .536	P= .246	I' = . 4 6 8	P= .535	P= .636	P= .863
PBT86	.4458	.3506	.4435	.3721	.3590	.1506	-.0463
	P= .022	P= .079	P= .023	P= .156	P= .172	P= .463	P= .826
N186	.4095	.2750	.4082	.2808	.2583	.1513	-.0205
	P= .038	P= .174	P= .038	P= .292	P= .334	P= .461	P= .922

Table 33: Pearson Product-Moment Correlation Matrix Finance 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDRS7	FAR87
ROE87	.1411	-.0483	.1408	.3418	.1537	.0647	-.1751
	P= .501	P= .819	P= .502	P= .232	P= .600	P= .759	P= .413
EPS87	.1542	.1767	.1583	.2287	.2292	.1350	-. 1978
	P= .433	I' = . 3 6 8	P= .421	P= .377	P= .376	P= .493	P= .323
RO187	.0647	-. 1781	.0655	.2441	.0863	.0135	.0284
	I' = . 7 4 4	I' = . 3 6 5	P= .740	P= .345	P= .742	P= .946	P= .888
PBT87	.4377	.2845	.4399	.1380	.1654	.0106	-.0853
	P= .020	P= .142	P= .019	P= .597	P= .526	P= .957	pl.672
N187	.4177	.1704	.4179	.2220	.2115	.0985	-.0097
	P= .027	P= .386	P= .027	P= .392	P= .415	P= .618	P= .962

Table 34: Pearson Product-Moment Correlation Matrix Finance 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	.1199	-.3135	.1240	.2091	.2076	.0855	.0687
	P= .543	P= .104	P= .529	I'= .405	P= .409	P= .665	P= .734
EPS88	.0085	-.1987	.0150	.2993	.4854	-.0004	-.0702
	P= .966	P= .311	P= .940	P= .228	P= .041	P= .998	P= .728
ROI88	.1632	-.7159	.1639	.2321	.0968	.1516	.0554
	I'= .407	P= .000	P= .405	IL.354	I'= .702	P= .441	P= .784
PBT88	.5264	.1106	.5315	.1622	.3327	.1528	-.1058
	P= .004	P= .575	P= .004	P= .520	P= .177	P= .437	P= .600
NI88	.4694	-.2779	.4752	.2719	.3165	.2342	-.0533
	P= .012	P= .152	P= .011	P= .275	P= .201	P= .230	P= .792

Table 35: Pearson Product-Moment Correlation Matrix Finance 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.2735	-.0092	.2732	.3004	.2101	.1910	-.0528
	P= .159	P= .963	P= .159	P= .241	P= .418	P= .330	P= .790
EPS89	.3128	-.0569	.3131	.4105	.3505	.1984	-.2209
	P= .105	P= .774	P= .105	P= .102	P= .168	P= .312	P= .259
RO189	-.2116	.1757	-.2130	-.0346	-.1548	-.1588	.0407
	P= .280	P= .371	P= .277	P= .895	P= .553	P= .420	P= .837
PBT89	.6378	.2496	.6349	.0451	.1274	.2428	-.1620
	P= .000	P= .200	P= .000	P .8644	P= .626	P= .213	P= .410
N189	.6239	.3454	.6217	.0945	.1322	.2897	-.1766
	P= .OOO	I'= .072	P= .OOO	I'= .718	P= .613	P= .135	P= .369

Table 36: Pearson Product-Moment Correlation Matrix Finance 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.4023	-.1859	-.4025	.1639	.0933	-.4794	.0976
	P= .042	P= .363	P= .042	P= .544	P= .731	P= .013	P= .635
EPS90	.0340	.0233	.0390	.0943	.1296	-.2517	.0562
	P= .869	P= .910	P= .850	P= .728	P= .632	P= .215	P= .785
ROI90	-.1174	.0319	-.1148	.1926	.0324	-.1029	-.1178
	P= .568	I'=.877	P= .577	I'=.475	P= .905	P= .617	P= .566
PBT90	.3913	.3147	.3916	-.0879	-.0566	-.0487	.0836
	P= .048	P= .117	P= .048	P= .746	P= .835	P= .813	P= .685
NI90	.3939	.3829	.3948	-.0158	-.0203	-.0378	-.0153
	P= .047	P= .054	P= .046	P .954	P= .941	P= .855	P= .941

Table 37: Pearson Product-Moment Correlation Matrix Finance 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	-.8294	.9858	-.2948	-.0777	-.0820	-.3017	-.0577
	P= .OOO	P= .OOO	P= .153	P= .759	P= .746	P= .143	P= .784
EPS91	.8792	-.9154	.4604	-.0003	.1485	.4375	-.0836
	P=.OOO	P= .000	P= .024	P= .999	P= .569	P= .033	P= .698
RO191	.6954	-.9188	.1497	.0853	.0337	.1523	.3772
	P= .000	P= .000	P= .475	P= .736	P= .894	P= .467	P= .063
PBT91	.5058	-.2564	.5759	-.1144	-.0394	.5733	-.2380
	P= .010	P= .216	P= .003	P= .651	P= .877	P= .003	P= .252
N191	.6077	-.3780	.6120	-.1066	-.0234	.6146	-.2053
	P= .001	P= .062	P= .001	P= .674	P= .927	P= .001	P= .325

Table 38: Pearson Product-Moment Correlation Matrix Finance 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	.5277	-.0581	.5290	.1082	-.0474	.4941	-.0964
	P= .007	I' = .783	P= .007	I' = .679	P= .857	P= .012	P= .647
EPS92	.3937	.1555	.3955	.3173	.1669	.3827	-.1630
	P= .052	P= .458	P= .050	P= .215	P= .522	P= .059	P= .436
RO192	-.6022	-.7133	-.6047	-.2404	-.0971	-.5870	.4953
	P= .001	P = .ooo	P= .001	P= .353	P= .711	P= .002	P= .012
PBT92	.5789	.3092	.5787	-.0124	-.1070	.5864	-.2220
	P= .002	P= .133	I' = .002	I'= .962	P= .683	P= .002	P= .286
N192	.6229	.3211	.6237	.0609	-.1108	.6378	-.2363
	P= .001	P= .118	P= .001	P= .816	P= .672	P= .001	P= .255

Table 39: Pearson Product-Moment Correlation Matrix Finance 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	.5948	.0045	.5945	.1405	.0177	.5483	-.0759
	P= .002	I' = .983	P= .002	P= .591	P= .946	P= .005	P= .719
EPS93	.2830	.2200	.2818	.0611	-.0736	.2955	-.1233
	P= .170	P= .291	I'= .172	P= .816	I'= .779	I'= .152	P= .557
RO193	-.3930	-.8289	-.3942	-.3430	-.1913	-.3986	.1970
	I'= .052	I' = .000	P= .051	I'= .178	I'= .462	I'= .048	P= .345
PBT93	.5678	.3349	.5675	-.0403	-.1413	.5866	-.2267
	P= .003	P = .102	P= .003	I'= .878	P= .589	P= .002	P==.276
N193	.5713	.3201	.5710	-.0152	-.1415	.5920	-.2524
	P= .003	P= .119	P= .003	P= .954	P= .588	P= .002	P= .223

Table 40: Pearson Product-Moment Correlation Matrix Finance 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	.3743	.1789	.3745	.3057	.1229	.3822	-.3980
	P= .065	P= .392	P= .065	P= .217	P= .627	P= .059	P= .049
EPS94	.0841	.0336	.0832	.4834	-.0045	.0905	-.3646
	P= .689	I'= .873	P= .693	P= .042	P= .986	P= .667	P= .073
RO194	-.4939	-.7113	-.4930	.5204	-.2929	-.4905	.0460
	P= .012	P= .ooo	P= .012	P= .027	P= .238	P= .013	P= .827
PBT94	.3597	.3306	.3557	.0411	-.0941	.3704	-.2506
	P= .077	P= .106	P= .081	I'= .871	P= .710	P= .068	P= .227
N194	.3414	.3224	.3371	.0745	-.0993	.3519	-.2579
	P= .095	P= .116	P= .099	I'= .769	P= .695	P= .084	P= .213

INDUSTRIAL PRODUCTS

Table 41: Pearson Product-Moment Correlation Matrix Industrial Products 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROES5	-.3930	-.2529	-.3938	.0893	-.0877	-.3622	.0269
	P= .003	I'= .063	P= .003	P= .533	P= .541	P= .007	P= .847
EPS85	-2160	-.1181	-.2170	.0051	-.0168	-.1914	-.0271
	P= .110	P= .386	P= .108	P= .971	P= .906	P= .161	P= .844
ROI85	-.2519	-.2588	-.2516	-.0792	-. 1006	-.2447	.0924
	P= .061	P= .054	P= .061	P= .577	P= .478	P= .072	I'= .502
PBT85	-. 1192	-.0733	-.1163	-. 1230	-.0490	-.0918	.1494
	P= .381	P= .591	P= .394	P= .385	P= .730	P= .505	P= .276
N185	-. 1627	-. 1718	-. 1584	-.1316	-.0643	-. 1589	.0871
	P= .231	I'= .206	P= .244	P= .353	P= .651	I'= .247	P= .527

Table 42: Pearson Product-Moment Correlation Matrix Industrial Products 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROES6	-.9257	-.3060	-.9282	.1738	-.0924	-.9088	.0873
	P= .000	P= .023	P= .000	P= .232	I'=.528	P=.OOO	P= .526
EPS86	.0999	.1309	.0840	-.0931	.5675	.1355	-.0584
	P= .456	I'=.327	P= .531	P= .512	P=.OOO	P= .310	P= .663
RO186	.0951	-.8501	.0944	.6691	.0693	.1221	.0975
	P= .478	P= .000	P= .481	P=.000	P= .626	P= .361	P= .467
PBT86	-.3038	-. 1937	-.3259	.2797	-.0391	-.2925	.1166
	I'= .022	P= .149	P= ,013	I'= .047	P= .785	P= .027	P= .388
NI86	-. 1127	-.3521	-. 1216	.4100	.0551	-.1008	.0891
	P= .400	P= .007	P= .363	P= .003	P= .698	P= .452	P= .506

Table 43: Pearson Product-Moment Correlation Matrix Industrial Products 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDRS7	FAR87
ROES7	-. 1980	-.0246	-. 1979	.2601	.0851	-.2504	.0798
	P= .136	I'= .855	P= .136	P= .060	P= .544	P= .060	P= .555
EPS87	.0026	.0063	-.0092	-.0622	.3820	.0128	-.0687
	P= .985	P= .963	I' = . 9 4 6	P= .661	P= .005	P= .925	P= .615
RO187	.0422	-.9745	.0424	.1926	.1098	.0464	.1000
	I'= .753	P= .OOO	P= .752	P= .167	I'= .434	I'= .732	P= .459
PBT87	-. 1567	-.2068	-. 1561	.2450	.0279	-. 1608	.1181
	P= .240	I'= .119	I'= .242	P= .077	P= .843	P= .232	P= .382
N187	-.0483	-. 1645	-.0488	.0304	.0782	-.0547	.0193
	P= .719	P= .217	P= .716	P= .829	P= .578	P= .686	p Z . 8 8 7

Table 44: Pearson Product-Moment Correlation Matrix Industrial Products 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	2780	-.1102	.2764	.0801	.1412	.2606	.0198
	P=.035	P=.410	P=.036	P=.565	P=.308	P=.048	P=.883
EPS88	-.0164	-.0162	-.0258	.0336	.0774	-.0115	-.0734
	P=.905	P=.905	P=.850	P=.811	P=.582	P=.933	P=.591
ROI88	.0125	-.9719	.0119	.1443	.0639	.0064	.1192
	P=.926	P=.000	P=.929	I'=.2988	P=.646	P=.962	P=.373
PBT88	-.0449	-.1850	-.0406	-.1320	.1301	-.0478	.2433
	P=.738	P=.164	P=,7622	P=.341	I'=.349	P=.722	P=.066
N-I88	-.2208	-.1536	-.2168	-.1052	.1606	-.2310	.2615
	P=.096	P=.250	P=.102	P=.449	P=.246	P=.081	P=.047

Table 45: Pearson Product-Moment Correlation Matrix Industrial Products 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.3780	-.1524	.3776	-.3482	.2852	.3903	-.0557
	P=.003	P=.253	P=.003	P=.011	P=.040	P=.002	P=.678
EPS89	-.0420	-.0185	-.0766	.1488	.1446	-.0298	-.0735
	P=.754	P=.890	P=.567	P=.292	P=.306	P=.824	P=.584
RO189	-.0863	.9024	-.0885	-.2966	.0078	-.0801	-.0525
	P=.520	P=.OOO	P=.509	P=.033	P=.956	P=.550	I'=.696
PBT89	-.0330	-.1384	.0016	.4305	.1803	-.0261	-.0165
	P=.806	P=.300	P=.990	P=.001	P=.201	P=.846	P=.902
N189	-.0452	-.0211	-.0164	.3772	.2255	-.0444	-.0027
	P=.736	P=.875	P=.903	P=.006	I'=.108	P=.741	P=.984

Table 46: Pearson Product-Moment Correlation Matrix Industrial Products 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	.6571	-.1867	.6390	-.1863	.2713	.6300	-.0488
	P=,000	P=.168	P=.OOO	P=.191	I'=.054	I'=.OOO	P=.721
EPS90	.1932	-.1272	.1850	-.1543	.2050	.1844	-.0903
	P=.158	P=.350	P=.176	P=.280	P=.149	I'=.178	P=.508
ROI90	.4361	-.5147	.3413	-.0608	.1832	.4472	.0929
	P=.001	P=.OOO	P=.011	P=.672	P=.198	P=.001	P=.496
PBT90	.2295	.0219	.1601	-.0928	.1790	.2385	-.0678
	P=.092	P=.873	P=.243	P=.517	P=.209	P=.079	P=.620
NI90	.3714	.0319	.2723	-.0753	.2411	.3796	-.0365
	P=.005	P=.815	P=.044	P=.599	P=.088	P=.004	P=.789

Table 47: Pearson Product-Moment Correlation Matrix Industrial Products 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	.1198	-.1258	.0628	.1931	.1236	.1290	.0287
	P=.379	P=.356	P=.646	P=.175	P=.388	P=.343	P=.833
EPS91	.2395	-.2381	.1041	.2419	.1400	.2626	-.0697
	P=.075	P=.077	P=.445	P=.087	P=.327	P=.051	P=.610
RO191	.2725	-.6720	.1740	.3448	.0811	.2842	.1702
	P=.042	P=.000	P=.200	P=.013	P=.572	P=.034	P=.210
PBT91	.2288	-.1059	.0908	.1843	.1635	.2333	-.0347
	P=.090	P=.437	P=.506	P=.195	P=.252	P=.084	P=.799
N191	.2838	-.1575	.1275	.2706	.2322	.2770	.0127
	P=.034	P=.246	P=.349	P=.055	P=.101	P=.039	P=.926

Table 48: Pearson Product-Moment Correlation Matrix Industrial Products 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	.0128	-.2416	-.0022	.0284	-.0374	.oooo	-.0134
	P= .926	P= .076	I ' = . 9 8 8	P= .838	P= .788	P=1.000	P= .923
EPS92	.0008	-. 1 9 2 8	.0014	.0049	.0725	-.0047	-.0481
	P= .995	P= .159	P= .992	P= .972	P= .602	P= .973	P= .727
RO192	-. 1552	-.3089	-. 1742	.0927	-.0222	-. 1533	.2057
	P= .253	I ' = .021	P = .199	P= .501	P= .872	P= .259	P= .128
PBT92	.3417	-.0504	.3226	.2243	.1005	.3355	.0527
	P= .010	P = .712	P = .015	P= .100	P= .465	P= .011	P= .700
N192	.0190	-. 1 9 0 9	-.0436	.4581	.0062	.0312	.1686
	P= .889	P= .159	P= .750	P= .000	P= .964	P= .819	P= .214

Table 49: Pearson Product-Moment Correlation Matrix Industrial Products 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	-.9587	-. 1 7 6 3	-.9579	.2144	.0479	-.9638	.0907
	P= .000	P= .194	P = . O O O	P= .116	P= .728	P= .000	P= .506
EPS93	-.2537	-.2738	-.2530	.2093	.0189	-.2430	.0878
	I'= .059	I ' = .041	P= .060	P= .125	P= .891	P= .071	P= .520
RO193	-. 8842	-.2735	-. 8868	.3179	-.0062	-. 8760	.1049
	P= .000	I'= .041	I'= .OOO	P= .018	P= .964	P= .OOO	P= .442
PBT93	-.1377	-.1715	-. 1267	.1903	.0393	-. 1260	-.0054
	P= .311	P= .206	P= .352	P= .164	P= .776	P= .355	P= .968
N-I93	-. 1199	-. 1452	-. 1098	.1328	.0727	-.1108	-. 1066
	P= .379	P= .286	P= .421	P= .334	P= .598	P= .416	P= .434

Table 50: Pearson Product-Moment Correlation Matrix Industrial Products 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	-.4077	.1721	-.4808	.1735	.0770	-.4038	.0334
	P= .002	P= .209	P= . O O O	P= .205	P= .576	I'= .002	P= .809
EPS94	.0420	-.2252	.0285	.3395	.1579	.0490	-.0294
	P= .761	P= .098	P= .836	P= .011	P= .250	I'= .722	P= .831
RO194	.0694	-.5833	.0778	.3250	-.0972	.1135	.1427
	P= .615	P = . O O O	P= .572	P= .015	P= .480	P= .409	P= .229
PBT94	.1683	.0108	.1793	.1325	.3290	.1175	-.0089
	p L . 2 1 9	P= .938	P= .190	P= .335	P= .014	P = .393	P= .948
N194	.0877	-.1185	.1041	.1162	.2359	.0473	.0345
	P= .524	P= .389	P= .449	P= .398	P= .083	P= .732	I'= .803

MINING

Table 51: Pearson Product-Moment Correlation Matrix Mining 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROE85	.4613	.4210	.4607	.4308	-.4135	.5524	-.3124
	P= .180	P= .226	P= .180	P= .247	P= .269	P= .098	P= .380
EPS85	.3459	.3363	.3463	.3553	-.2650	.5416	-.2362
	P= .328	P= .342	P= .327	P= .348	P= .491	P= .106	P= .511
ROI85	.2214	.1576	.2203	.4808	-.7540	.2821	-.0784
	P= .539	P= .664	P= .541	P= .190	P= .019	P= .430	P= .830
PBT85	.0505	.1054	.0519	-.4747	.7504	.0955	-. 1663
	P= .890	P= .772	P= .887	P= .197	P= .020	P= .793	P= .646
N185	.1305	.0543	.1293	.4175	-.7952	.0832	.0509
	P= .719	P= .882	P= .722	I'= .263	P= .010	P= .819	P= .889

Table 52: Pearson Product-Moment Correlation Matrix Mining 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	-.0271	-.0577	-.0091	.1609	.0221	.0257	-.2799
	P= .941	P= .874	P= .980	P= .679	P= .955	P= .944	P= .433
EPS86	-.0543	-.0442	-.0532	.3677	-. 1817	.0264	-.5180
	P= .882	P= .903	I'= .884	P= .330	P= .640	P= .942	P= .125
RO186	-.2168	-.2764	-.2002	.3872	-.3778	-. 1717	-. 1718
	P= .547	P= .439	P= .579	P= .303	P= .316	P= .635	P= .635
PBT86	.0038	.0758	.0012	-.3340	.6904	.1706	-.3267
	I' = . 9 9 2	P= .835	P= .997	P= .380	P= .040	P= .638	P= .357
N186	-.0921	-.1831	-.0805	.4897	-.8828	-.2260	.0804
	P= .800	P= .613	P= .825	P= .181	P= .002	P= .530	P= .825

Table 53: Pearson Product-Moment Correlation Matrix Mining 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDR87	FAR87
ROES7	.0032	-.2093	.0041	.0972	.3841	.0215	.1972
	P= .993	I' = . 5 6 2	P= .991	P= .804	P= .307	P= .953	P= .585
EPS87	-.0639	-.1135	-.0682	.0535	.1301	-.0396	-.0975
	P= .861	P= .755	P= .852	P= .891	P= .739	P= .913	P= .789
RO187	-.0838	-.2493	-.0868	-.2818	.5001	-.0244	.0865
	P= .818	P= .487	P= .811	P= .463	P= .170	P= .947	P= .812
PBT87	-.1694	-.2857	-.1722	-.1327	.5864	-. 1400	.1324
	P= .640	P= .424	P= .634	P= .734	P= .097	P= .700	P= .715
N187	-. 1380	-. 1458	-. 1404	-.4226	.6477	-.1051	.0763
	P= .704	P= .688	I' = = . 6 9 9	P= .257	P= .059	P= .773	P= .834

Table 54: Pearson Product-Moment Correlation Matrix Mining 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-.4434	-.4473	-.3461	-.2718	.1302	-.2646	.0481
	P= .199	P= .195	P = .327	P= .479	P= .739	P= .460	P= .895
EPS88	-.3494	-.3655	-.1317	.0011	.1227	-. 1892	-. 1953
	P= .322	P= .299	P= .717	P= .998	P= .753	P= .601	P= .589
RO188	-.0421	-.0684	.0324	.1198	.2425	.0419	-.2102
	P= .908	P= .851	P= .929	P= .759	P= .530	P= .908	P= .560
PBT88	-.2975	-.2311	-.2789	-.3691	.7390	-.1148	.0379
	P= .404	P= .521	P= .435	P= .328	P = .023	P = .752	P= .917
N188	.0599	.0208	.1307	.4861	-.2631	-.0582	-.2502
	P= .869	P= .955	P= .719	P= .185	P= .494	P= .873	P= .486

Table 55: Pearson Product-Moment Correlation Matrix Mining 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	-.2038	-.1801	-. 1990	-.4617	.4132	-.1811	.1546
	P= .628	P= .670	P= .637	P= .297	P= .357	P= .668	P= .715
EPS89	-. 1669	-.09 13	-. 1465	.2362	.4205	-.0881	-.2432
	P= .668	P= .815	P= .707	P= .573	P= .300	P= .822	P= .528
RO189	-.4183	-.3746	-.4448	-.3637	.4145	-.3894	.2364
	P= .262	P= .321	P= .230	P= .376	P= .307	P= .300	P= .540
PBT89	-.33 19	-.2612	-.33 18	-.3822	.5678	-.2283	.1115
	P= .383	P = .497	P = .383	P= .350	P= .142	P= .555	P= .775
N189	-.3437	-.2840	-.3530	-.3894	.4801	-.2458	.1864
	P= .365	I ? = . 4 5 9	P= .351	P= .340	P= .229	P= .524	P= .631

Table 56: Pearson Product-Moment Correlation Matrix Mining 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.7945	-.6637	-.7702	.3009	.3298	-.9159	.4524
	P= .006	P= .036	P = .009	P= .431	P= .386	P=.OOO	P= .189
EPS90	-.8355	-. 8276	-.8475	.7649	.3548	-.8395	.4593
	P= .003	P = .003	P= .002	P= .016	P= .349	P= .002	P= .182
ROI90	-.8305	-.8002	-.8186	.7218	.3147	-.8585	.4082
	P= .003	P= .005	P= .004	P= .028	P= .409	P= .001	P= .242
PBT90	-.3527	-.2797	-.3335	-.0944	.8233	-.3322	.1768
	P= .317	P= .434	P= .346	P= .809	P= .006	P= .348	P= .625
NI90	-.4252	-.3667	-.4057	.1097	.8190	-.4118	.1778
	P= .221	P= .297	P= .245	P= .779	P = .007	P= .237	P= .623

Table 57: Pearson Product-Moment Correlation Matrix Mining 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	-.9032	-.7716	-.9008	.4853	.3508	-.9783	.3639
	P = .001	P = .015	P= .001	P= .223	P= .394	P= .000	P= .336
EPS91	-.3414	-.3367	-.3100	-.1376	.9240	-.3717	.9721
	P= .334	P= .341	P= .383	P= .724	P = . O O O	P= .290	P= .000
RO191	-.4482	-.3100	-.4174	.4932	.2545	-.4679	.2305
	P= .194	P= .383	P= .230	P= .177	P= .509	P= .173	P= .522
PBT91	-.3827	-.3701	-.3615	-.2615	.4488	-.3344	.2229
	P= .275	P= .293	P= .305	P= .497	P= .226	P= .345	P= .536
N191	-.2997	-.2907	-.2707	-.3125	.3847	-.2442	.1312
	P= .400	P= .415	P= .449	P= .413	P= .307	P= .496	P= .718

Table 58: Pearson Product-Moment Correlation Matrix Mining 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	-.8229	-.7095	-.8246	.5026	.2428	-. 8268	.3288
	P= .006	P= .032	P= .006	P= .204	P= .562	P= .006	P= .388
EPS92	-.3727	-.3875	-.3099	-.0642	.9039	-.4073	.9754
	P= .289	P= .269	P= .384	P= .870	P= .001	P= .243	P= .000
RO192	-. 1356	-. 1597	-. 1327	.4017	-.0895	.0010	.1783
	P= .709	P= .659	P= .715	P= .284	P= .819	P= .998	P= .622
PBT92	-.2256	-. 1604	-. 1847	-.2753	.3981	-. 1225	.0879
	P= .531	P= .658	P= .609	P= .473	P= .289	P= .736	P= .809
N192	.0229	.0304	.0646	-.4007	.2699	.2259	.0749
	P= .950	P= .934	P= .859	P= .285	P . 4 8 2	P= .530	P= .837

Table 59: Pearson Product-Moment Correlation Matrix Mining 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	-.9452	-.7292	-.9437	.3902	.2650	-.8869	.2845
	P = . O O O	P= .026	P= .000	P= .444	P= .612	P= .001	P= .458
EPS93	-.2803	-.3493	-.2638	-. 1567	.9451	-.3079	.9541
	P= .465	P= .357	P= .493	P= .737	P= .001	P= .420	P=.OOO
RO193	-.9352	-.8951	-.9378	.3551	.2273	-.9601	.2824
	P= .000	P = . O O O	P= .000	P= .434	I ' = . 6 2 4	P= .000	P= .429
PBT93	-.2536	-.2121	-.2458	-.2773	.3359	-.2597	.1462
	P= ,479	I'= .556	P= .494	P= .547	P= .461	P= .469	P= .687
N193	-.5567	-. 5 2 7 5	-.5541	-.1110	.2051	-.5936	.1163
	P= .095	I ' = .117	P= .096	P= .813	P= .659	P= .070	P= .749

Table 60: Pearson Product-Moment Correlation Matrix Mining 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	-.7740	.7366	-.7738	.0723	.4878	-.7721	-.2974
	P= .014	P= .024	P= .014	P= .892	P= .326	P= .015	P= .437
EPS94	.0830	-. 1027	.1158	-.3506	.9838	.0259	.1481
	I'= .832	P= .793	P= .767	P= .496	P=.ooo	P= .947	P= .704
RO194	.4815	-.8185	.4842	-.2958	.1192	.4795	.6702
	P= .189	P= .007	P= .187	P= .569	I'= .822	P= .192	P= .048
PBT94	.0112	-.2129	.0307	-.3361	.1161	.0041	.0642
	P= .977	P= .582	P= .937	P= .515	P= .827	P= .992	P= .870
N194	.0032	-.2147	.0158	-.2693	-. 1036	.0092	.0754
	P= .994	P= .579	P= .968	P= .606	P= .845	P= .981	P= .847

PLANTATION

Table 61: Pearson Product-Moment Correlation Matrix Plantation 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROE85	.6140	-.7650	.6121	-.0496	.3180	.6193	.0775
	P= .OOO	I'= .OOO	P=.OOO	P= .814	P= .121	P= .OOO	P= .658
EPS85	.4332	-. 8032	.5046	.6588	.0766	.4736	.5403
	P= .008	P = . O O O	P= .002	P= .000	P= .710	P= .004	P= .001
RO185	.3971	-.9101	.3716	.0935	-.0787	.4431	.1045
	P= .016	P=.OOO	P= .026	P= .649	P= .702	P= .007	P= .544
PBT85	.0947	-.0997	.1402	-. 1418	.0768	.0847	-.0880
	P= .583	P= .563	P= .415	P= .489	P= .709	P= .623	P= .610
N185	.0410	-.1217	.0474	-.1175	.0565	.0282	-.0710
	P= .813	P= .480	P= .783	P= .568	P= .784	I'= .870	P= .681

Table 62: Pearson Product-Moment Correlation Matrix Plantation 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	-.0154	-.7868	-.0169	.0728	-.5059	.0998	.2194
	P= .932	P= .000	P= .926	P= .741	P= .014	P= .581	P= .220
EPS86	.3153	-.8067	.3505	.1628	-.3809	.3986	.6487
	P= .065	P= .000	P= .039	P= .437	P= .060	P= .018	P= .000
RO186	.3670	-.9229	.3284	.0263	-.4874	.4590	.1358
	P= .028	P= .000	P= .051	P= .898	P= .012	P= .005	P= .430
PBT86	-.0990	-. 1781	-. 1457	.2114	-. 1232	-.0585	-.0088
	P= .566	P= .299	P= .397	P= .300	P= .549	P= .735	P= .959
N186	-.0593	-. 1377	-.0593	-.0078	-. 1902	-.0253	-.0521
	P= .731	P= .423	P= .731	P= .970	P= .352	P= .884	P= .763

Table 63: Pearson Product-Moment Correlation Matrix Plantation 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDR87	FAR87
ROE87	-.7280	-.0888	-.6814	.1030	-.2248	-.6837	.1987
	P = . O O O	P = .607	P= .000	P= .617	P= .270	P = .000	P= .245
EPS87	-.4391	.0190	-.3366	.1097	-.2271	-.4074	.5158
	P= .008	P= .914	P= .048	P= .594	P= .265	P= .015	P= .002
RO187	.4179	-.9691	.3565	.7731	-.3856	.5068	.1819
	P= .011	P = = . O O O	P= .033	P= .000	P= .052	P= .002	P= .288
PBT87	-.0508	-. 1908	-.0022	-. 1568	.1200	-.0645	.0089
	P= .769	I ' = . 2 6 5	P= .990	I ' = . 4 4 4	P= .559	P= .708	P= .959
N187	-. 1062	-.2672	-.0955	.0133	-.0047	-.0976	.0606
	P= .538	P= .115	P= .580	P= .948	P= .982	P= .571	P= .725

Table 64: Pearson Product-Moment Correlation Matrix Plantation 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-.7494	-.5974	-.7290	.3047	-.2231	-.7069	.0545
	P= .OOO	P= .OOO	P= .OOO	P= .130	I'= .273	P= .OOO	P= .752
EPS88	-.4066	-.4817	-.3412	.3793	-.2517	-.3749	.3371
	P= .014	P= .003	P= .042	P= .056	P= .215	P= .024	P= .044
RO188	-. 1085	.0109	-. 1459	.3102	-.3194	-.0189	-. 1172
	P= .523	P= .949	P= , 389	P= .123	P= .112	P= .912	P= .490
PBT88	-.0962	-.0482	-.0302	-. 1846	-.0007	-. 1100	-.0917
	P= .571	P= .777	P= .859	P= .367	P= .997	P= .517	P= .589
N188	-. 1664	-.0789	-. 1465	-. 1056	-. 1059	-.1519	-.0981
	P= .325	P= .643	P= .387	P= .608	P= .607	P= .369	P= .563

Table 65: Pearson Product-Moment Correlation Matrix Plantation 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	-.7733	-.7239	-.7534	.4055	-. 1247	-.6766	.1295
	P= .000	P= .000	P= .000	P= .032	P= .527	P = . O O O	P= .445
EPS89	-.4018	-.4633	-.3323	.5699	-. 1609	-.3517	.7262
	P= .015	P= .004	P= .048	P= .002	P= .423	P= .035	P=.OOO
RO189	-.7142	-.6802	-.7130	.4308	-.0701	-.5948	.1048
	P= .000	P= .000	P= .000	P= .022	P= .723	P= .000	P= .537
PBT89	-.2188	-. 1890	-. 1843	-.0975	-.2186	-. 1774	-.0031
	P= .193	P= .263	P= .275	P= .622	I'= .264	P= .294	P= .985
N189	-.2482	-.2105	-.2339	-.0561	-.1693	-.2050	-.0180
	P= .139	P= .211	P= .163	P= .777	P= .389	P= .224	P= .916

Table 66: Pearson Product-Moment Correlation Matrix Plantation 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.9245	-.6905	-.8822	.0946	-.0900	-.9336	.1833
	P= .000	P= .000	P= .000	P= .639	P= .655	P = . O O O	P= .315
EPS90	-.2785	-.3940	-.1908	-.0234	-.2915	-.2456	.8202
	P= .105	P= .019	P= .272	P= .904	P= .125	P= .155	P=.OOO
ROI90	-.4529	-.4695	-.5827	.8047	-.2562	-.4224	.1556
	P= .006	P= .004	P= .OOO	P= .000	P= .180	P= .011	P= .372
PBT90	-.2576	-.2654	-.2411	.0750	-.2438	-.2337	.1551
	P= .135	P= .123	P= .163	P= .699	P= .202	P= .177	P= .374
NI90	-.2065	-.2230	-.3748	.8854	-. 1464	-. 1914	.0961
	P= .234	P= .198	P= .027	P= .000	P= .449	P= .271	P= .583

Table 67: Pearson Product-Moment Correlation Matrix Plantation 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE9 1	.0639	-. 1384	.0696	.0925	.0012	.0479	.0697
	P= .716	P= .428	P= .691	P= .633	P= .995	P= .785	P= .691
EPS91	-. 1815	-.3811	-. 1487	.2001	-. 1950	-. 1810	.4941
	P= .304	P= .026	P= .401	P= .298	P= .311	P= .306	P= .003
RO191	-. 1807	-.2724	-. 1804	.2687	-.0822	-. 1895	.0456
	P= .299	P= .113	P= .300	P= .159	P= .672	P= .276	P= .795
PBT91	-.0976	-.0669	-.0827	-.1720	-.0003	-. 1059	.0275
	P= .577	P= .703	P= .637	P= .372	P= .999	P= .545	P= .875
NI91	-.1118	-.0199	-. 1096	-.0974	.2073	-. 1350	.0046
	P= .522	P= .909	P= .531	P= .615	P= .281	P= .439	P= .979

Table 68: Pearson Product-Moment Correlation Matrix Plantation 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	-.0263	-.0757	-.0210	-.0217	.0428	-.0399	.0431
	P= .879	P= .661	P= .903	P= .915	P= .832	P= .817	P= .803
EPS92	-.2186	-.2893	-.1030	-.1119	-.1108	-.1985	.8639
	P= .207	P= .092	P= .556	P= .586	P= .590	P= .253	P= .000
RO192	-.1290	-.2053	-.1559	.1180	-.1564	-.1227	-.0258
	P= .453	P= .230	P= .364	P= .558	P= .436	P= .476	P= .881
PBT92	-.1178	-.0649	-.0668	-.1370	-.0496	-.1385	-.0213
	P= .494	P= .707	P= .699	P= .496	P= .806	P= .421	P= .902
N192	-.0882	-.0925	-.0973	-.0130	-.1025	-.0894	-.0317
	P= .609	P= .592	P= .572	P= .949	P= .611	P= .604	P= .854

Table 69: Pearson Product-Moment Correlation Matrix Plantation 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	-.3637	-.3855	-.3427	.2286	.0676	-.4040	.1065
	P= .037	P= .027	P= .051	P= .261	P= .743	P= .020	P= .555
EPS93	-.3122	-.3715	-.1859	-.0175	-.0696	-.2952	.8459
	P= .068	P= .028	P= .285	P= .930	P= .725	P= .085	P= .000
RO193	-.2683	-.3230	-.2990	.7296	.0951	-.2575	-.0230
	P= .119	P= .058	P= .081	P=.000	P= .630	P= .135	P= .896
PBT93	-.1518	-.1258	-.0965	-.1523	-.0653	-.1809	.0103
	P= .384	P= .472	P= .581	P= .439	P= .741	P= .298	P= .953
N193	-.2410	-.2447	-.2507	.1189	-.0808	-.2497	.0197
	P= .163	P= .157	P= .146	P= .547	P= .683	P= .148	P= .911

Table 70: Pearson Product-Moment Correlation Matrix Plantation 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	-.0843	-.0684	-.0681	-.1030	-.1541	-.0568	-.0314
	P= .635	P= .701	P= .702	P= .609	P= .443	P= .750	P= .860
EPS94	-.2966	-.3444	-.1853	.9375	.7725	-.2390	.5566
	P= .089	P= ,046	P= .294	P=.000	P= .000	P= .173	P= .001
RO194	-.0867	-.1212	-.1051	-.0284	-.1416	-.0185	-.1374
	P= .621	P= .488	P= .548	P= .888	P= .481	P= .916	P= .431
PBT94	-.0695	-.0457	.0223	-.1524	-.1550	-.0980	-.0827
	P= .691	P= .795	P= .899	P= .448	P= .440	P= .575	P= .637
NI94	.0247	.0200	.0582	-.1411	-.1430	.0091	-.1483
	P= .888	P= .909	P= .740	P= .483	P= .477	P=.959	P= .395

PROPERTY

Table 71: Pearson Product-Moment Correlation Matrix Property 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROES5	-.3082	-.4109	-.3062	.0545	-.8156	-.2741	.0991
	P= .076	P= .016	P= .078	P= .767	P= .000	P= .117	P= .589
EPS85	-.3736	-.4278	-.3689	.1129	-.6088	-.3647	.1161
	P= .032	P= .013	P= .035	P= .539	P= .000	P= .037	P= .527
RO185	-.2256	-.3828	-.2259	.1695	-.4126	-.2034	.2266
	P= .193	P= .023	P= .192	P= .346	P= .017	P= .241	P= .205
PBT85	-.2106	-. 1409	-.2036	-. 1293	-.2742	-.2181	-.0601
	P= .225	P= .420	P= .241	P= ,473	P= .123	P= .208	P= .740
N185	-.2166	-.2767	-.2137	.0086	-.2419	-.2022	.0441
	P= .211	P= .108	P= .218	P= .962	P= .175	P==.244	P= .808

Table 72: Pearson Product-Moment Correlation Matrix Property 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	-.6673	-. 1776	-.6635	.1424	-. 1662	-.6437	.1491
	P= .000	P= .331	P= .000	P= .453	P= .380	P = . O O O	P= .416
EPS86	-.5670	-.3903	-.5544	.2647	-. 1873	-.5323	.1964
	P= .OOO	P= .019	P= .OOO	P= .130	P= .289	P= .001	P= .251
RO186	.1957	-.8767	.1992	.5340	.0612	.1789	.1883
	P= .246	P= .000	P= .237	P= .001	P= .727	P= .290	P= .264
PBT86	-.4474	-.3 125	-.4402	.0614	-.0278	-.4360	.1837
	P= .005	P= .060	P= .006	P= .726	P= .874	P= .007	P= .276
N186	-.3022	-.4978	-.2943	.2616	.0728	-.3132	.2200
	P = .069	P= .002	P= .077	P= .129	P= .678	P= .059	P= .191

Table 73: Pearson Product-Moment Correlation Matrix Property 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDR87	FAR87
ROE87	-.9699	-.2122	-.9697	.2326	.1661	-.9670	.1907
	P=.OOO	P= .236	P= .000	P= .208	P= .372	P=.OOO	P= .288
EPS87	-.2030	-.3914	-.2025	.5437	.1559	-. 1956	.2449
	P = .235	P = .018	P= .236	P= .001	P= .378	P= .253	P= .150
RO187	-.2622	-.3287	-.2624	.3203	.1792	-.2533	.2786
	P = .117	P= .047	P= .117	P= .061	P= .303	P= .130	P= .095
PBT87	-.0711	-.2283	-.0709	.1485	.2493	-.0616	.1508
	P= .676	P= .174	P= .677	P= .395	P= .149	P= .717	P= .373
N187	-.0902	-.2283	-.0912	.1913	.1698	-.0793	.2017
	P= .595	P== .174	P= .591	P= .271	P= .329	P= .641	P= .231

Table 74: Pearson Product-Moment Correlation Matrix Property 1989

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	.3138	-.2419	.3184	.1574	.1296	.3078	.2555
	P= .066	P = .161	P= .062	P= .382	P= .472	P= .072	P= .138
EPS88	.0295	-.6342	.0303	.9187	.0903	.0297	.1370
	P= .862	P= .000	P= .859	P= .000	P= .606	P= .862	P= .419
RO188	.0377	-.7427	.0379	.8564	.0766	.0376	.2057
	P= .825	P = . O O O	P= .824	P = . O O O	P= .662	P= .825	P= .222
PBT88	.2003	-.3494	.2034	.2096	.2119	.1997	.1639
	P= .235	P= .034	P= .227	P= .227	P= .222	I'= .236	P= .332
N188	.2560	-.3999	.2590	.3126	.1258	.2602	.2320
	P= .126	P= .014	P= .122	P= .067	P= .472	P= .120	P= .167

Table 75: Pearson Product-Moment Correlation Matrix Property 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.1359	-.2973	.1354	.2474	.1753	.1156	.2443
	P= .436	P= .083	P= .438	P= .172	I?= .337	P= .508	P= .157
EPS89	.0411	-.2183	.0417	.6121	-.1119	.0353	.1428
	P= .815	P= .208	P= .812	P= .000	P= .535	P= .840	P= .413
RO189	.0213	-.9781	.0217	.3867	-.2287	.0243	.1466
	P= .902	P = . O O O	P= .900	P= .026	P= .200	I ' = . 8 8 8	P= .394
PBT89	.0437	-.1221	.0445	.1256	.1710	.0288	.1622
	P= .800	P= .478	P= .797	P= .486	P= .341	P= .867	P= .344
N189	.1702	-.0987	.1713	.1168	-.0208	.1651	.1216
	P= .321	P= .567	P= .318	P= .517	P= .909	P= .336	P= .480

Table 76: Pearson Product-Moment Correlation Matrix Property 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	.4494	-.2554	.4582	.2324	.3022	.4024	.1917
	P= .009	P= .151	P= .007	P= .208	P= .099	P= .020	P= .285
EPS90	.1633	-.7280	.1796	.4535	.0792	.1198	.1264
	P= .349	P = . O O O	P = .302	P= .008	P= .661	P= .493	P= .469
ROI90	.4281	-.7875	.4348	.3058	-. 1185	.3841	.1995
	P= .009	P = . O O O	P= .008	P= .079	P= .504	P= .021	P= .243
PBT90	.1859	-.2749	.1834	.1210	.0801	.1521	-.0184
	P= .278	P = .105	P= .284	P= .495	P= .653	P= .376	P= .915
NI90	.3594	-.2713	.3606	.2005	.0538	.3231	.0651
	P= .031	P= .109	P = .031	P= .255	P= .763	P= .055	P= .706

Table 77: Pearson Product-Moment Correlation Matrix Property 1991

	DER91	DR91	FLR91	FCR91	FDR91	CDR91	FAR91
ROE91	-.9975	-.0700	-.9977	.0263	.2731	-.9983	.1501
	P= .OOO	P= .694	P= .OOO	P= .886	P= .130	P=.OOO	P= .397
EPS91	-.3536	-.3597	-.3527	-.0601	.1963	-.3549	.1838
	P= .047	P= .043	P= .048	P= .752	P= .299	P= .046	P= .314
RO191	-.1908	-.5779	-.1892	-.1228	.1843	-. 1924	.2963
	P= .280	P = . O O O	P= .284	P= .503	P= .313	P= .276	P= .089
PBT91	-.1323	-.2863	-.1286	-.0984	.0858	-.1316	.0115
	P= .449	P= .095	P= .462	P= .586	P= .635	P= .451	P= .948
N191	-.1147	-.2651	-.1113	-. 1225	.1133	-. 1142	.0027
	P= .518	P= .130	P= .531	P= .504	P= .537	P= .520	P= .988

Table 78: Pearson Product-Moment Correlation Matrix Property 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	.1048	-.2346	.1134	.0183	.0500	.0501	.1457
	I'= .543	P = .168	P= .510	P= .917	P= .775	P= .772	P= .396
EPS92	.2577	-.3113	.3138	.3080	.2032	.1582	.0891
	I'= .141	P= .073	P = .071	P= .081	P= .257	P= .371	I'= .616
RO192	.0935	-.3361	.0987	.0622	.1118	.0595	.1140
	P= .582	P= .042	P= .561	P= .719	P= .516	P= .726	P= .502
PBT92	.1448	-.2065	.1537	-.0455	-. 1092	.1532	-.0886
	P= .392	P= .220	P= .364	P= .792	P= .526	P= .365	P= .602
N192	.0768	-. 1795	.0815	-.0199	.1217	.0651	-.0430
	P= .651	P= .288	P= .631	P= .908	P= .480	P= .702	P= .801

Table 79: Pearson Product-Moment Correlation Matrix Property 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	.7687	-.6765	.7629	-.8450	.0802	.7112	.2373
	P= .OOO	P= .OOO	P= .OOO	P= .OOO	P= .637	P= .OOO	P= .157
EPS93	.0366	-. 1003	.0483	-.0782	-. 1507	.0228	-.0078
	P= .832	P= .561	P= .779	P= .650	P= .380	P= .895	P= .964
RO193	-.3068	-. 1339	-.3106	.2044	-. 1082	-.3491	.0936
	P= .065	P= .430	P= .061	P= .225	P= .524	P= .034	P= .582
PBT93	.0492	-.0969	.0528	-.0671	-.0622	.0277	-.0867
	P= .772	P= .568	P= .757	P= .693	P= .715	P= .871	P= .610
N193	-.0104	-.2055	-.0117	-.0484	-.0633	-.0440	-.0276
	P= .951	P= .222	P= .945	P= .776	P= .710	P= .796	P= .871

Table 80: Pearson Product-Moment Correlation Matrix Property 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	.7308	-.4980	.7250	-.1160	.0720	.7502	.0922
	P = .ooo	P= .002	P = .ooo	P= .500	P= .676	I'= .OOO	P= .587
EPS94	.0869	-. 1402	.1039	.0828	.1554	.0852	-.0265
	P= .614	P= .415	P= .546	P= .636	P= .373	P= .621	P= .878
RO194	-.0091	-.3197	-.0015	.0171	.0991	.0068	.1597
	P= .957	P= .054	P= .993	P= .921	P= .565	P= .968	P= .345
PBT94	.0653	-. 1704	.0738	-.1101	.0630	.0734	.0398
	P= .701	P= .313	P= .664	P= .523	P= .715	P= .666	P= .815
N194	.0141	-.2636	.0231	-. 1446	.0873	.0263	.1294
	P= .934	P= .115	P= .892	P= .400	P= .613	P= .877	P= .445

TRADING / SERVICES

Table 81: Pearson Product-Moment Correlation Matrix Trading / Services 1985

	DER85	DR85	FLR85	FCR85	FDR85	CDR85	FAR85
ROE85	-.7217	-.2928	-.7191	.3627	.2032	-.7638	.1598
	P= .ooo	P= .110	P= .ooo	P= .049	P= .282	P= .ooo	pl.391
EPS85	.3422	.3079	.3380	.3469	-.0439	.3400	-. 1745
	P= .051	P= .081	P= .054	P= .056	P= .814	P= .053	P= .331
ROI85	-.7032	-.3032	-.7029	.2533	.0955	-.7475	.1639
	P= ,000	P= .086	P= .ooo	P= .169	P= .609	P= .ooo	P= .362
PBT85	-. 1408	.0578	-. 1729	-.0738	.5011	-. 1875	.2145
	P= .435	P= .749	P= .336	P= .693	P= .004	P= .296	P= .231
N185	-.0536	.1244	-.0914	.0297	.5795	-. 1056	.2282
	P= .767	P= .490	P= ,613	P= .874	P= .001	P= .559	P= .201

Table 82: Pearson Product-Moment Correlation Matrix Trading / Services 1986

	DER86	DR86	FLR86	FCR86	FDR86	CDR86	FAR86
ROE86	.1894	-.0748	.2243	.0322	-.0824	.1488	.0189
	P= .248	P= .651	P= .170	P= .852	P= .633	P= .366	P= .909
EPS86	.0063	.1253	-.0127	-.0354	.0176	.0163	-.0953
	P= .970	P= .447	P= .939	P= .835	P= .918	P= .922	P= .564
RO186	.0033	-.0293	-.0304	.2023	.2365	-.0049	.0140
	P= .984	P = .856	P= .850	P= .223	P= .153	P= .976	P= .931
PBT86	.0835	-.0055	.0381	-.0546	.5208	-. 1834	.1564
	P= .608	P= .973	P= .816	P= .748	P= .001	P= .257	P= .335
N186	.1126	.0441	.0201	-.0205	.4903	-.1189	.1343
	I'= .483	P= .784	P= .901	P= .903	P= .002	P= .459	P= .403

Table 83: Pearson Product-Moment Correlation Matrix Trading / Services 1987

	DER87	DR87	FLR87	FCR87	FDR87	CDR87	FAR87
ROE87	-.5774	-.2625	-.5776	.0192	.5907	-.5547	.0644
	P= .000	P= .102	P= .OOO	P= .910	P= .OOO	P= .000	P= .693
EPS87	-.0709	-.0442	-.0658	-.0250	.7957	-.0588	-.0587
	I ' = . 6 7 2	P= .792	P= .695	P= .887	P= .000	P= .726	P= .726
RO187	-.3952	-.2801	-.3904	.1351	.1953	-.3828	.0220
	P= .011	P= .076	P= .012	P= .419	P= .240	P= .014	P= .892
PBT87	-. 1046	-.0834	-.0932	-.0508	.1797	-. 1879	.1924
	P= .515	P= .604	P= .562	P= .762	P= .280	P= .239	P= .228
N187	-.0709	-.0615	-.0624	-.0238	.0083	-. 1233	.0253
	I ' = . 6 5 9	P= .703	I ' = . 6 9 8	P= .887	P= .960	P= .443	P= .875

Table 84: Pearson Product-Moment Correlation Matrix Trading / Services 1988

	DER88	DR88	FLR88	FCR88	FDR88	CDR88	FAR88
ROE88	-.9673	-.3580	-.9674	.2126	.0976	-.9590	.0859
	P= .000	P= .023	P= .000	P= .213	P= .571	P = . O O O	P= .598
EPS88	-.0455	-.0399	-.0470	.0683	.4967	-.0421	-.0677
	P= .778	I ' = . 8 0 4	P= .770	P= .688	P= .002	P= .794	P= .674
RO188	-.2217	-.2462	-.2225	.2576	.2552	-.2289	.0151
	P= .164	P= .121	P= .162	P= .124	P= .127	P= .150	P= .925
PBT88	-.1066	-.1112	-. 1028	-. 1679	.2385	-. 1357	.1195
	P= .507	P = .489	P= .522	P = .321	P= .155	P= .398	P= .457
N188	-.0832	-.0090	-.0825	-. 1 4 6 0	.3353	-.1181	.1292
	P= .605	P= .955	P= .608	I ' = . 3 8 8	P= .042	P= .462	P= .421

Table 85: Pearson Product-Moment Correlation Matrix Trading / Services 1989

	DER89	DR89	FLR89	FCR89	FDR89	CDR89	FAR89
ROE89	.8543	.0367	.8517	-.0325	.1202	.8578	-.0387
	P= .000	pZ.822	P=.OOO	P= .849	P= .479	I?==.OOO	P= .812
EPS89	.0222	-.0712	.0209	.0778	.8934	.0286	-.0641
	P= .890	P= .658	P= .897	P= .643	P = . O O O	P= .859	P= .690
RO189	.2219	-.2712	.2055	.3817	.3250	.1993	.0920
	P= .163	P= .086	P= .197	P= .018	P= .047	p Z . 2 1 2	P= .567
PBT89	.0103	-.1162	.0230	.1419	.1675	-.033 1	.0418
	P= .949	P= .469	P= .887	P= .395	P= .315	P= .837	P= .795
N189	-.0099	-. 1100	-.0037	.1563	.1921	-.0564	.0767
	P= .951	P= .493	P= .982	P= .349	P= .248	P= .726	P= .634

Table 86: Pearson Product-Moment Correlation Matrix Trading / Services 1990

	DER90	DR90	FLR90	FCR90	FDR90	CDR90	FAR90
ROE90	-.0372	-. 1279	.0762	.4177	.4725	-.0307	-. 1220
	P= .820	P= .432	P= .640	P= .009	P= .003	P= .851	P= .453
EPS90	-.0863	-.0506	-. 1 0 3 4	-.0258	.9354	-. 1085	.0057
	P= .596	P= .756	P= .525	P= .878	P = . O O O	P= .505	P= .972
ROI90	-.0820	-.0599	-.0837	.0988	.3590	-.0994	.0121
	P= .610	P= .710	P= .603	P= .550	P= .025	P= .536	P= .940
PBT90	-.1466	-.1135	-. 1 0 2 2	-.0834	-.0565	-. 1857	.1246
	P= .360	P= .480	P= .525	P= .614	P= .733	P =	.245 P= .438
NI90	-.0801	-.0629	-.0454	-.1263	-.0376	-. 1 1 9 5	.1524
	P= .619	P= .696	P= .778	P= .444	P= .820	P= .457	P= .342

Table 87: Pearson Product-Moment Correlation Matrix Trading / Services 1991

	DER91	DR9 1	FLR91	FCR91	FDR91	CDR91	FAR91
ROE9 1	-.0047	.0347	-.0004	.1984	-.0053	.0459	-. 1965
	P= .978	P= .836	P= .998	P= .246	P= .976	P= .784	P= .237
EPS9 1	.0882	-. 1509	.1007	.1728	.0272	.0021	-.1019
	P= .599	P= .366	P= .547	P= .306	P= .873	P= .990	I ' = . 5 4 3
RO19 1	-.2326	-.3563	-.2185	.4874	.0361	-.3474	.1181
	P= .154	P= .026	P= .181	P= .002	P= .832	P= .030	P= .474
PBT9 1	-.0018	-.3095	.0229	-.0209	.0197	-. 1749	.1319
	P = .991	P = .055	P = .890	P= .902	P= .908	P= .287	I ' = .423
NI91	.0792	-.2473	.0997	-.0461	.1719	-.2257	.1939
	P= .632	P= .129	P= .546	P= .787	P= .309	P= .167	P= .237

Table 88: Pearson Product-Moment Correlation Matrix Trading / Services 1992

	DER92	DR92	FLR92	FCR92	FDR92	CDR92	FAR92
ROE92	.0098	-.0075	.0345	.2996	-.0479	.0360	-.2223
	P= .953	P= .964	P= .835	P= .072	P= .779	P= .828	P= .174
EPS92	-. 0493	-. 1574	-.0118	-.0325	.0241	-.0288	-. 1429
	P= .762	P= .332	P= .942	P= .847	P= .886	P= .860	P= .379
RO192	-.3440	-.4642	-.3374	.3994	-. 1483	-.3603	.0272
	P= .030	P= .003	P= .033	P= .013	P= .374	P= .022	P= .868
PBT92	.3147	.1149	.3496	-. 1337	.0319	.4190	-.0685
	P= .048	P= .480	P= .027	IS .423	P= .849	P= .007	P= .674
NI92	-. 1788	-.2737	-.1602	-.0845	-.0174	-.1745	.1001
	P= .270	P =	.087	P= .324	P= .614	P= .918	P= .282	P= .539

Table 89: Pearson Product-Moment Correlation Matrix Trading / Services 1993

	DER93	DR93	FLR93	FCR93	FDR93	CDR93	FAR93
ROE93	-.0874	-.0776	-.0952	.5545	-.1146	.0179	-.2946
	P= .587	P =	.630	P = .554	P=.OOO	P= .481	P= .912	P= .061
EPS93	-.0338	-. 1454	-.0120	.2706	-.0541	.0814	-.2054
	P= .834	P=	.364	P= .941	P= .091	P= .740	P= .613	P= .198
RO193	-.2654	-.2834	-.2445	.7952	-. 1767	-. 1897	-. 1767
	P= .094	P= .073	P= .123	P=.OOO	P= .275	P= .235	P= .269
PBT93	-. 1185	-.2737	-.0943	.0221	-.0126	-.0583	.0530
	P= .460	P= .083	P= .558	P= .892	P= .938	P= .717	P= .742
NI93	-. 1096	-.2848	-.0965	.1382	-.0001	-.0493	.0562
	P= .495	P=	.071	P= .548	P= .395	P= .999	P= .759	P= .727

Table 90: Pearson Product-Moment Correlation Matrix Trading / Services 1994

	DER94	DR94	FLR94	FCR94	FDR94	CDR94	FAR94
ROE94	-.0870	-.0984	-.0921	.2084	-.0136	-.0474	-. 1407
	P= .598	P= .551	P= .577	P= .209	P= .935	P= .774	P= .393
EPS94	.0822	-.0811	.1104	.1490	-. 1547	.2736	-.2014
	P= .614	P= .619	P= .498	P= .365	P= .347	P= .088	P= .213
RO194	-.4547	-.4985	-.4666	.4448	-.2513	-.3937	.0623
	P= .003	P= .001	P= .002	P= .005	P= .123	P= .012	P= .703
PBT94	-. 1256	-.2295	-.0960	-.0534	-.0462	-.0515	-.0354
	P= .440	P= .154	P= .556	P= .747	P= .780	P= .752	P= .828
N194	-. 1893	-.3011	-. 1658	-.0554	-.0503	-. 1259	.0512
	P= .242	P= .059	P= .306	P= .738	P= .761	P= .439	P= .754