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

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BY

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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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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).

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BIBLIOGRAPHY

Ahmad Farid bin Abdul **Rahman. (1980). "Relationship between Profitability and Capital Budgeting: The Case of Malaysian Firms in the Manufacturing Sector".** Ph.D. (Managerial Economics) Thesis submitted to the Graduate Faculty of Rensselaer Polytechnic Institute, Troy, New York.

Barges, Alexander. (1962). **"The Effect of Capital Structure on The Cost of Capital: A Test and Evaluation of the Modigliani and Miller Propositions".** Ph.D. (Finance) Thesis submitted to the Graduate School of Northwestern University.

Bamea, A., R Haugen, and L. Senbet. (1981). 'Market Imperfection, Agency Problems, and Capital Structure: A Review". **Financial Management.** September. **Pp.7-22**.

Baskin, Jonathan **Barron**. (1985). **"On the Financial Policy of Large Mature Corporations ".** Ph.D. (Economics) Thesis submitted to the Department of Economics, Harvard University.

Bowen, Robert M., Lane A. Daley, and Charles C. Huber, Jr. (1982). 'Evidence on the Existence and Determinants of Inter-Industry **Differences** in Leverage". **Financial Management.** Vol. 11. Pp. 10-20.

Bradley, M., G. Jarrell and E. Kim. (1984). "On the Existence of an Optimal Capital Structure: **Theory** and Evidence". **Journal of Finance.** Vol. 39 (July). **Pp.857-**878.

Canda, Francis Edward. (1991). **"The Influence of Specified Determinants of Corporate Capital Structure".** Ph.D. Thesis submitted to the Graduate School of the Ohio State University.

Chudson, Walter Alexander. (1945). **"The Pattern of Corporate Financial Structure: A Cross-Section View of Manufacturing, Mining, Trade, and Construction, 1937".** Ph.D. Thesis submitted to the Faculty of Political Science, Columbia University.

Davis, Duane and Robert M. Cosenza. (1993). **"Business Research for Decision Making".** 3rd Edition. Wadsworth: California.

El-Khouri, Ritab Salem. (1989). **"Time-Series Cross-Sectional Tests of the Determinants of Capital Structure".** Ph.D (Business) Thesis submitted to the Graduate School of the University of Wisconsin-Madison.

Fama, Eugene F. and Merton H. Miller. (1972). **"The Theory of Finance".** Holt, Rinehart and Winston: New York.

Friend, Irwin and Larry Lang. (1988). "An Empirical Test of the Impact of Managerial Self-Interest on Corporate Capital Structure". **Journal of Finance.** Vol. 43 (June). Pp.271-281.

Gallinger, George W. and Jerry B. Poe. (1995). **"Essentials of Finance: An Integrated Approach".** Prentice-Hall: New Jersey.

Harris, Milton and Artur Raviv. (1985). "A Sequential Signalling Model of Convertible Debt Call Policy". **Journal of Finance.** Vol. 40. Pp. 1263-1281.

Jensen, M.C. and W.H. Meckling. (1976). 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure". **Journal of Financial Economics.** Vol. 3, No. 4 (October). Pp.305-360.

Kamma, Sreenivas. (1986). **"Capital Structure and Compensation: Theory and Evidence".** Ph.D. (Business Administration) Thesis submitted to the University at Buffalo, State University of New York.

Kester, C. (1986). "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Corporations". **Financial Management.** Vol. 15 (Spring). Pp.5-16.

Lamothe, Richard S. (1982). **"Bankruptcy, Precautionary Liquidity, and the Capital Structure of the Firm".** Ph.D. Thesis submitted to the College of Business Administration of Georgia State University.

Long, M. and I. Malitz. (1985) "Investment Patterns and Financial Leverage". in B. Friedman (editor). **"Corporate Capital Structure in the United States".** University of Chicago Press: Chicago. Pp.325-351.

Masulis, Ronald W. **(1988). 'The Debt/Equity Choice".** Ballinger: Massachusetts.

Miller, Merton H. (1988). 'The Modigliani-Miller Propositions after Thirty Years". in Robert W. Kolb (editor). (1995). ***The Corporate Finance Reader.*** **2nd**. Edition. Blackwell: Massachusetts.

Modigliani, Franco and Merton H. Miller. (1958). 'The Cost of Capital, Corporation Finance and the Theory of Investment". **The American Economic Review.** Vol. 48, pp.26 l-297.

Mohamad Khan Jamal. (1994). **"The Effect of Capital Structure on Firm's Profitability: A Case of Listed Malaysian Industrial Firms".** M.Sc.(Management) Thesis submitted to the Graduate School of Universiti Utara Malaysia.

Myers, Stewart C. (1995). "Still Searching for Optimal Capital Structure". in Robert W. Kolb (editor). **"The Corporate Finance Reader". 2nd** Edition. Blackwell: Massachusetts.

Myers, Stewart C. and N.S. **Majluf**. (1984). "Corporate **Financing and** Investment Decisions When **Frms** Have Information That Investors Do Not Have". **Journal of Financial Economics.** Vol. 13, No. 2 (June). Pp. 187-221.

Nassir, Md. **Annuar** and **Shamsher** Mohamad (1993). "An Empirical Study of the Capital Structure of Malaysian Listed Firms". **Capital Market Review.** Vol. 1, No. 1, pp.96-108.

Petty, J. William, Arthur J. Keown, David F. Scott, Jr., and John D. Martin. (1993). **"Basic Financial Management". 6th**. Edition. Prentice **Hall**: New Jersey.

Ross, S. (1977). 'The Determination of Financial Structure: The Incentive Signalling Approach". **Bell Journal of Economics.** Spring. Pp.23-40.

Rushami Zien **Yusoff. (1992). "Marketing Orientation in Service Organisation".** Ph.D. Thesis submitted to the University of Bradford.

Schlosser, **Michel**. (1992). **"Corporate Finance - A Model-Building Approach".** 2nd. Edition. Prentice **Hall**: London.

Siegel, Joel **G.,** Jae **K. Shim,** and Stephen W. **Hartman. (1992). "The McGraw-Hill Pocket Guide to Business Finance: 201 Decision-Making Tools for Managers". McGraw-Hill**: New York.

Stulz, Rene M. and Herb Johnson. (1985). "An Analysis of Secured Debt". **Journal of Financial Economics.** Vol. 14. Pp.501-521.

Titman, S. and R Wessels. (1988). 'The Determinants of Capital Structure Choice". **Journal of Finance.** Vol. 43 (March). Pp. 1-19.

Van Home, James C. and John M. Wachowicz, Jr. (1995). **"Fundamentals of Financial Management".** **9th**. Edition. Prentice Hall: New Jersey.

Zikmund, William **G. (1994). "Business Research Methods". 4th** Edition. Dryden Press: Philadelphia.