Determinants of Capital Structure in Jordan Industrial Sector

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Findings: High survival probability (low bankruptcy risk) and profitability is positively related with the capital structure (debt equity ratio) but asset tangibility is negatively related with the capital structure.

Originality: Significant strength of effect of bankruptcy risk is defined in this paper so that financial analysts and investors can have information about the chances of bankruptcy of the firms in industrial sector in Jordan. This study is creating value in the literature by considering the factor of risk for the firms in the developing country. This study explains the capital structure maintained by the managers by considering the bankruptcy risk and how the profitability and asset tangibility are contributing to the capital structure formation. This paper also gives information to the analysts and investors about the agency problem by considering the behavior of managers regarding debt equity mix.

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Strictly as per the compliance and regulations of:

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I. Introduction

Since the theory of irrelevance of firm's value presented by Modigliani and Miller,(1958) many theories tried to explain the debt equity mix determinants but there is not a single generally accepted theory which could explain the determinants of debt-equity mix. Titman and Wessels,(1988) has discussed briefly the financial policy determinants namely asset structure, earning volatility, operating leverage, non-debt tax, size, uniqueness, growth, classification of industry, profitability. Taxes & bankruptcy cost are associated with debt (DeAngelo and Masulis, 1980). Dividend policy, control and agency cost are used by (Harris and Raviv, 1991).

In market timing theory, firms decide their mode of financing, whether they should use equity or they should use debt. According to Baker and Jeffrey (2002) market timing theory defines the capital structure but it also does not care whether a company uses debt for

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financing or equity. According to market timing theory, company uses that instrument which is more valued in market at that time. Under the market timing theory, companies issue stock when their stock price in the market is high and purchase their stock when their market price is low.

Free cash flow theory defines the dividend decision. This theory states that dividend is given after the investing the cash into projects having net present value. Free cash flow is the cash flow which is surplus after investing it in different projects. Managers invest this cash in below the cost of capital.

Agency theory is highly correlated with capital structure because there could be conflict of interests between corporate managers and shareholders. Jensen and Meckling, (1976) said that managers do not implement value maximizing debt equity mix. Managers prefer to minimize business risk and reduce the cash payout. Cash payout to shareholders, is a major conflict between them because it reduces the control of managers over the resources.

There is also an argument that which factors could affect the capital structure decision and which variables could not affect. Van Horne,(2002)has identified the bankruptcy risk as important factor in corporate capital structure decision. Firms with low survival probability and significant bankruptcy cost are less striking for investors, because of having high debt equity ratio. In fact, risk is considered as critical dynamic in financial decision. Existing literature gives ambiguous answers to the effect of bankruptcy risk on the financial policy (Kale, Noe and Ramirez, 1991).

Risk is a critical factor in the capital structure decision. Therefore, it is important to decide the risk intensity during the selection of capital structure. Increased uncertainty has increased the importance of investigation of risk in the Jordan. Therefore it is vital to consider that: Does risk exposure affect the capital structure of the non-financial listed firms of Jordan?

This study is exploring the effect of bankruptcy risk on the capital structure of non-financial listed firms in Jordan. Significant strength of effect of bankruptcy risk is defined in this paper so that financial analysts and investors can have information about the chances of bankruptcy of the firms in industrial sector in Jordan. This study is creating value in the literature by considering the factor of risk for the firms in the developing country. This study explains the capital

structure maintained by the managers by considering the bankruptcy risk. Effect of profitability and asset tangibility are also the main concern of this study. Significant strength of profitability and asset tangibility is recorded in this study while managers form their capital structure. Investors can use the results of this study for extending their loans to the firms in industrial sector firms of Jordan.

As, debt existence in capital structure decreases the survival probability of firm and if the cash flows are deviating then it leads to increased business risk which ultimately increased the likelihood of bankruptcy. Previously, most researches have been done in America and in European countries. Therefore, it would be worthy to conduct the research in the developing country relating to the effect of risk dynamics on the financial policy of the firms, as it is a newly emerged line for research. Institutional arrangements and their efficiency are different in the developing countries and emerging economies from the developed countries (Eldomiaty, 2007).

II. Literature

a) Bankruptcy Risk

From the last few decades, corporate capital structure has received intense attentions of scholars. Corporate capital structure is a debt equity mix suitable for expanding firm's operations. Glen and Pinto (1994) argued about the choice of debt equity mix as it is concerned with financing decision of a firm. Bancel and Mittoo (2004) and Graham and Harvey (2001) surveyed in America and Europe and stated that capital structure decision is crucial for corporate management. Colombage (2007) surveyed in Sri Lanka and argued that decision of financial policy is critical for corporate executive.

Bos and Fetherst on (1993) argued that firm's financial policy significantly affects the firm's profitability and risk. Previously many theories had developed for defining the factors that determine the financial policy of a firm. First work done on the financial policy was by the Modigliani and Miller (1958). Their landmark paper defines the theory of irrelevancy, means the decision of financial policy is unrelated with firm's value under some controlled conditions. If the tax benefits are eliminated and the cost of transactions and bankruptcy are absent then the decision of capital structure does not create any difference to value of the firm. Hence concluded, that decision of debt equity mix has no effect on cost of capital and market value of firm.

Hamada (1972) originate the issue of risk associated with the use of debt and defined that 21-24% of systematic risk can be explained by the debt-equity ratio. After that Castania (1983) examined the leverage ratios of 36 business lines and states that firms which are more exposed to risk employee less debt in their

debt equity mix because of bankruptcy threat. This argument support that firms will use a smaller amount of debt because of bankruptcy probability.

Risk of devastate increased as the leverage increased and it also increases the interest rate. Interest rate increased slowly when the debt is less risky but it increases sharply when the debt become more risky. This debt riskiness depends upon the earning volatility, if the earnings are less volatile then the debt is less risky but if the volatility in earnings is high the debt is highly risky. Likelihood of ruin is less for the corporations having stable cash flows. Therefore the interest rate will be low for these firms. Financer will not demand high interest rates because of less risk (Baxter, 1967).

Pettit and Singer (1985) stated that firm's probability of bankruptcy enhances as they employ more debt in their debt equity mix because of increase in cost of debt. These companies will prevent bankruptcy by issuing less debt in future. Bankruptcy cost is less important in determining capital structure (Haugen and Senbet, 978). Study of Titman and Wessels (1988) stated that uniqueness and firm size are inversely linked with debt ration but tax shield, volatility, future growth and collateral value are positively influencing the debt-equity ratio. Argument stated by Michaelas, Chittenden and Poutziouris(1999) is against the theory of Modigliani and Miller because it states that tax has no influence on debt-equity ratio. Their study was on SME therefore they argued that tax has no influence on capital structure decision because SME have low profitability therefore it does not create any difference in SMEs.

Kim and Sorensen (1986) stated that debt should be used by the firms if their bankruptcy cost is lower. Graham (2000) also argues that firms should use leverage if the bankruptcy cost is lesser for firm. These arguments support that firms with low bankruptcy cost should employee supplementary debt in their debt equity mix so that they can enjoy additional tax benefits and realize high net profits. Study of Lasfer (1995) stated that bankruptcy cost is negatively associated with firm's leverage level. Risk has been acknowledged as vital aspect in the literature of capital structure. Many studies are carried out for explaining the relationship of financial policy with risk but theirs answers has no generalizability.

Like there is a disagreement about the effect of business risk on the optimal debt level. Long andMalitz (1985) found a negative effect; Castanias (1983), Carleton and Silberman (1977) and Bradley, Jarell, and Kim (1984) argued favourably about the business risk effect on debt equity mix but Titman and Wessels (1988), Flath and Knoeber (1980), and Ferri and Jones (1979) conclude that business risk have no significant relationship with leverage. Therefore upon the basis of above results we cannot make positive or negative

relation of business risk with the capital structure of Jordan industrial sector firms.

Bankruptcy risk is the probability of default of a firm. When companies use more debt it increases the probability of default of a company which also increases the cost of bankruptcy (Pettit and Singer, 1985). Leverage increases the bankruptcy risk of a company. Kim and Sorensen(1986) stated that if the bankruptcy cost of a firm is low then they must use the debt because their survival probability is high and risk of default is low. Graham (2000) also argued in the same way, firms should use leverage if their bankruptcy risk is low.

Considering the above researches it can be concluded that much of the research work have been done in the developed market. But there is a difference in developed economies and emerging economies regarding the institutional arrangement and level of efficiency (Eldomiaty, 2007). Therefore it is necessary to conduct studies in emerging economies. Level of leverage is lower in the emerging economies then the developed economies and has declined more in recent years (Glen and Singh, 2004). Interestingly, current study of Jong, Kabir and Nguyen (2008) stated that firm specific factors which determine the debt equity mix vary from one economy to other economy. Therefore it is worth noting to conduct study in an emerging economy.

Ohlson(1980) o-score is used in this study for measuring the bankruptcy risk of a company. This is considered as better measure than the Altman's Z-score (Pongsatat, Judy and Howard, 2004).

Ho = Bankruptcy risk of the firm influences the financing policy of a firm.

Hi = Bankruptcy risk of the firm does not influence the financing policy of a firm.

b) Asset Tangibility

Fix assets are positively associated with leverage. Harris and Raviv (1990); Friend and Lang (1988) and Williamson (1988) investigated a positive association between tangible assets and debt. Variation in cash flow generation is more difficult from tangible assets than the intangibles. Therefore, the scope of tangible assets to reduce risk transfer, and is in line agency theory, business and more debt will be supported by tangible assets (Abor and Biekpe, 2009; Yartey,2006).On the other hand, Titman and Wessels (1988) argued, a negative relationship exists between the assets' tangibility and leverage on the basis of agency theory. Monitoring the usage of tangible assets is easier, and the firms with more intangible assets will go for more debt financing for monitoring their tangible assets.

Asset tangibility is the ratio of fix asset to total assets. Capital structure of firm will depends on the ability of owners to engage in speculation at the cost of creditors and other parties. This, in response, to some extent debt equity ratio depends on the assets composition of company. Pandey and Chotigeat (2004) analysed the Malaysian companies' financial characteristics and their financial policy. Outcome of their study states that tangibility, size and profitability have influence on debt but investment opportunities, risk and growth have no influence. The company has a high proportion of the total assets are expected have long-standing debt. An optimistic association among tangible assets and debt levels exists as trade-off theory proposes. Fix assets are positively associated with leverage (Friend and Lang,1988; Harris and Raviv,1991) and Williamson (1988) investigated a positive association between tangible assets and debt. In particular, liquidation value of tangible assets reduces the chances of financial distress. These tangible assets have usually relatively lofty security worth of intangible assets; this means that more debt is supported by these assets.

Ho = Asset tangibility of the firm influences the financing policy of a firm.

Hi = Asset tangibility of the firm does not influence the financing policy of a firm.

c) Profitability

Although many theoretical works made since the Modigliani and Miller (1958), no forecast has been agreed among the profitability and debt relationship. Tax-based model suggests that companies take more debt, other things being equal, because they have greater needs in order to shield the company income. On the other hand, the pecking order theory that retained earnings will be used for investment, and after that transferred to the new debt and equity only when essential. This scenario shows that profitable organizations employee less debt in their capital structure. Another model is contradictory to our prediction namely agency-based model. Firms having high debt and high profitability can inhibit the management discretion. However, among the internal and external shareholder, the optimal contract can be understood as a debt equity mix, and profitable organizations are less inclined to use debt.

Empirical research shows that the most significant negative correlation between leverage and profits. Friend and Lang (1988) and Titman and Wessels (1988) surveyed to U.S. companies and got such results. Kester(1986) found an inverse relation between leverage and profitability in the United States and Japan. Above mentioned studies used data from developed economies. Rajanand Zingales (1995) and Wald(1999) used data from developed countries, Booth, Varouj, Asli and Vojislav(2001) and Wiwattanakantang (1999)used data from developing countries. This paper is using EBIT for measuring the effect of profitability on the financial policy.

$Ho =$ Profitability of the firm influences the financing policy of a firm.

$Hi =$ Profitability of the firm does not influence the financing policy of a firm.

III. Methodology

This study uses the market data of industrial sector listed companies of Jordan over the period of 2009 to 2011. Accounting data is taken from balance sheet analysis of industrial sector. There are 11industrial sectors therefore this paper is using the data of all 11industrial sectors of Jordan. Descriptive stats are used for describing the central tendency of data and standard deviation of values of data. Panel data set is used for broader set of data and collinearity diagnostics are used for confirming that there is no multi-collinearity in the variables. Following model is specified on the basis of financial theories and previous empirical studies.

$$\gamma\_it = \alpha + \beta X\_it + P\_it + 〚AT〛\_it + \mu\_it \qquad (1)$$

Where subscript i represents firm and subscript t represents time. γ_it is the measure of financial policy. γ_it is a measure for capital structure which is measured by debt and equity ratio. α is a constant and μ_it is an error term of the common effect model.

$\beta X_i t$ is the measure of bankruptcy risk. P_it is denoted for the profitability variable and 〚AT_it is denoted for asset tangibility variable. Linear regression model is used for penal data analysis. Profitability is measured by the return on asset ratio and asset tangibility is measured by ratio of fix asset to total assets. Bankruptcy risk is measured by Olson score. Results of the study conducted by Pongsatat, Judyand Howard (2004)shows that Olson's (1980) O-score has more predictive ability for the non-bankrupt firms than the z-score of (Altman, 1968). Therefore, this study is using o-score for measuring the one year ahead probability of default. When the O-score value is increased, the risk of bankruptcy decreases. This is measured as follow

O-Score= − 1.32 – 0.41 X1+ 6.03 X2 – 1.43 X3+ 0.08 X4– 2.37 X5– 1. X6 + 0.285F – 1.72G – 0.52H

X1 = Size (natural log oftotal asset divided by the GDP deflator)

X2 = Total Liabilities/Total Assets

X3 = Working Capital/Total Assets

X4 =Current Liabilities/Total Assets

X5 =Net Income/Total Assets

X6 =Pre-Tax Income plus Depreciation and Amortization/Total Liabilities

F =indicator variable equal to one if cumulative net income over the previous two years is negative, and zero otherwise

G =indicator variable equal to one if owners' equity is negative and zero otherwise

H=the scaled change in net income

IV. Results And Discussion

This section is describing the results of this study. Table 1 is describing the results of descriptive stats and table 2 is describing the describing the values of collinearity diagnostics and table 3 is describing the results of regression analysis.

a) Descriptive Statistics

Descriptive stats are describing the values of mean and dispersion of the values from the mean. Below mentioned table is also showing the number of observations.

Table 1

	Mean	**Std. Deviation**	**N**
Capital Structure	.6416299441	.29070654970	33
Bankruptcy Risk	.8659785994	1.13369596377	33
Profitability	3.3358728002	7.34518498470	33
Asset Tangibility	4000887346	10013423782	33

Mean value for Capital Structure is .6416299441and standard deviation is .29070654970. Bankruptcy risk, mean value is .8659785994with the standard deviation value of 1.13369596377.Mean value of profitability is 3.3358728002with the disparity value of 7.34518498470. Value of mean of asset tangibility is .4000887346at .10013423782standard deviation value.

b) Collinearity Diagnostics

Multi-collinearity in the variables of observation is observed through the collinearity diagnostics. VIF values showed are above 1 and the values of tolerance should be below the 1 value for describing that there is no multi-collinearity in the data.

Table 2

	Tolerance	VIF
Bankruptcy Risk	0.872	1.146
Profitability	0.863	1.159
Asset Tangibility	0.986	1.014

Values of tolerance for all variables are below 1 and the VIF values are above 1 and below 10 which shows that these variables have no multi-collinearity factor. Therefore linear regression model can be used for analysing the data.

c) *Regression Model*

Table 3

Variables	Regression Coefficients	T – Statistics	Standard Errors	P Values
(Constant)	.627	3.309	.190	.003
Bankruptcy Risk	.202	4.499	.045	.000
Profitability	.015	2.176	.007	.038
Asset Tangibility	-.530	-1.294	.410	.026
R – Square	.462			
Adjusted R Square	.406			
F – Statistics	8.288			
Overall P Value	.000			

Results are showing that bankruptcy risk is significantly related with industrial sector firms and has significant positive impact on firm's financial policy. Profitability is also significantly related with industrial sector firm's financial policy and has positive relation with firm's financial policy in industrial sector. Asset tangibility also has a significant effect on financial policy of industrial sector firms and has a negative relation with financial policy. R-square and adjusted R-square values are 0.462 and 0.406 are showing that how much this model is explaining the relationship. F-stats values 8.288are showing the fitness of model.

O-score is positively related with the capital structure which means that when the risk of bankruptcy decreases then the ratio of debt and equity increases. Bankruptcy risk is measured by the Olson's o-score, which measures the one year ahead, probability of survival. Higher survival probability shows low bankruptcy risk. Bankruptcy risk is analysed without taking the natural log of their value that is the reason behind the higher mean values and higher standard deviation values.

Bankruptcy risk in industrial sector is showing a significant positive relationship with the financial policy of the firms. This shows that the survival probability is high in this sector therefore these firms are having low bankruptcy risk. Therefore these firms are enjoying the benefits of leverage and the tax shield benefits. Firms in this sector are employing more debt because of low borrowing cost and the lenders are also lending them the money because of low bankruptcy risk. These firms are also enjoying the benefit of tax shield as they have high debt in their capital structure.

Industrial sector has a positive significant relationship between capital structure and profitability. This shows that when profitability increases, usage of debt financing also increases as the companies have more profit which increases their repayment capacity. Therefore, companies prefer to incorporate more debt in their capital structure. So that they could enjoy tax shield benefit and low cost of financing as well. This shows that industrial sector firms are relying more heavily on external financing while earning more profits. These results are in line with the results of Carleton and Silberman (1997) who surveyed to U.S companies. As this study is conducted in a developing economy but the results of this study are also in line with the studies conducted in the developing economies by the Booth, Varouj, Asli and Vojislav(2001),Rajan and Zingales (1995),Wald (1999)and Wiwattanakantang (1999).

Industrial sector firms are showing a significant negative relationship between asset tangibility and firm's capital structure. This shows that firms with high proportion of fix assets imply less debt in their capital structure, as they are in the strong position to run their operations. Result shows that firms with more fix assets do not take risk of debt so that they could decrease their bankruptcy risk. As, this argument is also confirmed by the positive relationship between low bankruptcy risk and capital structure.

V. CONCLUSION AND IMPLICATIONS

Analysis of economic value creation process has been the core field of study for financial and business economics researchers. Analysts always observed the variables and factors that have influence on economic value creation process and try to augment these variables by controlling their effects. Therefore, analyzing of optimal capital structure factors is very important.

This study explores that how companies adjust their capital structure in relation to risk exposure by using the data for the period of 2009-2011 for the companies from the industrial sector of Jordan. When the bankruptcy risk lowers down in the industrial sector firms and they have high profitability, managers go for external financing. Therefore they are having high debt and equity ratio. But when the firms have high fix asset ratio, managers use internal financing as they do not want to risk their assets. Results are supporting this argument that industrial sector firm adjust their capital structure according to the bankruptcy risk, profitability and asset tangibility. All the results are in-line with the previously conducted studies in the developing and developed economies. Results are supporting the trade-off theory, as the risk increased, firms imply less debt for decreasing their chances of bankruptcy.

Managers of industrial sector firms are himself adjusting their capital structure according to their risk level, profitability and asset tangibility. Therefore lender should not be much anxious about lending them the money. As the analysis of this study are showing that when the bankruptcy risk increases, managers imply less debt for avoiding the bankruptcy risk and when the profit increases the firms obtain more debt because their capacity to repay the debt increased because of increased profitability. Same is the case with asset tangibility, when asset tangibility increases, manager do not go for more debt as they want to risk their assets.This paper gives the information to the lenders that they can lend their money to industrial sector firms of Jordan as firms are himself much caring about their capital structure and survival probability. Therefore there are very less chances of bankruptcy of these firms.

Results show that managers of industrial sector are sensitive to risk exposure. They consider bankruptcy risk, profitability and asset tangibility while incorporating debt in there capital structure. Therefore, lenders should not be worried about their money while lending to industrial sector firms. This study results are useful for lenders, analysis and for investors as well.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Abor, J. and Biekpe, N. (2009),"How do we explain the capital structure of SMEs in sub-Saharan Africa?: Evidence from Ghana", Journal of Economic Studies, Vol. 36, No. 1, pp.83 – 97.
2. Altman, E.L. (1968),"Financial ratios, discriminant analysis and the prediction of corporate bankruptcy", The Journal of Finance, Vol. 23, No. 4, pp.589-609.
3. Baker, M. and Jeffrey, W. (2002),"Market timing and capital structure", Journal of Finance, Vol. 57, pp.1-32.
4. Bancel, F. and Mittoo, U.R. (2004),:Cross-country determinants of capital structure choice: a survey of European firms", Financial Management, Vol. 33, No. 4, pp.103-32.
5. Baxter, N.D. (1967),"Leverage, risk of ruin and the cost of capital", The Journal of Finance. Vol. 22, No. 3, pp. 395-403.
6. Bos, T. and Fetherston, T.A. (1993),"Capital structure practices on the pacific rim", Research in International Business and Finance. Vol. 10, pp. 53-66.
7. Bradley, M., Jarrell, G. A. and Kim, E.H. (1984),"On the existence of an optimal capital structure: theory and evidence" ,Journal of Finance, Vol. 39, No. 3, pp. 857-880.
8. Carleton, W. T, and Silberman, H. I. (1997),"Joint determination of rate of return and capital structure: An econometric analysis", Journal of Finance, Vol. 32, pp. 811-821.
9. Castanias, R. (1983),"Bankruptcy risk and optimal capital structure",The Journal of Finance, Vol. 38, No. 5, pp.1617-1635.
10. Colombage, S.R.N. (2007),"Consistency and controversy in corporate financing practices Evidence from an emerging market", Studies in Economics and Finance, Vol. 24, No. 1, pp.:51-71.
11. DeAngelo, H. and Masulis, R.W. (1980),"Optimal capital structure under corporate and personal taxation", Journal of Financial Economics. Vol. 8, pp.3-29.
12. Eldomiaty, T.I. (2007),"Determinants of corporate capital structure: evidence from an emerging economy", International Journal of Commerce and Management. Vol. 17, No. ½, pp.:25-43.
13. Ferri, M.G. and Jones W. H. (1979),"Determinants of Financial Structure: A New Methodological Approach", Journal of Finance. Vol. 34, pp. 631-44.
14. Flath, D. and Knoeber, C. R. (1980),"Taxes, Failure Costs, and Optimal Industry Capital Structure: An Empirical Test", Journal of Finance, Vol. 35, pp.99-117.
15. Friend, I. and Lang, L.H.P. (1988),"An empirical test of the impact of managerial self-interest on corporate capital structures", The Journal of Finance, Vol. 43, No. 2, pp.:271-81.

16. Glen, J. and Pinto, B. (1994),Debt or equity? How firms in developing countries choose?. IFC Discussion Paper No. 22, International Finance Corporation, Washington, DC.
17. Graham, J.R. (2000),"How big are the tax benefits of debt?",Journal of Finance. Vol. 55, No. 5, pp.1901-41.
18. Graham, J.R. and Harvey, C.R. (2001),"The theory and practice of corporate finance: evidence from the field", Journal of Financial Economics, Vol 60, pp.187-243.
19. Harris, M. and Raviv, A. (1991),"The theory of capital structure", Journal of Finance, Vol. 46, No. 1, pp.297–355.
20. Hamada, R.S. (1972),"The effects of the firm's capital structure on the systematic risk of common stocks", The Journal of Finance, Vol. 27, No. 2, pp. 435-52.
21. Haugen, R.A. and Senbet, L.W. (1978),"The insignificance of bankruptcy costs to the theory of optimal capital structure", The Journal of Finance, Vol. 33, No. 2, pp.383-393.
22. Jensen, M. C. and W.H. Meckling, (1976),"Theory of the firm: managerial behavior, agency costs and ownership structure", Journal of Financial Economics, Vol. 34, pp.305–60.
23. Kale, J.R., Noe, T.H. and Ramirez, G.G. (1991),"The effect of business risk on corporate capital structure: theory and evidence", Journal of Finance, Vol. 46, No. 5, pp.1693-715.
24. Kester, Carl W., (1986),"Capital and ownership structure: a comparison of United States and Japanese corporations", Financial Management, pp.5-16.
25. Kim, W.S. and Sorensen, E.H. (1986),"Evidence on the impact of the agency costs of debt on corporate debt policy", Journal of Financial and Quantitative Analysis, Vol. 21, No. 2, pp.131-44.
26. Lasfer, M.A. (1995),"Agency costs, taxes and debt: the UK evidence", European Financial Management, Vol. 1, No. 3, pp.265-85.
27. Long M. S. and Malitz. B. I. (1985),Investment Patterns and Financial Leverage. In B. Friedman (ed.), Corporate Capital Structures in the United States. Chicago: University of Chicago Press.
28. Michaelas, N., Chittenden, F., and Poutziouris, P. (1999),"Financial policy and capital structure choice in UK.SMEs: empirical evidence from company panel data", Small Business Economics, Vol. 12, No. 2, pp.113–130.
29. Modigliani, F. and Miller, M.H. (1958),"The cost of capital, corporation finance and the theory of investment", American Economic Review, Vol. 48, No. 3, pp.261-297.
30. Ohlson, J. A. (1980),"Financial ratios and the probabilistic prediction of bankruptcy", Journal of Accounting Research, Vol. 18, No. 1, pp.109–131.
31. Pandey, I.M. and Chotigeat, T. (2004),"Theories of capital structure: evidence from an emerging market", Studies in Economics and Finance. Vol. 22, No. 2, pp.1-19.
32. Pettit, R.R. and Singer, R.F. (1985),"Small Business Finance: A Research Agenda", Financial Management, Vol. 14, No. 3, pp.47-60.
33. Pongsatat, S., Judy, R. and Howard, L. (2004),"Bankruptcy Prediction for Large and Small Firms in Asia: A Comparison of Olson and Altman", Journal of Accounting and Corporate Governance, Vol. 1, No. 2, pp.1-13
34. Rajan, R. G. and Zingales, L. (1995),"What do we know about capital structure? Some evidence from international data", The Journal of Finance, Vol. 50, No. 5, pp.1421–60.
35. Titman, S. and Wessels, R. (1988),"The determinants of capital structure choice", The Journal of Finance, Vol. 43, No. 1, pp.1-19.
36. Van Horne, J.C. (2002),Financial Management and Policy.12th ed., Prentice-Hall, Englewood Cliffs, NJ.
37. Wald, J.K. (1999),"How firm characteristics affect capital structure: an international comparison", Journal of Financial Research, Vol. 22, No. 2, pp.161-187.
38. Williamson, O.E. (1988),"Corporate finance and corporate governance", The Journal of Finance, Vol. 43, No. 3, pp.567-591.
39. Wiwattanakantang, Y. (1999),"An empirical study on the determinants of the capital structure of Thai firms", Pacific-Basin Finance Journal, Vol. 7, pp.371-403.
40. Yartey, C.A. (2006),Stock Market Development and Corporate Financial Policies in Ghana, Financial Studies Division. Research Department, International Monetary Fund. Washington, DC.

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