

**THE DETERMINANTS OF CAPITAL STRUCTURE IN
CHINESE LISTED COMPANIES**

WANG MOU

**OTHMAN YEOP ABDULLAH
GRADUATE SCHOOL OF BUSINESS**

June 2011

**THE DETERMINANTS OF CAPITAL STRUCTURE IN
CHINESE LISTED COMPANIES**

A Project Paper Submitted to Graduate
School of Business in Partial Fulfillment
Of the Requirements for the
Degree of Master of Science (Finance)
Universiti Utara Malaysia

By

WANG MOU

807947

© Wang Mou, 2011. All rights reserved

PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University library may make it freely available for inspection. I further agree that permission for copying of this thesis in any manner, in whole or in a part, for scholarly purposes may be granted by my supervisor or, in their absence, by Dean of College of Business. It is understood that any copying or publications 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 Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

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

Dean
Othman Yeop Abdullah
Graduate School of Business
University Utara Malaysia
06010 Sintok
Kedah Darul Aman

Abstract

This paper attempts to investigate the determinants of the capital structure of a sample of 1456 listed companies on the Hong Kong Stock Exchange from 2005 to 2010. However, 226 companies have to be excluded from the analysis because the data is not complete. This study uses 1230 companies to make the investigation to determine the capital structure of Chinese listed companies. The relationship between size, profitability, liquidity, growth opportunity, asset structure, business risk and tax shield with leverage are highlighted. The findings show that size, profitability, business risk and tax shield are highly significant at 1% level in determining the capital structure while liquidity is significant at 10% level. However, growth opportunity and asset structure are not significant determinants of capital structure in China.

Key words: Capital structure, determinants, Chinese listed companies

ACKNOWLEDGEMENT

First of all, I would like to thank to Universiti Utara Malaysia to give me an opportunity for my study. Second I appreciate my thesis supervisor, DR. Rohani Md Rus, at the College of Business for her valuable guidance throughout the accomplishment of this thesis. Without her help and effort, this thesis would not have been completed on time.

I also want to thank my friends Ramzi, Shahida and all my classmates. They also give me a lot of help. To all those people, thank you very much.

DEDICATION

This thesis is dedicated to my beloved mother, Zhang Qiao Yun, and my father Wang Xuan Xue. They provide me anything. They give me motivation and encouragement to move through the final step of this process. With their encouragement, love and care that make me better know what does life look like and how to make out of my future life.

I also thankful to my beloved girl friend, Wang Pei, when I get some troubles of my life, she always make her effort to help and care me without any excuses, thank you very much, I will love you forever.

Thank you for all, and all the best wishes to you.

TABLE OF CONTENTS

	Page
PERMISSION TO USE	i
ABSTRACT	ii
ACKNOWLEDGEMENTS	iii
DEDICATION	iv
TABLE OF CONTENTS	v
LIST OF TABLES	vii
LIST OF ABBREVIATIONS	viii
CHAPTER ONE: INTRODUCTION	
1.0 Chapter Overview	1
1.1 Overview of Chinese Capital Market	5
1.3 Research Questions	8
1.4 Research Objectives	9
1.5 Significance of Study	10
1.6 Organization of Study	10
1.7 Summary of Chapter	10
CHAPTER TWO: LITERATURE REVIEW	
2.0 Chapter Overview	11
2.1 Theory	11

2.2 Determinants of Capital Structure	14
2.3 Conclusion of Chapter	22
CHAPTER THREE: DATA AND RESEARCH METHODOLOGY	
3.0 Chapter Overview	23
3.1 Sample of Firms	23
3.2 Statistical Analysis	24
3.3 Theoretical Frame work of Study	27
3.4 Hypothesis	28
3.5 Summary and Conclusion of Chapter	36
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS	
4.0 Chapter Overview	37
4.1 Descriptive Statistics	37
4.2 Correlations between Variables	39
4.3 Multiple Regression Analysis	40
4.4 Conclusion of Chapter	46
CHAPTER FIVE: CONCLUSION	
5.0 Chapter Overview	47
5.1 Implications of Finds	47
5.2 Limitation of Research and Future Study	49

REFERENCES **50**

LIST OF TABLES

Table I: Growing of Chinese listed Companies	7
Table 1: Summary of Descriptive Statistics	39
Table 2: Pearson Correlation Matrix of Variables	40
Table 3: Model Summary of Regression	40
Table4: ANOVA	41
Table 5: Coefficients	41
Table 6: Result of Regression without Profitability	43
Table 7: ANOVA without Profitability	44
Table 8: Coefficients without Profitability	44
Table 9: Result of Regression without NTDS	45
Table 10: ANOVA without NTDS	45
Table 11: Coefficients without NTDS	45

LIST OF ABBREVIATIONS

GDP	Gross domestic product
CSMAR	China Stock Market Research Database
WTO	World Trade Organization
NTDS	Non-debt Tax Shield
TANG	Asset Structure

Growth	Growth Opportunity
Profit	Profitability
OLS	Ordinary Least Square

CHAPTER ONE

INTRODUCTION

1.0 Chapter overview

This chapter describes the capital structure of Chinese listed firms. Specifically, it looks into the determinants of debt to equity. Traditional and specific factors that affect capital structure decision have been highlighted by previous researchers (Chen, 2003; and Brealey et al., 2006). The traditional factors contain the firm size, profitability, asset structure and tax shield effect. The specific factor is variable like ownership of company. In order to maximize company's values, this study investigates the determinants of capital structure, which is the choice of debt to equity in Chinese listed companies from 2005 to 2010.

Capital structure is the mix of debt and equity used by a company which is financing their assets (Miller and Modigliani, 1958). The decision of capital structure is one of the most significant decisions made by financial managers. Brigham (2003) points out that factors which influence the firm's capital structure are business risk, tax position, profitability, managerial conservatism and growth opportunity. Assuming a perfect capital market which includes no transaction or bankruptcy costs, perfect information, companies and individuals can borrow at the same interest rate, and no taxes, value of company is not affected by financing decisions. Modigliani and Miller

The contents of
the thesis is for
internal user
only

REFERENCES

- Ali Ahmed, H.J. and Hisham, N. (2009). Revisiting Capital Structure Theory: A Test of Pecking Order and Static Trade-Off Model from Malaysian Capital Market. *International Research Journal of Finance and Economics*, Vol. 30, pp. 58-65, Euro Journals Publishing Inc.
- Abor, J. (2004). Internationalisation and financing options of Ghanaian SMEs. *Acta Commercii*, 4, 60–72.
- Al-Sakran, S.A. (2001). Leverage Determinants in the absence of Corporate Tax System: The case of non-financial publicly traded corporations in Saudi Arabia. *Managerial Finance*, 27(10/ 11), 58–86.
- Ang, J. (1991) Small business uniqueness and the theory of financial management. *Journal of Small Business Finance* 1, 1-13.
- Barton, S.L., C.H. Ned and S. Sundaram (1989). An empirical test of stakeholder theory predictions of capital. *Financial Management*, 18(1), 36–44.
- Bradley, M., Jarrel, G. A, and Kim, E. H. (1984). On the Existence of an Optimal capital Structure, theory and Evidence. *Journal of Finance*, 39.
- Brigham (2003). Corporate finance: A focused approach. South Weston Printes: Ohio USA.
- Brealey, R. and Myers (1991). Principles of Corporate Finance, 4th edition. New York: McGraw-Hill, *Journal of Finance*.

- Barclay, M.J. Smith C.W. and Watts, R.L. (1995). The determinants of corporate leverage and dividend policies. *Journal of Applied Corporate Finance*. Vol, 7 pp. 4-19.
- Bevan A. A, Danbolt J. (2002). Capital structure and its determinants in the UK. *Journal of Economics* 12(3), 159– 70.
- Booth, L. V. Aivazian, A. Demirguc-Kunt and V. Maksimovic (2001). Capital structures in developing countries. *Journal of Finance*, 55(1): 87–130.
- Barnea, A., R.A. Haugen and L.W. Senbet (1980). A rationale for debt maturity and call provision in the agency theoretic framework. *Journal of Finance*, 35(5), 1223–34.
- Chaplinsky, Susan and Greg Niehaus (1993). Do inside ownership and leverage share common determinants? *Journal of Business and Economics*, 32(4), 51-65.
- Castanias, R. (1983). Bankruptcy risk and optimal capital structure. *Journal of Finance*, 38, 1617–35.
- Cassar, G. and S. Holmes (2003). Capital structure and financing of SMEs: Australian evidence. *Journal of Accounting and Finance*, 43, 123–47.
- Chen, Jean J. (2003). Determinants of capital structure of Chinese listed companies. *Journal of Business Research*.
- Chang, Chun, (1999). Capital structure as optimal contracts, North American. *Journal of Economics and Finance*. 10(2), 363-85.

- Chittenden F, Hall G, Hutchinson P. (1996). Small firm growth, access to capital markets and financial structure: review of issues and an empirical investigation *Journal of Economics and Finance* 8, 59– 67.
- DeAngelo, H. and R. Masulis (1980). Optimal Capital Structure under Corporate and Personal Taxation. *Journal of Financial Economics*, 8.
- Diamond, D. (1993). Bank loan maturity and priority when borrowers can refinance, *Capital Markets and Financial Intermediation*, Cambridge University Press.
- Esperanca, J.P. P.M.G. Ana and A.G. Mohamed (2003). Corporate debt policy of small firms: An empirical (re)examination. *Journal of Small Business and Enterprise Development*, 10(1), 62–80.
- Fama, E. and K. French (2002). Testing Trade-off and Pecking Order Predictions About Dividends and Debts, *Review of Financial Studies*, 15, 1-33.
- Friend, I. and J. Hasbrouck (1988). Determinants of capital structure. *Research in Finance*, 7(1), 1–19.
- Friend, I. and H.P. Lang. (1988). An empirical test of the impact of managerial self-interest on corporate capital structure. *Journal of Finance*, 43, 271–81.
- Graham J. R. (2000). How big are the tax benefits of debt? *Journal of Finance*, 55(5), 1901-1940.
- Graham, J.R. (1999). Do personal taxes affect corporate financing decisions? *Journal of Public Economics*, 73, 41–73.
- Genxiang (1999). How to evaluate the Corporate debt to equity? *Journal of Finance*, 4, 122-38

- Green, C.J., P. Kimuyu, R. Manos and V. Murinde (2002). How Do Small Firms in Developing Countries Raise Capital? Evidence from a Large-Scale Survey of Kenyan Micro and Small Scale Enterprises. Economic Research Paper No. 02/6. Centre for International, *Financial and Economics Research*, Department of Economics, Loughborough University.
- Hong, Xixi and Yifeng, Shen (2000). The Determinants of Chinese Capital Structure. *Journal of Finance*, 3, 114-120, Xiamen University.
- Harris, Milton, and Artur Raviv, (1988). Corporate control contests and capital structure. *Journal of Financial Economics* 20, 55-86.
- Harris, Milton, and Artur Raviv, (1990) Capital structure and the information role of debt. *Journal of Finance* 45, 321-349.
- Harris Milton, and Artur Raviv, (1991). The theory of capital structure, *Journal of Finance* 46, 297-355.
- Huang, Samuel and Frank Song, (2002). The Financial and Operating Performance of China's Newly Listed H-firms, working paper which is available at http://www.hiebs.hku.hk/working_papers.asp.
- Hovakimian A, Opler T. and Titman S. (2001). The debt-equity choice. *Journal of Financial and Quantitative Analysis* 36, 1-24.
- Hovakimian, A., G. Hovakimian and H. Tehranian (2004). Determinants of target capital structure: The case of dual debt and equity issues. *Journal of Financial Economics* 71, 517-40.

- Jensen, Michael C. and William H. Meckling (1976). Theory of the firms: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305-360.
- Jensen, M. (1986). The agency costs of free cash flow, corporate finance and takeovers. *American Economic Review* 76, 323-329.
- Jordan, J., J. Lowe, and P. Taylor (1998). Strategy and financial policy in U.K. small firms. *Journal of Business Finance and Accounting* 25(1), 1–27.
- Johnson, S.A. (1997). An empirical analysis of the determinants of corporate debt ownership structure. *Journal of Financial and Quantitative Analysis* 32, 47–69.
- Juan, Yang, Xingquan (2002). Governance of Chinese listed companies Effect of Financial Structure. *Journal of Accounting* 8, 37-45.
- Kale, J.R., H.N. Thomas and G.G. Ramirez (1991). The effect of business risk on corporate capital structure: Theory and evidence. *Journal of Finance* 46, 1693–715.
- Khalid, Salah, Ababneh (2008). The determinants of capital structure: a study of Jordanian industrial corporations. *Journal of Finance research*.
- Kim, C., D.C. Mauer, and A.E. Sherman (1998). The determinants of corporate liquidity: Theory and evidence. *Journal of Financial and Quantitative Analysis* 33, 335–59.
- Long, Michael and Ileen Maltiz, (1985). The investment-financing nexus: Some empirical evidence. *Midland Corporate Finance Journal* 3, 53-59.

- Lipson and Mortal (2006). Liquidity and Capital structure. *Seminar Paper*, pp. 1-43, University of Virginia.
- Marsh, Paul, (1982). The choice between equity and debt: An empirical study. *Journal of Finance* 37, 121-144.
- Myers, S.C. (1977). Determinants of Corporate Borrowing. *Journal of Financial Economics* 5 147-175.
- Myers S. C. (1984). The capital structure puzzle. *Journal of Finance*, Vol. 34, 575–592.
- Myers, S., and N. Majluf (1984). Corporate Financing and Investment Decisions When Firms Have Information Investors Do not Have. *Journal of Financial Economics* 13, 187-222.
- Miller, M. (1977). Debt and taxes, *Journal of Finance* 32, 261-275.
- Miller M. and Modigliani, F. (1958). The Cost of Capital, Corporate Finance and the Theory of Investment. *American Economic Review* 48, 201-97.
- Modigliani, F. and Miller, M. (1963). Corporate income taxes and the cost of capital. *American Economic Review*, Vol. 53, pp. 433-443.
- MacKie-Mason, Jeffrey K. (1990). Do taxes affect corporate financing decisions? *Journal of Finance* 45, 1471-1493.
- Michaelas, N., F. Chittenden and P. Poutziouris (1999). Financial policy and capital structure choice in UK SMEs: Empirical evidence from company panel data. *Small Business Economics* 12, 113–30.

- Mishra, C.S. and D.L. McConaughy (1999). Founding family control and capital structure: The risk of loss of control and the aversion to debt. *Entrepreneurial Theory and Practice* 23, 53–64.
- Ooi, J. (1999). The determinant of capital structure: Evidence on UK property companies. *Journal of Property Investment and Finance* 17(5): 464–80.
- Petersen, M.A. and R.G. Rajan. (1994). The benefits of lending relationships: Evidence from small business data. *Journal of Finance* 49(1): 3–38.
- Prasad, S., C. Green and V. Murinde (2001). Corporate financial structures in developing economies: Evidence from a comparative analysis of Thai and Malay corporations”. Working Paper Series, Paper No 35. *Finance and Development Research Programme*, University of Manchester, Manchester.
- Rajan, R. (1992). Insiders and outsiders: The choice between informed and arms length debt. *Journal of Finance* 47 1367-1400.
- Rajan, R.G and Zingales, L. (1995). What do We Know about Capital Structure? Some Evidence from International Data. *Journal of Financing* 1, 1421-1461.
- Stulz, R. (1990). Managerial discretion and optimal financing policies, *Journal of Financial Economics*, Vol. 26, pp3-27.
- Shum, P.M. (1996). Taxes and corporate debt policy in Canada: An empirical investigation. *Journal of Economics* 29(3), 557–72.
- Shi, Donghui (2000). The determinants of capital structure in Chinese listed companies. *Journal of Finance* 7, 62-68.

- Smith, C. & Watts, R. (1996). The investment opportunity set and corporate financing, dividend and compensation policies, *Journal of Financial Economics* 32, 263-292.
- Shyam-Sunder, L. and S.C. Myers (1999). Testing Static Tradeoff against Pecking order models of Capital Structure. *Journal of Financial Economics*, 51: 219–44.
- Shen, Yifeng and Jing, Tian (1999). The research of Capital Structure in Chinese listed companies. *Journal of Finance and Economics* 11, 47-57.
- Titman, S. (1984). The Effect of Capital Structure on a Firm's Liquidation Decision. *Journal of Financial Economics* 13, 137-51.
- Titman, S. Wessels, R. (1988). The Determinants of Capital Structure. *Journal of Finance* 1, 1-19.
- Tong, Guanqun and Green Christopher J. (2005). Pecking order or trade-off hypothesis? Evidence on the capital structure of Chinese companies, *Journal of Applied Economics* 37, 2179–2189.
- Van der Wijst, N. (1993). A new approach to firm evaluation. *Annals of Operations Research*, 45-48.
- Wald, J. K. (1999). How firm characteristics affect Capital structure: An international comparison. *Journal of Financial Research*, Vol. 22, No. 2, pp 161-187.

Wan, Mursyidah, Binti, Wan Ismail. (2005). Capital structure of Malaysian listed companies. *E-thesis of UUM Library*.

<http://ep3.uum.edu.my/1371/>

Wang, Juan and Fenglin, Yang (2002). The determinants of capital structure in Chinese listed companies. *Journal of International Finance* 8, 45-52.

Wedig, G., F.A. Sloan, M. Assan and M.A. Morrissey (1988). Capital structure, ownership, and capital payment policy: The case of hospitals. *Journal of Finance* 43, 21–40.

Xue. (2007). The influence factors of capital structure in developing countries. *Journal of Finance* 7, 122-37.

Zhenfei (1998). Financing behavior of listed companies in China. *Journal of Finance* 10, 16-24.