

**CORPORATE PROFITABILITY: SOME EVIDENCES OF
MALAYSIAN LISTED FIRMS**

Master Project submitted to the Graduate School of Universiti Utara

Malaysia in fulfillment of the requirement

for the degree of

Master of Business Administration

BY

Tan Guat Poi

August 1999

© TAN GU AT POI, 1999. All rights reserved.



**Sekolah Siswazah
(Graduate School)
Universiti Utara Malaysia**

**PERAKUAN KERJA KERTAS PROJEK
(Certification of Project Paper)**

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certify that)

TAN GUAT POI

calon untuk Ijazah
(candidate for the degree of) Master of Business Administration (MBA)

telah mengemukakan kertas projek yang bertajuk
(has presented his/her project paper of the following title)

CORPORATE PROFITABILITY: SOME EVIDENCES OF MALAYSIAN

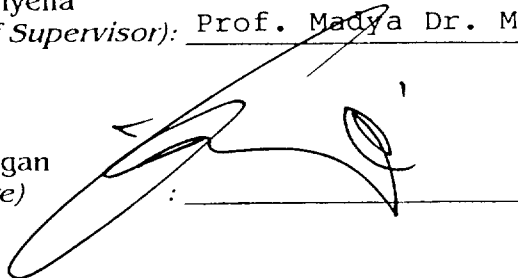
LISTED FIRMS.

seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project paper)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan,
dan meliputi bidang ilmu dengan memuaskan.
*(that the project paper acceptable in form and content, and that a satisfactory
knowledge of the field is covered by the project paper).*

Nama Penyelia
(Name of Supervisor): Prof. Madya Dr. Mohamad Hanapi Mohamad

Tandatangan
(Signature)



Tarikh
(Date)

1 Ogos 99.

PERMISSION TO USE

In presenting this thesis in fulfillment of the requirements for a Post Graduate degree from the Universiti Utara Malaysia, I agree that the Libraries of this University may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in part, for scholarly purposes may be granted by the Lecturer or the Lecturers who supervised my thesis work or, in their absence, by the Dean of the Graduate school which my thesis was done. It is understood that any copying or publication or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to the Universiti Utara Malaysia in any scholarly use which may be made of any material in my thesis.

Request for permission to copy or to make other use of material in this thesis in whole or in part should be addressed to:

Dean of Graduate School

Universiti Utara Malaysia

06010 Sintok

Kedah Darul Aman

ABSTRAK

Apabila Amerika Syarikat bersaing dengan Jepun dalam pasaran terbuka, Jepun mempunyai kelebihan dalam kos modal. Kos modal yang rendah diperolehi melalui pembiayaan secara pinjaman. Tetapi, pinjaman membawa kepada 'kerapuhan' dalam kewangan. Pengaruh pinjaman terhadap untung memimpin banyak pengkaji membuat kajian terhadap hubungan mereka. Mereka sebulat suara menyarankan wujud hubungan negatif antara pinjaman dan keuntungan syarikat. Ini adalah kerana apabila syarikat menambahkan penggunaan pinjaman, risiko tidak dapat membayar balik pinjaman menyebabkan faedah atas pinjaman meningkat yang akan mengurangkan untung.

Model lepas hanya menerangkan leveraj dengan untung. Mereka gagal untuk mengambilkira nisbah kecairan dan aktiviti sebagai faktor mempengaruhi untung. Oleh sebab itu, kajian ini bertujuan untuk mengkaji pengaruh leveraj, kecairan dan aktiviti ke atas keuntungan syarikat. Kajian ini membuat kesimpulan bahawa leveraj, kecairan dan aktiviti syarikat merupakan fungsi kepada keuntungan. Kami juga mencadangkan 56-65% merupakan leveraj optima. Purata, nilai maksimum, minimum dan sisihan piawai untuk pulangan atas aet, nisbah pinjaman, bilangan bunga diperolehi, nisbah semasa, nisbah cair, pusing ganti inventori, purata kutipan masa, pusing ganti aset tetap, pusing ganti jumlah aset dan untung sesaham dianalisa untuk melihat prestasi sektor industri di Malaysia.

Kajian ini menunjukkan bahawa leveraj untuk sektor industri semakin meningkat dari tahun 1993 ke 1998, kadar kecairan adalah sederhana dan aktiviti syarikat menunjukkan prestasi lemah.

Pakej yang digunakan dalam kajian ini adalah Statistical Package for Social Sciences dan kaedah yang digunakan adalah regresi berganda, korelasi Pearson dan statistik deskriptif. Sampel diperolehi daripada syarikat-syarikat industri yang disenaraikan di papan utama Bursa Saham Kuala Lumpur. Sebanyak 320 sampel diperolehi untuk tahun 1993 hingga 1998.

ABSTRACT

When United States and Japan compete head to head in the open market, the latter have a clear advantage in terms of cost of capital. The low cost of capital is obtained from debt financing. However, debt led to financial fragility. The influence of debt on profit leads a lot of researchers to do research on it. They consistently show that debt and profitability have negative relationship. The reason for the negative relationship is that as a firm increases its debt usage, the risk of not meeting debt payments leads to higher rates of interest, which will reduce the profit.

The previous model only explains leverage and profitability. They failed to include liquidity and activity ratio as factors influencing profit. Therefore, in this study, we investigate the influence of leverage, liquidity and activity. We conclude that profitability is a function of leverage, liquidity and activity. We also proposed that 56-65% of leverage is the best optimal leverage. The mean, maximum, minimum and standard deviation of return on assets (ROT), debt ratio (DR), times interest earned (TIE), current ratio (CR), quick ratio (QR), inventory turnover (INVTO), average collection period (ACP), fixed assets turnover (FATO), total assets turnover (TATO) and earnings per share (EPS) are also determined in order to see the performance of industrial companies in Malaysia.

This study shows that leverage in industrial companies in Malaysia has an upward trend, liquidity is moderate but the activity performance of the cost of capital is poor. The package used in this study is Statistical Package of Social Sciences and the

methods used are multiple regression, Pearson correlation and descriptive **statistics**.

The samples are collected from industrial companies listed on the KLSE main board.

A **total** of 320 samples are collected ranking from year 1993 to 1998.

ACKNOWLEDGEMENT

I wish to acknowledge the supervision, expertise, direction and encouragement, from the inception of the project to the final stages, provided by my dissertation supervisor, Dr. Mohamad Hanapi Mohamad. Without Dr. Hanapi's patience, extremely fast turnaround with the various drafts and willingness to devote limitless amounts of time for discussions, completion of the dissertation would have been an extreme reality. I am also grateful to Dr. Hanapi for suggesting this topic as a viable dissertation project. I owe a special thanks to him.

I extend my special thanks and appreciation to all my lecturers who have cherished their knowledge, efforts and dedication relentlessly. I am also indebted to the staff of Graduate School, the library staffs and Kak Nadzipah Salleh for being so considerate, friendly and helpful.

I am indebted to my mother, sisters and brother for giving me support and freedom to complete my dissertation as well as my master programme. Not forgetting are my room mate, course mates and close friends who have helped me sincerely and had brought joy and new light upon my life in UUM.

Last but not least, I wish to extend my appreciation and thanks to all those who have helped, in any way, in the preparation of this dissertation.

To my mother, sisters and brother

TABLE OF CONTENTS

	Page
PERMISSION TO USE	i
ABSTRACT (BAHASA MALAYSIA)	ii & iii
ABSTRACT (ENGLISH)	iv & v
ACKNOWLEDGEMENTS	vi
DEDICATION	vii
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	x
CHAPTER 1: ORGANISATION OF THE STUDY	
1.1 Introduction	1
1.2 Statement of the problem	7
1.3 The goals and objectives of the study	
1.3.1 Goals	8
1.3.2 Objectives	8
1.4 Significance of the study	10
1.5 Scope of the study	11
1.6 Organisation of the report	11
CHAPTER 2: LITERATURE REVIEW	
2.1 Introduction	13
2.2 General literature	
2.2.1 Leverage and profitability	13
2.2.2 Liquidity and profitability	22
2.2.3 Activity performance and profitability	27
2.2.4 Optimal capital structure	27
2.3 Literature and theory	29
2.4 Conclusion	30

CHAPTER 3: CAPITAL STRUCTURE THEORY

3.1	Introduction	31
3.2	Modigliani and Miller (MM) Proposition I	31
3.3	Net Operating Income (NOI) Approach	33
3.4	Net Income (NI) Approach	34
3.5	Modigliani and Miller (MM) Proposition II	35
3.6	Pecking Order Theory	36
3.7	The Static Trade-off Theory	38
3.8	Working Capital Management	39
3.9	Main variables and discussion on theories	41
3.10	Conclusion	44

CHAPTER 4: METHODOLOGY AND MODEL OF ANALYSIS

4.1	Introduction	46
4.2	Research methodology	47
4.3a	Descriptive statistics	48
4.3b	Inferential statistics: Research Hypothesis One	48
4.3c	Inferential statistics: Research Hypothesis Two	50
4.4	Definition of dependent and independent variables	
4.4.1	Leverage	50
4.4.2	Liquidity	51
4.4.3	Activity	51
4.4.4	Profitability	51
4.5	Data	52
4.6	Measurement used for variables	
4.6.1	Return On Assets	52
4.6.2	Debt Ratio	53
4.6.3	Times Interest Earned	53
4.6.4	Current Ratio	53
4.6.5	Quick Ratio	54

4.6.6	Inventory Turnover	55
4.6.7	Average Collection Period	55
4.6.8	Fixed Assets Turnover	55
4.6.9	Total Assets Turnover	55
4.6.10	Earnings Per Share	56
4.7	Procedure and analysis of data	56
4.8	Assumptions of the study	57
4.9	Limitations of the study	58
4.10	Conclusion	58
CHAPTER 5: FINDINGS		
5.1	Introduction	60
5.2	Descriptive findings	60
5.3	Inferential findings	71
5.4	Conclusion	81
CHAPTER 6: CONCLUSION AND RECOMMENDATIONS		
6.1	Introduction	83
6.2	Descriptive statistics	83
6.3	Inferential statistics	87
6.4	Conclusion for descriptive and inferential statistics	90
6.5	Recommendations	93
6.6	Summary	94
BIBLIOGRAPHY		96
APPENDIX		
A:	Complete listing of firms in the population	101

LIST OF TABLES

Table 1.1	Comparison between United States and Japan
Table 1.2	Debt-equity ratio of non-financial sector in selected Asian economics:1992-96
Table 4.1	Leverage group
Table 4.2	Classification of companies based on debt ratio
Table 5.1	Descriptive statistics for DR for the year 1993-1998
Table 5.2	Descriptive statistics for ROI for the year 1993-1998
Table 5.3	Descriptive statistics for EPS for the year 1993-1998
Table 5.4	Descriptive statistics for CR for the year 1993-1998
Table 5.5	Descriptive statistics for QR for the year 1993-1998
Table 5.6	Descriptive statistics for INVTO for the year 1993-1998
Table 5.7	Descriptive statistics for ACP for the year 1993-1998
Table 5.8	Descriptive statistics for FATO for the year 1993-1998
Table 5.9	Descriptive statistics for TATO for the year 1993-1998
Table 5.10	Descriptive statistics for TIE for the year 1993-1998
Table 5.11	Leverage 35% and below
Table 5.12	Leverage 36-45%
Table 5.13	Leverage 46-55%
Table 5.14	Leverage 46-55%
Table 5.15	Leverage 66% and above
Table 6.1	Pearson correlation for DR, CR, TATO for leverage 56-65%

LIST OF FIGURES

- Figure 3.1 The Static Trade-off Theory of Capital Structure
- Figure 5.1 Mean of debt ratio
- Figure 5.2 Mean of Return On Assets
- Figure 5.3 Mean of Earnings Per Share
- Figure 5.4 Mean of Current Ratio
- Figure 5.5 Mean of Quick Ratio
- Figure 5.6 Mean of Inventory Turnover
- Figure 5.7 Mean of Average Collection Period
- Figure 5.8 Mean of Fixed Assets Turnover
- Figure 5.9 Mean of Total Assets Turnover
- Figure 5.10 Mean of Times Interest Earned

LIST OF ABBREVIATIONS

KLSE	Kuala Lumpur Stock Exchange
MM	Modigliani and Miller
NOI	Net Operating Income
NI	Net Income
ROI	Return on assets
DR	Debt ratio
TIE	Times interest earned
CR	Current ratio
QR	Quick ratio
INVTO	Inventory turnover
ACP	Average collection period
FATO	Fixed assets turnover
TATO	Total assets turnover
EPS	Earnings per share

CHAPTER 1: ORGANISATION OF THE STUDY

1.1 Introduction

This chapter will briefly describe the capital structure, liquidity and activity performance. It also includes statement of problem, goal, objective, significance and scope of the study. The organisation of this study will also be explained.

Can the firm affect its composite cost of capital by altering its financing mix? Attempts to answer this question have comprised a significant portion of capital structure theory for over three decades. Extreme positions show that the firm's stock price is either unaffected or continually affected as the firm increases its reliance on leverage-inducing funds. In the real world, an operating environment where interest expense is tax deductible and market imperfections operate to restrict the amount of fixed-income obligations a firm can issue, most financial officers and financial academics subscribe to the concept of an optimal capital structure. The optimal capital structure minimizes the firm's composite cost of capital. Searching for a proper range of financial leverage, then, is an important financial management activity. (Petty, Keown, Scott, Martin, 1996)

Capital structure is the mix of the 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.

The contents of
the thesis is for
internal user
only

BIBLIOGRAPHY

Ahmad Farid b. Abdul Rahman. (1990). *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.

Alderson, Michael J. and Betker, Brian L. (1995). Liquidation costs and capital structure. *Journal of Financial Economics*, 39, 45-69.

Ang, James S., Chua, Jess H. and Meconell, John J. (1982). The administrative costs of corporate bankruptcy: A note. *Journal of Finance*, 37, 1, March, 219-26.

Ariff, Mohamad. (1999). *Financial fragility and the 1997 Asian financial crisis*. Paper presented in the conference in Australian National University.

Barges, Alexander. (1962). *The effect of capital structure on the cost of capital: A test and evaluation of Modigliani and Miller Propositions*. Ph.D. (Finance). Thesis submitted to the Graduate School of Northwestern University.

Barton, Sidney, L. and Gordon, Paul J. (1988). Corporate strategy and capital structure. *Strategic Management Journal*, 9, 623-32.

Baskin, J. (1989). An empirical investigation of the pecking order hypothesis. *Financial Management*, Spring, 26-35.

Baskin, Jonathan B. (1985). *On the financial policy of large mature corporations*. Ph.D.(Economics). Thesis submitted to the Department of Economics of Harvard University.

Bhattacharya, Anand Kishore. (1984). *The influence of liquidity on corporate valuation*. D.B.A.. Thesis submitted to the Graduate School of Arizona State University.

Bradley, M., Jarrell, G. and Kim, E. (1984). On the existence of an optimal capital structure: theory and evidence. *Journal of Finance*, 39, July, 857-878.

Brigham, Eugene F. (1985). *Financial Management: Theory and Practice*. USA: The Dryden Press.

Canda, Francis E. (1991). *The influence of specified determinants of corporate capital structure*. Ph.D. Thesis submitted to the Graduate School of the Ohio State University.

Chang, Rosita P. and Rhee, Ghon S. (1990). The impact of personal taxes on corporate dividend policy and capital structure decisions. *Financial Management, Summer*, 21-31.

Chin Ai Fu. (1997). *Relationship between capital structure and profitability: A time series cross sectional study on Malaysian firms*. MSc (Mgt). Thesis submitted to the Graduate School of Universiti Utara Malaysia.

Chudson, Walter A. (1945). *The pattern of corporate financial structure: A cross section view of manufacturing, mining, trade and construction*. Ph.D. Thesis submitted to the Faculty of Political Science of Columbia University.

Dobbins, R and Pike, R. (1982). How much should a firm borrow?. *Managerial Finance*, 8, 1, 17-22.

Donald H. Chew, Jr. (1999). *The new corporate finance: where theory meets practice*. (2nd ed.). United States of America: McGraw-Hill International Editions.

Durand, David. (1989). Afterthoughts on a controversy with MM, plus new thoughts on growth and the cost of capital. *Financial Management, Summer*, 12-8.

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 University of Winconsin-Madison.

Emery, D.R., & Gehr, A.K. (1988). Tax options, capital structure, and Miller equilibrium: A numerical illustration. *Financial Management*, 17, 2, 30-40.

Friend, I. and Lang, L.H.P. (1988). An empirical test of the impact of managerial self-interest on corporate capital structure. *Journal of Finance*, 43, 2, June, 271-281.

Gilmer, R.H. Jr. (1985). The optimal level of liquid assets: An empirical tests. *Financial Management*, 14, 4, 39-43.

Gordon, M.J. (1989). Corporate finance under the MM theorems. *Financial Manageant, Summer*, 19-28.

Griffiths, William E., Hill, Carter R. and Judge, George G. (1993). *Learning and Practicing Econometrics*. United States of America: John Wiley & Sons Incorporation.

Hanapi, M. (1993). *Capital structure in large Malaysian companies*. Paper was presented at EAMSA 10th Annual Conference, Nuremberg, Germany.

Harris, M. and Raviv, A. (1991). The theory of capital structure. *Journal of Finance*, XLVI, 1, 297-305.

Israel, Ronen. (1991). Capital structure and the market role for corporate control: The defensive role of debt financing. *Journal of Finance*, XLVI, 4, 1391-409.

Jahera, John S. Jr. (1996). An empirical of factors affecting corporate debt levels. *Managerial Finance*, 22, 2, 29-38.

Jensen, M.C. and Meckling, William H. (1976). Theory of the firm: Managerial behavior, agency cost and ownership structure. *Journal of Financial Economics*, 3, 305-60.

Keown, Arthur J., Scott, David F Jr., Martin, John D. and Petty, William J. (1996). *Basic Financial Management*. United States of America: Prentice-Hall Incorporation.

Kester, C. (1986). Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations. *Financial Management*, 15, Spring, 5-16.

Kolari, James and Zardkoohi, Asghar. (1991). The elusive tax gain on debt. *Managerial Finance*, 17, 5, 22-5.

Krishnan, V.S., & Moyer, R.C. (1996). Determinants of capital structure: An empirical analysis of firms in industrialized countries. *Managerial Finance*, 22, 2, 39-55.

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.

Leibowitz, Martin L, Kogelman, Stanley and Lindenberg, Eric B. (1990). *Financial Analysts Journal*, 46, 3, 42-52.

Long, M. and Malitz, I. (1985). Investment patterns and financial leverage. In B. Friedman (ed). *Corporate capital structure in the United States*. Chicago: University of Chicago.

Masulis, Ronald W. (1988). *The debt/equity choice*. Massachusetts: Ballinger Publishing Co.

McConnell, John J. and Servaes, Henri. (1995). Equity ownership and the two faces of debt. *Journal of Financial Economics*, 39, 131-57.

Miller, Merton H. (1988). The Modigliani-Miller Propositions after 30 years. In Robert W. Kolb (editor). *The Corporate Finance Reader* (2nd ed.). Blackwell" Massachusetts.

Modigliani, F. and Miller, M.H. (1958). The cost of capital, corporation finance and the theory of investment. *American Economic Review*, 48, 261-97.

Mohamad Khan Hj. Jamal. (1994). *The effect of capital structure on firm's profitability: A case of listed Malaysian industrial firms*. MSc (Mgt). Thesis submitted to the Graduate School of Universiti Utara Malaysia.

Mohamad, Ismail. (1987). *Liquidity management in relation to the financial performance of publicly held manufacturing companies in Indonesia*. D.B.A. Thesis submitted to the Graduate Faculty of the School of Business and Management of United States International University.

Myers, Stewart C. (1990). The search for optimal capital structure. In Donald H. Chew, Jr. *The New Corporate Finance*. (2nd ed). United States of America: McGraw Hill International Editions.

Myers, Stewart C. (1990). Still searching for optimal capital structure. In Robert W. Kolb (editor). *The Corporate Finance Reader* (2nd ed.). Blackwell" Massachusetts.

Nakamura, A. and Nakamura, M. (1982). On the firms production capital structure and demand for debt. *The review of Economics and Statistics*, 64, 384-93.

Nurwati Ashikkin Ahmad Zaluki. *The determinants of capital structure in Malaysian companies*. Master of Science in Banking and Finance. Thesis submitted to the Department of Economics of University of Stirling.

Outtara, Boubakar (1973). *The capital structure problem of development finance institutions: a case study of the industrial credit and investment corporation of India*. D.B.A. Thesis submitted to the A Graduate School of Business Administration of Harvard University.

Pinegar, Michael, J. and Wilbricht, Lisa. (1989). What managers think of capital structure theory: A survey. *Financial Management, Winter*, 82-91.

Remmers, L., Stonehill, A., Wright, R. and Beekhuisen, T. (1974). Industry and size as debt ratio determinants in manufacturing internationally. *Financial Management, Summer*, 24-32.

Solomon, Ezra. (1963). Leverage and the cost of capital. *Journal of Finance*, 18, 273-79.

Titman, S. and Wessels, R. (1988). The determinants of capital structure choice. *Journal of Finance*, 43, March, 1-19.

Toy, N., Stonehill, A., Remmers, L., Wright, R., and Beekhuisen, T. (1974). A comparative international study of growth, profitability, and risk as determinants of corporate debt ratios in the manufacturing sector. *Journal of Financial and Quantitative Analysis*, November, 875-86.

Van Horne, C.J. and Wachowicz, Jr., J.M. (1992). *Fundamentals of Financial Management*. New Jersey: Prentice-Hall International.

Weston, Fred J. (1989). What MM have wrought. *Financial Management*, Summer, 29-38.

Wuh Lin, James and Madura, Jeff. (1993). Optimal debt financing for multinational projects. *Journal of Multinational Financial Management*, 3, 63-73.