

Capital Structure, Internal Governance Mechanisms And Firm Performance

Muhammad Harith Zulqarnain Bin Noor Helmy¹, *Goh Chin Fei¹, Tan Owee Kowang¹, Ong Choon Hee¹, Tan Seng Teck², Lim Kim Yew², Wong Chee Hoo²

Abstract—This study examines the impact of capital structure and internal governance mechanisms on Malaysian manufacturing firms' performance. A total of 183 companies were selected from the list of listed companies in Bursa Malaysia within the year 2007 to 2010. We collect the corporate governance data from the annual financial data from Thompson Reuter's DataStream. The study shows the positive impact of capital structure on firm performance of manufacturing firms in Malaysia. However, this study found CEO duality and independent director do not affect firm performance. The implication of this study is that the manufacturing firms in Malaysia should achieve optimal capital structure in improving firm performance.

Keywords—Corporate Governance; Board Independence; CEO Duality; Firm Performance.

I. INTRODUCTION

Capital structure represents the mix of the various debt and equity used in financing the firm's operation and strategy. There are many alternative of capital structure a firm can choose. However, the optimal capital structure is needed to maximize the value of the company. Optimal capital structure will cause to a decrease of firm's cost of capital. Thus, firm's performance is maximized. Managers will try to strike for optimal capital structure to reduce their financing costs in order to improve their firm's performance (Hadlock & James, 2002; Abor, 2005; Berger & Bonaccorsi di Patti, 2006). Chou and Lee (2010) explain that the relationship between capital structures and firm performance are positive but depending on the level of debt as in the trade-off theory. Berger and Bonaccorsi di Patti (2006) reviewed the relationship in different ways where capital structure affects firm performance positively for a more efficient firm. Efficient and effective firms are more likely to earn a higher return for a given capital structure, and the returns can act as a buffer against portfolio risk so that more efficient firms are in a good position to substitute equity for debt in their capital structure.

An agency relationship defines as a contract where one or more person act as the principal, engage another person who act as the agent to perform an act on their behalf (Jensen and Meckling, 1976). Evidence from developing countries documented positive relationship between board independence and firm performance (Liu et al., 2015). The composition of independent directors said to be the catalyst for firm performance. From the perspective of agency theory, Beasley (1996) finds that independent directors on the board will reduce financial statement fraud. It is true when the directors involved are not independent, the financial statement fraud may exist due to non-monitoring situation from outside parties. Parallel to Fama and Jensen (1983) board structure often consist of majority outside directors in order to separate the top level management decisions control in maximizing shareholders' wealth. However, there are arguments arises explaining that inside directors are trustworthy and have in-depth or core knowledge on the nature of business that enhances firm performance (Donaldson 1990; Donaldson and Davis 1991; Nicholson and Kiel 2007).

The primary role of the board is to monitor the management progress effectively. Leadership structure refers to dual responsibility on the CEO where CEO duality means the roles of CEO and also as a chairman vested into one person. It

¹Azman Hashim International Business School, Universiti Teknologi Malaysia Johor Bahru, Johor, Malaysia

²Faculty of Business, Communication & Law, INTI International University, Persiaran Perdana BBH, Putra Nilai, 71800, Nilai, Negeri Sembilan, Malaysia.

*Corresponding author: gcfei@utm.my

is claimed that CEO duality improves firm performance. However, it is argued that this delegation of duality leads to agency problems and creates agency costs (Jensen and Meckling, 1976) which will affect firm performance negatively. Brickley et al. (1997) comes with the idea that both types of leadership structure have their own benefit and cost and is dependent on business environment. Arguably, vesting these two positions to one individual can create a unified command as well as reduce information costs (Anderson and Anthony, 1986; Brickley et al., 1997). CEO duality in stewardship theory argued that managers are trustworthy and a good stewards of company resources (Donaldson, 1990; Donaldson and Davis, 1991) because the CEO has better knowledge of the nature of business as well as the industry and knows how to run the company in making timely and optimal decisions (Brickley et al., 1997).

This study intends to fill the knowledge gaps on Malaysian's firm regarding the impact of capital structure and internal governance mechanisms on firm performance. It is suggested that this study could possibly be used to make as contribution both on theoretical and practical insight for the Malaysian firm's directors and CEOs regarding how to manage internal governance mechanism and how to effectively decide the capital structure to boost and achieve quality firm performance.

II. LITERATURE REVIEW

1.1 Capital Structure in Financial Theory

Capital structures become an important focus point since Miller and Modigliani (1958) started to argue its function and effect to firm's value. It is claimed that financing decision of capital structure is very important for the firms to operate and do the investing activities. There are many alternative of capital structure a firm can choose. However, the best optimal capital structure is compulsory to maximize the value of the firm. Thus, several theories issued describing the capital structure such as agency theory (Myers, 1984), the pecking-order theory (Myers, 1984; O'Brien, 2003), and the trade-off theory (Berger and Bonaccorsidipatti, 2006).

1.2 Agency Theory

Agency as explained in the commercial law as a set of contractual dealing involving two parties called an agent and a principal. In business world, a principal usually describes as the shareholders while the agents of the principal are the executives of the firm. Jensen and Meckling (1976) states an agency relationship define as a contract where one or more person act as the principals engage another person who act as an agent to perform an act on their behalf. Agency theory concerned with resolving problems that can exist in agency relation between the shareholders and managers. Agent will respond to incentives and not always act in the best interests of the principal. From this relationship, an agency costs may occur due to the incomplete alignment between the agent's and the principal's interest (Jensen and Meckling, 1976).

This conflict between the equity holders and the debt holders may affect the firm decision on capital structure (DeMarzo and Fishman, 2007). Debt holders may resist manager's decision on financing strategy even though it may achieve good returns (Kalcheva and Lins, 2007). Thus, when the amount of debt increases, the debt holders will be more powerful and their influence in decisions making will increase accordingly (Margaritis and Psillaki, 2007). The conflict of interest between shareholders and manager is caused by the presence of excess cash or cash equivalents (Jensen and Meckling, 1976). Seing and Davidson (2003) reveal that a board with smaller size has appositive and significant influence on asset utilization efficiency where it showed that higher asset utilization efficiency indicates lower agency costs. Baysinger and Hoskisson (1990) claimed that the manager will often act as 'satisfier' rather than 'maximiser'. To make it clear, this mean managers tend to choose safe approach and seek for acceptable level of growth because they are more prefer of their own security rather than maximizing the shareholders' wealth. Jensen and Meckling (1976) states that principals or shareholder can assure the manager to make best decisions by giving appropriate incentives and only if the agent is under controlled or monitored.

1.3 The Pecking-Order Theory

Since it is a tough challenge for the managers to make decisions, financial economists have come out or developed a number of theories where capital structure choice becomes relevant and one of them is the pecking order theory. Pecking order theory which developed by Myers and Majluf (1984) does not predict the optimal capital structure. But, this theory predicts a preference of corporate financing where investment is financed by internal funds first, then by low risk debt and lastly, the equity.

The pecking-order theory plays a role as a financing theory in reviewing the capital structure. In raising capital, managers follow a pecking order theory which internal funds are preferred first, and followed by debt and lastly, issue of ordinary shares. The pecking order theory will cause the firm to seek funding needs by an order of preference. Firm will issue security from the internal fund such as retained earnings, then turn to debt and lastly the equity. This means that the firm will use external financing only if the internal fund is not enough or not sufficient to finance the firm growth opportunities (Shyam-Sunder and Myers, 1994). The pecking order theory shows that firm's leverage is depending on the difference between operating cash flow and investment need over time. Graham (2000) and Harvey (2001) claims that pecking order suggests that the leverage is not related to profitability.

1.4 The Trade-Off Theory

The trade-off theory, based on the research on taxes (Modigliani and Miller, 1963) and bankruptcy and financial distress costs (Warner, 1977), suggest that firms have a unique optimal capital structure that balances between the tax advantage of debt financing. Trade off theory explain the debt to equity ratios used in the firm. The firm need to choose how much debt finance and equity finance to use by balancing the costs and the benefits. Frank and Goyal (1999) state that this theory is a competitor theory to the pecking order theory of capital structure.

The trade-off theory of capital structure discusses the various corporate finance choices that a corporation experiences. The theory describes that the companies or firms should aim to maintain a target debt to equity of a firm's debt levels. A firm will experience financial distress when they are unable to cope with the debt holders' obligations. If the firm fail to make any payments to the debt holders, the firm can turn to be insolvent. The direct costs of financial distress refer to the cost of insolvency of a company. Once the insolvency proceeds, the assets of the firm may be sold at a low price, which is lower than the current values of the assets. Fama and French (2002) claimed this theory is unable to explain negative link between profitability and leverage. There are limitations of this trade off theory and one of them is it cannot explain why companies are generally conservative in using debt finance. Second, it cannot explain negative relationship between leverage and profitability. Finally, it cannot explain similar leverage levels across countries with different tax systems.

1.5 Hypotheses Development

Optimal capital structure will cause to a decrease of firm's cost of capital. Thus, firm's performance is maximized. By the theory, managers will try to strike for optimal capital structure to minimize their financing costs in order to improve their firm's performance. Accordingly, it is expected that the relationship between capital structure and firm performance to be positive (Titman & Wessel, 1998). Therefore, managers try to maintain this appropriate capital structure and minimize financing costs to improve their firm's performance.

A number of studies provide empirical evidence supporting this positive relationship between debt level and firm's performance (Taub, 1975; Roden & Lewellen, 1995; Champion, 1999; Ghosh et al., 2000; Hadlock & James, 2002; Berger & Bonaccorsi di Patti, 2006; Abor, 2005). Chou and Lee (2010) assert that the relationship between capital structure and firm performance is positive but depending on the level of debt as in the trade-off theory. Berger and Bonaccorsi di Patti (2006) reviewed the relationship in different ways where capital structure affects firm performance positively for a more efficient firm. Evidence from developing countries documented positive relationship between board composition and firm

performance (Liu et al., 2015). In the Malaysian context, it is expected to be similar with the study based on the developing country. Therefore, this study proposes the following hypothesis:

H1: There is significant positive relationship between capital structure and firm performance of Malaysian manufacturing firms listed in Bursa Malaysia.

Board of directors act as monitoring function for performance of the firm in return the shareholders interest are well protected. Therefore, it is assumed that the value of the firm will increase and also enhance the shareholders' wealth if the board perform its duties effectively. From the perspective of agency theory, Beasley (1996) finds that independent directors on the board will reduce financial statement fraud and it is true when the directors involved are not independent, the financial statement fraud may exist due to non-monitoring situation from outside parties. Fama and Jensen (1983) argue that board of directors consist of proportion of outside director in order to separate the decision management and control. Outside directors said to exercise decision control because there are incentives exist for them to perform the duties. The more the independence of the board from the management results in effective monitoring activities (Beasley 1996; Dechow et al. 1996).

Several empirical studies suggest that independent directors can improve board effectiveness as well as the firm performance (Anderson & Reeb, 2004; McKnight & Mira, 2003; Weisbach, 1988). They found the relationship between board independence and firm performances are positive and significant. Further, Bonn et al. (2004) find that the ratio of outside directors is positively associated with ROA. Black and Khanna (2007), Dahya and McConnell (2007), and Black and Kim (2012) conclude that increasing in proportion of independent directors significantly improved the firm performance in India, the U.K., and Korea, respectively. In Malaysian perspective, outside directors may become independent of management although the outside directors may not be truly independent and depends on the availability of good individuals (Abdullah, 2004). Since the appointment of outside directors in Malaysia is by the nomination of the committee, it is expected that the outside directors in Malaysia is independent of management. Thus, this study proposes the following hypothesis:

H2: There is significant relationship between independent boards and firm performance of Malaysian manufacturing firms listed in Bursa Malaysia.

The primary role of the board is to monitor the management progress effectively. The characteristic of effective board besides the composition of the board is the leadership structure. Leadership structure refers to dual responsibility on the CEO or also called CEO duality. CEO duality means the roles of CEO and also as a chairman vested into one person. It was argued that this delegation of duality leads to agency problems and creates agency costs (Jensen and Meckling, 1976) which will affect firm performance negatively. Brickley et al. (1997) comes with the idea of both types of leadership structure have their own benefits and costs and is dependent on business environment. CEO duality in stewardship theory argued that managers are trustworthy and good stewards of company resources (Donaldson, 1990; Donaldson and Davis, 1991, 1994) because the CEO has better knowledge of the business as well as the industry and knows how to run the company. Combining these two roles can help in making timely and optimal decisions (Brickley et al., 1997).

Yu (2008), Peng et al. (2007), Baptista et al. (2011), and Lam and Lee (2008) found a positive relationship between CEO duality and firm performance. However, Valenti et al. (2011), Abdullah (2004) and Faleye (2007) have concluded that CEO duality has no effect on firm performance. Linck et al. (2008) elaborate that firm size, firm age and tenure are significantly associated to a dual structure. Consistent with the evidence, the presences of independent directors counteract the negative impact of CEO duality and find a positive and significant coefficient for the proportion of outside directors

(McWilliams and Sen, 1997). In Malaysian context, the relationship between leadership structure and firm performance remain unclear and still no concrete evidence of study in manufacturing firms' perspective. Thus, the following hypothesis is proposed:

H3: There is significant relationship between leadership structure and firm performance of Malaysian manufacturing firms listed in Bursa Malaysia.

III. RESEARCH METHODOLOGY

1.6 Research design

This research adopts the explanatory research design since it is to study the relationship between capital structure and internal governance mechanism (board independence and leadership structure) on firm performance of Malaysian manufacturing listed in Bursa Malaysia. Clearly, the objectives of the research are to examine the relationship between capital structure and internal governance mechanism on the performance of manufacturing firms in Malaysia. Based on this study on the relationship between capital structure and internal governance mechanism (board independence and leadership structure) on firm performance of Malaysian manufacturing firms listed in Bursa Malaysia, the approach used is the deductive approach.

1.7 Source Of Data

Bursa Malaysia provides current series of data on stocks, interest rates, commodities, securities, derivatives, Islamic markets and economic indicators. Bursa Malaysia also provides the list of listed companies. First choice in gathering the data is from the annual reports gathered from Bursa Malaysia. Second choice to get the data is from Thompson Reuter's financial database, DataStream. DataStream was chosen to assist in gathering financial value for all the selected samples.

1.8 Sample

A total of 202 companies were selected from the list of listed companies in Bursa Malaysia. All the 202 companies selected were the manufacturing companies in Malaysia. Out of 202 companies, there were 19 companies rejected due to incomplete information and did not qualified the criteria as the study needed which are from the year 2007 to 2010. The companies chosen to be included in the study indicating a valid sample of 90.59 %. This percentage represent 183 company samples and 732 firm-year samples included in the research.

IV. ANALYSIS AND DISCUSSION

Table I shows the correlation results for 732 firm-year samples. In the table, the Pearson correlation coefficient for ROA and capital structure is (-0.315). This indicate a negative correlation between ROA and capital structure. The interpretation of the value followed suggestion by Cohen (1998) that the range from 0.30 to 0.49 considered as medium. Thus, the correlation between ROA and capital structure is medium correlation. According to correlation analysis, ROA positively correlated with leadership structure (duality), firm size and ownership concentration. Whilst, ROA recorded negative correlation with capital structure and board independent at significance level 0.01 and 0.05.

According to correlation analysis, capital structure positively correlated with board independent and firm size at significance level 0.01. Whilst, capital structure also recorded negative correlation with ROA, leadership structure and ownership concentration. According to correlation analysis, board independent positively correlated with capital structure while negatively correlated with ROA, leadership structure, firm size and ownership concentration. Leadership structure (duality) recorded positive correlation with ROA and firm size at no significance level. On the other side, leadership structure recorded negative correlation with capital structure, board independent and ownership concentration.

The control variable, firm size, positively correlated with ROA, capital structure, leadership structure, firm size and ownership concentration at significance level of 0.01 and 0.05 while negative correlation with board independent. The other control variable in the study which is the ownership concentration recorded positive correlation with ROA and firm

size at significance level of 0.05 while negative correlation with capital structure, board independent and leadership structure.

TABLE I. CORRELATIONS

CapitalStructure	BoardInd	Dual	FirmSiz	OwnConce
-0.315**	-0.083*	0.063	0.182**	0.087*
1	0.016	-0.084*	0.119**	-0.101**
0.016	1	-0.131**	-0.137**	-0.094*
-0.084*	-0.131**	1	0.069	-0.006
0.119**	-0.137**	0.069	1	.050
-0.101**	-0.094*	-0.006	0.050	1

Regression analysis was performed to discover whether sufficient evidence existed to determine the relationship between dependent variable and independent variables. The study implemented multiple regression to examine the impact of capital structure and internal governance mechanism (board independent and leadership structure) on Malaysian manufacturing firms' performance measured by ROA.

The regression model for firm performance:

$$ROA = \beta_0 + \beta_1 CapitalStructure + \beta_2 BoardInd + \beta_3 Dual + \beta_4 FirmSiz + \beta_5 OwnConce + \mathcal{E}$$

Table II reports the coefficient output of the regression analysis. From the coefficient output, the regression result shows that capital structure ($\beta = -.304$), board independent ($\beta = -.045$), leadership structure ($\beta = .019$), firm size ($\beta = .203$) and ownership concentration ($\beta = .05$). The beta value shows capital structure represents the largest beta coefficient, ($\beta = -.304$). This mean that capital structure makes the strongest contribution to ROA. The other independent variables which are the board composition and leadership structure indicate small beta coefficient resulting to less contribution to the ROA. This result reports statistically significant of capital structure towards firm performance (ROA), which support the first hypotheses in this study. Whilst, board independent and CEO duality (leadership structure) reports very small beta value which indicates less relationship with firm performance and this reject the second and third hypotheses in this study.

On the Significant/P-value column, the output used to explain the significant contribution of independent variables to dependent variable. Sig. value of capital structure 0.000 indicate that this variable contributes a significant contribution to firm performance. Board independent Sig. value recorded 0.201 which explain that this variable is not making contribution to the firm performance. Leadership structure or duality Sig. value is 0.586 which is too high, thus, this variable considered not making any contribution to the firm performance (ROA). While firm size also reports a statistically significance unique (Sig. =0 .000) contribution to the firm performance. Ownership concentration Sig. (0.157) is not making unique contribution to firm performance (ROA).

TABLE II. REGRESSION RESULTS

Independent Variables	Standard Beta	P-value
Capital Structure	-0.304	0
Board Independence	-0.045	0.201
Duality	0.019	0.586

Firm Size	0.203	0
Ownership Concentration	0.05	0.157

V. CONCLUSION

This study shows positive influence of capital structure on firm performance. Thus, the management of the particular firms should progress to achieve the optimal capital structure which mean they need to maintain their debt ratio to maximize the value of the firm. Good decisions must be made concerning the mixture of debt and equity to strike the best optimal capital structure. Managers need to maintain appropriate capital structure and minimize the financing costs in order to improve the firm's performance.

This study also shows that independent director does not give effect on firm performance. So, the board of director is said to linkage no linkage to manufacturing firm performance in Malaysia. Since the model of corporate governance in Malaysia has followed the Anglo-American approach and referring to "shareholder model" which explained corporate governance as a device to maximize shareholder value. The Malaysian corporate governance system is a unitary system where the board of directors declared as the highest governing body in a company (Abdullah, 2004). Thus, the percentage of independent directors in the board of director gives no effect on firm performance, so, percentage of independent director plays no role in firm performance.

Duality structure also gives negative impact on firm performance in this study. By the analysis, duality leadership structure is absolutely does not give any effect on firm performance. So, from the managerial perspective, duality or non-duality structure can be practiced in the firm since it has no impact on firm performance. This study suggests to avoid duality structure because the delegation of duality leads to agency problems and creates agency costs (Jensen and Meckling, 1976) which will affect firm performance negatively. From the managerial perspective also, the CEO duality may cause the problem likes conflict of interest between the managerial team and the shareholders side. On the other hand, more accurate suggestion from previous study, Brickley et al. (1997) comes with the idea of both types of leadership structure have their own benefits and costs and is dependent on business environment.

Finally, this study did prove the positive impact of capital structure on the performance of manufacturing firm in Malaysia. This study also discussed that no evidence exists to show that CEO duality and independent director affect firm performance positively. So, it cannot be said that duality is better than non-duality to boost firm performance. Similar to the board composition of the firm, it cannot be said that independent director is better than inside director in order to enhance firm performance. Thus, from managerial perspective, the manufacturing firm in Malaysia need to focus on achieving the optimal capital structure to boost their performance and freely can practice duality or not as well as the percentage of independent director in the firm.

ACKNOWLEDGMENT

Authors wish to acknowledge the Malaysian Ministry of Education and Universiti Teknologi Malaysia under the Research Grant (FRGS/1/2018/SS03/UTM/02/3, Vot No. 5F104)) for sponsoring this publication.

VI. REFERENCES

- [1] Abdullah, S. (2014). Board composition, CEO duality and performance among Malaysian listed companies. *Corporate Governance: The International Journal of Business in Society Corporate Governance*, 47-61.
- [2] Abor, J. (2005), "The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana", *Journal of Risk Finance*, Vol. 6, pp. 438-47.

- [3] Abor, J. (2007), "Debt policy and performance of SMEs: evidence from Ghanaian and South Africa firms", *Journal of Risk Finance*, Vol. 8, pp. 364-79.
- [4] Berger S., E. Banaccorsi di Patti, (2006), Capital Structure and firm performance: A new approach to testing agency theory and an application to the bank industry, *Journal of Banking & Finance*, 30, pp1065-1102.
- [5] Bonazzi, L., & Islam, S. (2007). Agency theory and corporate governance. *Jnl of Modelling in Management Journal of Modelling in Management*, 7-23.
- [6] Brickley, J., Coles, J., & Jarrell, G. (1997). Leadership structure: Separating the CEO and Chairman of the Board. *Journal of Corporate Finance*, 189-220.
- [7] Cabrera-Suárez, M., & Martín-Santana, J. (2014). Board composition and performance in Spanish non-listed family firms: The influence of type of directors and CEO duality. *BRQ Business Research Quarterly*, 213-229
- [8] Core, J., Holthausen, R., & Larcker, D. (1998). Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics*, 371-406.
- [9] DeMarzo, P., M., Fishman, (2007), Agency and Optimal Investment Dynamics, *The Review of Financial Studies*, 20(1), pp151-188.
- [10] Donaldson, L., & Davis, J. (1991). Stewardship Theory or Agency Theory: CEO Governance and Shareholder Returns. *Australian Journal of Management*, 49-64.
- [11] Ebaid, I. (2009). The impact of capital-structure choice on firm performance: Empirical evidence from Egypt. *The Journal of Risk Finance*, 477-487.
- [12] Eisenhardt, K. (1989). Agency Theory: An Assessment and Review. *Academy of Management Review*, 57-74.
- [13] Fama, E. and French, K. (2002), "Testing trade-off and pecking order predictions about dividends and debt", *Review of Financial Studies*, Vol. 15, pp. 1-33.
- [14] Fama, E., & Jensen, M. (1983). Separation of Ownership and Control. *SSRN Electronic Journal SSRN Journal*, 301-325.
- [15] Frank, M. and Goyal, V. (2003), "Testing the pecking order theory of capital structure", *Journal of Financial Economics*, Vol. 67, pp. 217-48.
- [16] Graham, J. and Harvey, C. (2001), "The theory and practice of corporate finance: evidence from the field", *Journal of Financial Economics*, Vol. 60, pp. 187-243.
- [17] Hadlock, C. and James, C. (2002), "Do banks provide financial slack?", *Journal of Finance*, Vol. 57, pp. 1383-420.
- [18] Jensen, M. (1986), "Agency costs of free cash flow, corporate finance and takeovers", *American Economic Review*, Vol. 76, pp. 323-39.
- [19] Jensen, M. and Meckling, W. (1976), "Theory of the firm, managerial behaviour, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3, pp. 305-60.
- [20] Li, Y., Wang, Y., Zheng, C., & Yao, H. (n.d.). Testing the Pecking Order Theory and Trade- Off Theory of Capital Structure. 2009 International Conference on Management and Service Science.
- [21] Liu, Y., Miletkov, M., Wei, Z., & Yang, T. (2014). Board independence and firm performance in China. *Journal of Corporate Finance*, 223-244.
- [22] Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance*, 621-632
- [23] Miller, M. (1977), "Debt and taxes", *Journal of Finance*, Vol. 32, pp. 261-75.
- [24] Modigliani, F. and M. Miller, (1958), The costs of capital, corporation finance and the theory of investment, *American Economic Review*, 48, pp261-76.

- [25] Modigliani, F. and M. Miller, (1963), Corporate income taxes and the cost of capital: A correction, American Economic Review, 53, pp433-43.
- Titman, S.; (1984), The effect of capital structure on a firm's; liquidation decision. Journal of Financial Economics 13, pp137-151