

## The effect of capital structure on agency costs of free cash flow in companies listed in Tehran Stock Exchange

Ahad Rezaei monfared<sup>1\*</sup>, Mahmood Ghaytasvand<sup>2\*\*</sup>

\*Department of Accounting, Persian Gulf International Branch, Islamic Azad university, khorramshahr, iran

\*\*Department of Accounting, Abadan Branch, Islamic Azad university, Abadan, iran

**Abstract:** The aim of this study is to verify capital structure on agency costs of free cash flow in companies listed in Tehran Stock Exchange. In the line of reach to this aim, it is explain three hypotheses and has tested by selecting 130 companies among companies listed in Tehran Stock Exchange during 6 years, since 2009 to 2014. Present methodology is application in terms of end and is descriptive and correlational and it has used from combinatory regression and panel data models to test the hypothesis. The results of the statistical analysis of hypotheses show that company agency costs is under the effect of financing costs (capital structure), so the main hypothesis was accepted. [Ahad Rezaei monfared, Mahmood Ghaytasvand. **The effect of capital structure on agency costs of free cash flow in companies listed in Tehran Stock Exchange.** *Academ Arena* 2016;8(12):8-12]. ISSN 1553-992X (print); ISSN 2158-771X (online). <http://www.sciencepub.net/academia>. 2. doi:[10.7537/marsaaj081216.02](https://doi.org/10.7537/marsaaj081216.02).

**Keywords:** capital structure, agency costs, free cash flow, exchange.

### Introduction

Inflow and outflow of cash of a business unit is one of the most fundamental events that are the foundation of many of the decisions and judgments of investors and creditors about the unit. Investors and creditors tend to invest in companies that have high free cash flow. As a means of determining the measure of the debt and free cash flow is the flagship company financial flexibility. Free cash flow is defined as cash flows remaining after deducting the cash to invest in projects that evaluated positive net present value. These projects, long-term investment projects the present value of cash flows expected arrival of more than the present value of cash flows expected from their output. One of the key issues is whether the leverage in the financial management of the investment policy is effective? In financing theory, they affected investment decisions in transmission costs and market conditions due to the asymmetric and incomplete markets. In such markets, agency problems occur caused by conflicts between managers and shareholders to and the subsequent incentives is created to invest more or less. Such problems may represent a range of investments which would not be in the interests of shareholders. According to the literature leverage is expected to have a significant effect on agency costs of free cash flow.

### Research background

#### Internal investigations

Peikani (1391) investigate the relationship between free cash flow and cash flow from operating activities and earnings per share in the auto companies. The results showed that in this model the cash flow from operating activities per share (as a measure of cash) and earnings per share (as a measure of the market) there is a significant linear relationship.

Yahiazadeh and colleagues (1392) examined the impact of growth opportunities in their free cash flow valuation. Based on result already on the market Iran could decide capital managers and investors to get good returns now to be effective and controlling shareholder actions, such as due to additional investment theory and the theory of the core can be effective.

Yaghoubi, Masoud (1393) Effect of ownership, free cash flow and diversification strategy on company performance, the results also show that free cash flow in terms of severity, have the most positive impact on the performance of the company.

#### External researches

Nazir and Saita (2013) tested the effect of financial leverage on costs represent. The results of the panel regression model showed that the ratio of administrative costs and short-term debt has significant and negative relationship to total assets ratio of four, long term debt to total assets, total debt to total debt to total assets and liabilities of the contractual.

Youdianti (2014), in a study using 150 samples investigate the effect of interest payments on the relationship between free cash flow and shareholder value. The results show that with 95 percent confidence, changes in free cash flows associated with significant changes in shareholder wealth.

Khan and colleagues (2015) tested financial leverage effect on free cash flow agency problem. The results show that, leveraged free cash flow an important role in reducing agency problems by reducing free cash flow is under the control of managers.

**Research hypothesis**

Main hypothesis: Financial leverage has a significant effect on agency cost of free cash flow.

First hypothesis: the ratio of total debt to equity has a significant effect on agency cost of free cash flow.

The second hypothesis: the ratio of long term debt to total debt representing fee-free cash flow is a significant impact.

**Statistical Society**

The population of this research includes the companies listed in Tehran during the years 1388 to 1393 in Tehran Stock.

**Method of investigation**

This research, in terms of classification research on objective, of applied research, experimental research, the method used to test the hypothesis and is correlational in terms of type. Also, in this study Also

in this study, for reviewing the literature and literature review it is aggregated to use from library studies and information about the result of new variables through banks and ATMs, as well as management of the site belonging to the Stock Exchange. Also it is used from spss software version 22 and EViews version 8, for data analysis and hypothesis testing and regression model.

**Test research hypotheses**

The main hypothesis of this study is whether financial leverage significant effect on agency cost of free cash flow or not? And statistical hypothesis is expressed as follows:

H<sub>1</sub>: Financial leverage has a significant effect on agency cost of free cash flow.

The results of the model, to select the appropriate method of fitting combination regression model (Table 1) are provided.

Table 1. Selected results model to estimate the model

Test type	statistic	amount	Freedom degree	Significant level
Combining Chow test	F Limer	7.430140	(645-129)	0.0000
Hausman test impressionable	Kaido	51.330652	5	0.0000

It was carried out Fixed or random effects model test. In this model based on chi-square statistic and probability model with fixed effects (likely to statistics, less than the 5% level) is appropriate.

The results of the model as well as the results of circumstantial evidence and assumptions of the classical regression are given in Table 2.

Table 2. The results of tests hypotheses

The dependent variable: agency cost of free cash flow					
Method: Panel generalized least squares with fixed effects					
Number of sections: 130 numbers of rounds: 6 The number of observations (balanced): 780					
Variations	Signs	Coefficients	Standard error	T statistic	Significant level
Intercept	<i>C</i>	0.021611-	0.005241	4.123450-	0.0000
Total ratio of debt-to-equity	<i>D/E</i>	0.003383-	0.000589	5.743633-	0.0000
ratio of Long-term debt to total debt	<i>LTDR</i>	0.008172-	0.001693	4.826934-	0.0000
Company size	<i>SIZE</i>	0.003111-	0.001562	1.991854-	0.0466
Returns	<i>PRFT</i>	0.000002518-	0.000000425	5.924706-	0.0000
Management property	<i>MGR</i>	0.019011-	0.004728	4.020939-	0.0000
F Fisher statistic		85.48146	F Fisher statistic possibility		0.000000
Adjusted coefficient of determination		0.396661	Watson - camera statistic		1.605781

It can be properly inferred about the agency cost of free cash flow based on the explanatory variable did. Adjusted coefficient of determination indicated that the variables have the potential to approximately 66/39% of total agency cost of free cash flow to explain the changes. Durbin-Watson model (between

5/1 to 5/2) showed that there is no correlation between the errors in your model and model good condition. In fact, errors models have independence.

### The first sub-hypothesis test

According to the results obtained from the model in the table 1, significantly changing the total debt-to-equity ratio is equal to (0000/0) and is less than the level of error (05/0). As a result of this hypothesis is confirmed. In fact, the ratio of total debt to equity has a significant negative impact on free cash flow agency cost.

### The second sub-hypothesis test

According to the results obtained from the model in the table 2, significant level of variable rate long-term debt to total debt equal to (0000/0) and below the level of error (05/0) is. As a result, this hypothesis is confirmed. In fact, the ratio of long-term debt to total debt has a significant negative impact on free cash flow agency cost.

### The main hypothesis testing

The main hypothesis was studied to formulate and test hypotheses through a subsidiary. The results of the first and second sub-hypothesis, suggests that, financial leverage and significant negative impact on free cash flow agency cost. Therefore, the main hypothesis is accepted.

### Conclusion

#### The first sub-theory analysis

The aim of this study is to test the hypothesis that the ratio of total debt to equity has a significant effect on agency cost of free cash flow?

F. Fisher statistics and probability models (less than 5% error level) show the significance of the regression model.

Adjusted determination coefficient explains about 66/39 per cent changes of agency cost of free cash flow.

According to the results obtained from the model in the table 1, significantly changing the total debt-to-equity ratio is equal to (0000/0) and below the level of error (05/0) and This variable coefficient is (003,383 / 0-); As a result, this hypothesis is confirmed. In fact, the ratio of total debt to equity has a significant negative impact on free cash flow agency cost.

#### The second hypothesis analysis

The aim of this study is the second sub-hypothesis test whether the proportion of long term debt to total debt agency cost of free cash flow is a significant impact?

F. Fisher statistics and probability models (less than 5% error level) show the significance of the regression model.

Adjusted determination coefficient explains about 66/39 percent of free cash flow to the changes in agency costs.

According to the results obtained from the model in the table 2, significant level of variable rate long-term debt to total debt equal to (0000/0) and below the level of error (05/0) and the value of this variable is (008,172 / 0-); As a result, the hypothesis is confirmed. In fact, the ratio of long-term debt to total debt has a significant negative impact on free cash flow agency costs.

### The main hypothesis analysis

The main hypothesis was studied to formulate and test hypotheses through a subsidiary. The results of the first and second sub-hypothesis, suggests that capital structure on agency costs of free cash flow and significant negative impact. Therefore, the main hypothesis is accepted.

To justify this relationship can be said with a decrease in cash flows available to manage debt, reducing agency costs of free cash flow, The relationship between managers and different from their relationship with shareholders, creditors, amount and date of payment of principal and interest of debt has been committed by managers, if they commit to a certain amount of income inequality in the finals of the preset time not to shareholders. So, they have more motivation to apply more supervision on management by increasing debt of creditors and as a result decrease agencies costs. So, based on agency's theory literature and research results, using more from debt in company's capital structure is defined as one of the ways of decreasing agency costs, because using more from debts in company's capital structure is cause to decrease requirements to financial supplement through stock stakeholder right and this topic is cause to decrease opposition of revenue among managers and stakeholders.

### Reference

1. Afza T. and Hussain A. (2011). Determinants of capital Structure: A Case Study of Automobile Secto of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 2 No.10, pp. 219-230.
2. Aydogan A.(2006). How Peristnt is the Impact of Market Timing on Capital structures? the journal of finance, vol.LXI. NO.4.
3. Baiman, S. (1982). "Agency research in managerial accounting: a survey". *Journal of Accounting Literature*, Vol. 1, Pp. 154-213.
4. Baiman, S. (1990). "Agency research in managerial accounting: a second look". *Accounting Organization and Society*, Vol. 15, No.
5. Baker M. and Wurgler J. (2002). Market timing and capital structure. *The Journal of Finance*, 57. 1-30.

6. Bertrand, M., and S. Mallainathan, (2003). Enjoying the Quiet Life? Corporate Governance and Managerial Preferences. *Journal of Political Economy* 111, 1043-1075.
7. Blocher, E. J, K. H. Chen and T. W. Lin. (2000). "Cost Management". Mc Graw Hill.
8. Bradshaw M. Richardson S. and Sloan R. (2006). The relation between corporate financing activities, analysts' forecasts and stock returns. *Journal of Accounting and Economics*, Vol. 42, pp. 53–85.
9. Brennan M.J. and Schwartz E.S. (1984). Optimal Financial Policy and Firm valuation. *Journal of Finance*, 39 (3).
10. Brigham, E. F. and PH. R. Daves. (2007). "Intermediate Financial Management". United States of America: Thomson Learning.
11. Cadsby C.B. Frank M.Z. and Maksimovic V. (1990). Pooling, Separating, and Semi Separating Equilibria in Financial Markets: Some Experimental Evidence. *Review of Financial Studies*, 3 (3).
12. Chang X. and Dasgupta S. (2009). Target Behaviour and Financing: How conclusive is the evidence? *The Journal of Finance*, 64(4).1767–1796.
13. Chen J. and Roger S. (2005). The Determinants of Capital Structure: Evidence from Chinese Listed Companies. *Economic Change and Restructuring*, 11- 35.
14. Chirinko R. and Singha A. (2000). Testing static tradeoff against pecking order models of capital structure: A critical comment. *Journal of Financial Economics*, 58. 417–425.
15. Chung, R., Firth, M., and J. B. Kim (2005b). Earning Management, Surplus Free Cash Flow, and External Monitoring. *Journal of Business Research*, Vol. 58, pp. 766-776.
16. Crnigoj M. and Mramor D. (2009). Determinants of Capital Structure in Emerging European Economies: Evidence from Slovenian Firms. *Emerging Markets Finance & Trade*, 45(1): 72–89.
17. D Mello, R. and M. Miranda (2010). Long-Term Debt and Overinvestment Agency problem. *Journal of Banking and Finance*, Vol. 34, pp. 324-335.
18. Daniel K and Titman Sh. (2006). Market reaction to tangible and intangible information. *Journal of Finance*, Vol. 61, pp. 1605–1643.
19. Fama, E. F. and M. C. Jensen (1983). Separation of Ownership and Control. *Journal of Law and Economics*, Vol. 16, pp. 301-325.
20. Fatma, B. M., and Chichti, J. (2011). Interactions between Free Cash Flow, Debt Policy and Structure of Governance: Three Stage Least Square Simultaneous model Approach. *Journal of Management research*, 3 (2): 1-34.
21. Florackis, C. (2008). Agency Costs and Corporate Governance Mechanism: Evidence for UK Firms. *International Journal of managerial Finance*, Vol. 4, No. 1, pp. 37-59.
22. Frank M.Z. and Goyal V.K. (2003). Testing the Pecking Order Theory of Capital Structure. *Journal of Financial Economics*, 67(2): 217-248.
23. Goldstein R. Ju N. and Leland H. (2001). An EBITBased Model of Dynamic Capital Structure. *Journal of Business*, 74 (4).
24. Gul, S., Sajid, M., Razaq, N., and F. Afzal (2012). Agency Cost, Corporate Governance and Ownership Structure (The Case of Pakistan). *International journal of Business and Social Science*, Vol. 3, No. 9, pp. 268-277.
25. Hasan, A., and Butt, S. A. (2009). Impact of ownership structure and corporate governance on capital structure of Pakistani listed companies. *International Journal of Business and Management*, 4 (2): 50-57.
26. Holmstrom, B. R. (1979). "Moral hazard and observability". *The Bell Journal of Economics*, Vol. 10, No. 1. Pp. 74-91.
27. Holmstrom, B. R. (1999). Managerial Incentive Problems: a Dynamic Perspective. *Review of Economic Studies*, 66, 169-182.
28. Huang G. and Song F. M. (2006). The Determinants of Capital Structure: Evidence from China. *China Economic Review*, 17, 14-36.
29. Islam S. Z. andKhandaker S. (2015).Firm leverage decisions: Does industry matter? *North American Journal of Economics and Finance* 31. 94–107.
30. Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance and Takeovers. *American Economics Review*, Vol. 76, pp. 323-339.
31. Jensen, M. C. (1993). The Modern Industrial Revolution, Exit and the Failure of Internal Control Systems. *Journal of Finance*, vol. 48, no. 3, pp. 831-880.
32. Jensen, M. C. (1998). "Self-Interest, Altruism, Incentives of Agency Theory". *Foundation of Organizational Strategy*, Harvard University Press.
33. Jensen, M. C. and W. H. Meckling (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, Vol. 3, No. 4, pp. 305-360.
34. Kane A. Marcus A.J. and McDonald R.L. (1984). How big are the Tax Advantage to Debt? *Journal of Finance*, 39 (3).

35. Modigliani F. and Miller M.H. (1958). The Cost of Capital Corporation Finance and the Theory of Investment. *American Economic Review*, 48 (3).
36. Rajan R. and Zingales L. (1995). What do We Know about Capital Structure? Some Evidence from International Data. *Journal of Finance*, 50(5), 1421-1460.
37. Richardson, S. (2006). Over-investment of Free Cash Flow. *Review of Accounting Studies*, Vol. 11, pp. 159-189.
38. Shyam-Sunder L. and Myers S. C. (1999). Testing static trade-off against pecking order models of capital structure. *Journal of Financial Economics*, 51. 219–244.
39. Strebulaev I. A. (2007). Do Tests of Capital Structure Theory Mean What They Say? *Journal of Finance*, 62(4), 1747-1787.
40. Strebulaev I.A. (2004). Do Tests of Capital Structure Theory Mean What They Say. Working Paper, Graduate School of Business, Stanford University.
41. Sunder, Sh. (1997). “Theory of Accounting And Control”. Cincinnati: Southwest College.
42. Titman S and Wessels R. (1988). Determination of Capital Structure Choice. *Journal of Finance*, pp. 1-20.
43. Watts, R. L. and J. L. Zimmerman. (1986). “Positive Accounting Theory”. USA: Prentice Hall.

12/23/2016