



## Studying the Relation between Agencies Costs and Economical Performance for Different Industries in Tehran's Stock Exchange

Elham Talebbeydokhti<sup>1\*</sup>, Amir Talebbeydokhti<sup>2</sup> and Abbas Talebbeydokhti<sup>3</sup>

1. Graduated of International Business Management
2. M.Eng in Industrial Management
3. Assistant Professor of Financial Management

\*Corresponding Author: elham.beydokhti@gmail.com

**Abstract:** The aim of this research was to study the relation between agencies costs and economic performance for different industries in Tehran's stock exchange. We have tried to determine whether the agency costs of firms accepted in Tehran's stock exchange affect their economic performance. For testing the research hypothesizes, 92 firms were selected among those accepted in Tehran's stock exchange during a 5 years period from 2006 to 2011 and then the research variables were evaluated. The dependent variable was firms' economic performance, and the independent variable was agencies costs. Economic value added (EVA), refined economic value added (REVA), and market value added (MVA) were used to evaluate the research variables. Also variables such as capital structure, growth opportunity, and firm size were used as control variables in this research. The results obtained from hypothesizes test revealed that there is a positive and significant relation between agencies costs and economic performance, and the effectiveness rate was based on the kind of the industry. Among the control variables, firm size and growth opportunities had a positive and significant relation and capital structure had a negative and significant relation with the economic performance.

**Keywords:** Agencies Costs, Economical Performance, Economical Value Added (EVA), Refined

### INTRODUCTION

The primitive goal of firms is to increase the owners' wealth, but managers don't always seek a ways to increase the profits of owner(s) due to profit conflicts. The establishment of agencies led to some conflicts between firms owners. The agency cost is a kind of internal costs which should be paid to an agent. The agency cost is originated form profit conflict between stock holders and management. Stockholders ask managers to manage the firm so that the stockholders' value will

be increased, but managers may want to increase their own power without considering stockholders profits<sup>1</sup>.

Three criteria have been used for measuring agencies costs till now: effectiveness ratios, achieved firms number, and interaction between the firms growth opportunities and free cash flow. In the third criteria, the agencies costs were considered as a function of interactions between free cash flows and firms growth opportunities. Different criteria such as sale growth, operational profit growth, and Q index can be used to evaluate growth opportunities<sup>2</sup>. In this research, following Doukas, Mcnight, and Pantzalis, Kim, and Veer the interaction between free cash flows and firms growth opportunities was used for measuring the agencies costs. Also, Q Tobin index was used as criteria for measuring growth opportunities. The performance measuring criteria can be divided into two groups namely accounting and economical. In accounting criteria, firm's performance is evaluated using accounting criteria, while in the second group it will be evaluated based on existing assets profit, potential investment, efficiency rate, and capital costs Value<sup>3, 4</sup>.

The accounting criteria of performance evaluation include: economic value added (EVA), refined economic value added (REVA), and market value added (MVA)<sup>5, 6</sup>.

Currently, EVA is considered as one of the most effective criteria in financial management, and its main purpose is to measure the increase rate of stockholders wealth. It is considered as a base for determining financial goals, budgeting specially investment budgeting as well as creation of motivation through award system for mangers<sup>7, 8</sup>.

### **Research hypothesizes**

The Research hypothesizes are divided into main and sub hypothesizes:

#### **First main hypothesizes**

There is a relation between the agencies costs and economic performance of firms accepted in Tehran stock exchange.

First sub- hypothesizes: There is a relation between the agencies costs and economical value added (EVA) of firms accepted in Tehran stock exchange.

Second sub- hypothesizes: There is a relation between the agencies costs and refined economic value added (REVA) of firms accepted in Tehran stock exchange<sup>9</sup>.

Third sub- hypothesizes: There is a relation between the agencies costs and market value added (MVA) of firms accepted in Tehran stock exchange<sup>10</sup>.

#### **Second main hypothesizes**

The relation between the agencies costs and economic performance of firms accepted in Tehran stock exchange are affected by industry's kind.

## MATERIALS AND METHODS

The nature of this research is correlative-applicable. This is a measuring research based on time domain. The duration of this research was from beginning of 2006 (A.H.) to the end of 2011(A.H.). In this research, first the correlation between variables was verified and then the regression model was estimated for those correlated ones<sup>11, 12</sup>.

Statistical population, period, and sampling method

The statistical population includes all firms accepted in Tehran stock exchange was based on the following items:

- Financial year ended to 29<sup>th</sup> Esfand
- No financial change during the research period
- Existence of required data for the firms
- No losses during the research period
- Since we need to determine the market value for Q Tobin, so the firms stocks should be exchanged at least one time annually.

Based on the following terms, 92 firms were selected systematically. Totally, 460 Data were collected from the selected firms<sup>13, 14</sup>.

The second hypothesizes which is related to industry kind was verified using three industries namely drug, vehicle in spare parts, and chemical products industries.

Tools for data analysis and collection

The financial reports of firms accepted in Tehran stock exchange were used as the basic informational reference. These reports include financial checklist obtained from www.rdis.ir for the period 1385-9. The Excel and Spas software were used for hypothesizes testing and analyzing<sup>15</sup>.

Statistical models and testing methods

For testing the research hypothesizes and improves the reliability of findings the following equations were used<sup>16</sup>:

$$\text{EVA (economical value added)} = \text{NOPAT} - (\text{WACC} \times \text{CAPITAL})$$

$$(\text{REVA}) \text{ refined economic value added} = (r-c) \times M \text{ capital} \quad (1)$$

$$M_{\text{capital}} = \text{market value of ordinary and special stocks} + \text{book value of liabilities} - \text{current liabilities without interest} \quad (2)$$

$$\text{MVA (market value added)} = (\text{number of issued stocks}) (\text{stocks' price}) - \text{rights of stockholders} \quad (3)$$

$$\text{Tobin's Q} = \frac{\text{Market value} \times \text{available stockholders stocks}}{\text{Total book value of firm's assets}} \quad (4)$$

$$\text{FCF} = (\text{INC} - \text{TAX} - \text{INTEXP} - \text{PSDIV} - \text{CSDIV})/\text{ASSET} \quad (5)$$

## Studying the Relation between Agencies Costs and Economical Performance ...

### Where:

**FCF:** free cash flow

**INC:** operational profit before sinking costs

**TAX:** tax on income

**INTEXP:** interest cost

**PSDIV:** interest paid to dominant stockholders

**CSDIV:** interest paid to ordinary stockholders

**ASSET:** total book value of assets

Finally, the independent variable (agencies costs) is the product of multiplying Tobin's Q index (Eq.4) and free cash flows (Eq.5):

$$\text{Agency Cost} = \text{Tobin'Q} \times \text{FCF} \quad (6)$$

Finally, the relation between research variables was studied and the statistical models were presented as follows:

$$\text{EVA}_i = \beta_0 + \beta_1 \text{Agency Cost} + \beta_2 \text{Size} + \beta_3 \text{D/V} + \beta_4 \text{Growth} + e_{i,t} \quad (7)$$

$$\text{REVA}_i = \beta_0 + \beta_1 \text{Agency Cost} + \beta_2 \text{Size} + \beta_3 \text{D/V} + \beta_4 \text{Growth} + e_{i,t} \quad (8)$$

$$\text{MVA}_i = \beta_0 + \beta_1 \text{Agency Cost} + \beta_2 \text{Size} + \beta_3 \text{D/V} + \beta_4 \text{Growth} + e_{i,t} \quad (9)$$

### Testing the research hypothesizes and findings analysis

The Excel software was used to measure the research variables and then Spas was used to test the research hypothesizes. The correlation matrix of research variables and results of hypotheses tests are presented in table 1:

**Table 1.** The correlation matrix of research variables & results of hypotheses tests in %1 &

MVA	REVA	EVA	Growth opportunities	Capital structure	Firm size	Agencies costs	
						1	<b>Agencies costs</b>
					1	-.051	<b>Firm size</b>
				1	.095*	-.483**	<b>Capital structure</b>
			1	-.049	.030	.610**	<b>Growth opportunities</b>
		1	.254**	-.182**	.657**	.286**	<b>EVA</b>
	1	.605**	.152**	-.258**	.619**	.249**	<b>REVA</b>
1	.742**	.789**	.439**	-.226**	.684**	.490**	<b>MVA</b>

%5 significance levels

### Results of first sub-hypotheses testing

The Results of first hypothesizes testing are presented in table 2:

**Table 2.** Results of first hypothesizes testing

<b>There is a relation between the agencies costs and economical value added(EVA) of firms accepted in Tehran stock exchange</b>	
<b>Independent variable x1: agencies costs</b>	<b>dependent variable</b>
<b>Y: economic value added(EVA)</b>	
<b>Control variables: firm size (X2), Capital structure (X3), growth opportunities (X4)</b>	
<b>Statistical methods : linear regression model</b>	
<b>Number of statistical sample : 92 firms</b>	
<b>Duration : 1385-89 (A.H.)</b>	

Significant level	f	Dourbin-watson test	Estimation criteria error	Standard determination factor	Determination factor	Correlation factor
.000	141.191	2.057	1.0394342	.550	.554	<b>.744</b>

model	Independent variable	Non-standard factors		Standard factors	t	Significance level
		B	Standard deviation	Beta		
<b>REVA</b>	(Constant)	15.088	.772		19.532	.000
	)X <sub>1</sub> (agency cost	.114	.041	.140	2.760	.006
	)X <sub>2</sub> (firm size	1.690	.086	.648	19.560	.000
	)X <sub>3</sub> (capital structure	-2.042	.329	-.250	-6.205	.000
	)X <sub>4</sub> (growth opportunities	.013	.017	.035	.780	.436

### Results of second sub-hypothesis testing

The Results second sub- hypothesis testing is presented in table 3:

**Table 3.** Results of second sub-hypothesis testing

Second sub- hypothesizes: There is a relation between the agencies costs and refined economic value added (REVA) of firms accepted in Tehran stock exchange.
--

## Studying the Relation between Agencies Costs and Economical Performance ...

Independent variable x1: agencies costs  
 dependent variable Y: Refined economic value added(REVA)  
 Control variables: firm size (X2), Capital structure (X3), growth opportunities (X4)  
 Statistical methods : linear regression model  
 Number of statistical sample : 92 firms  
 Duration : 1385-89 (A.H.)

Significant level	f	Dourbin-watson test	Estimation criteria error	Standard determination factor	Determination factor	Correlation factor
.000	116.40	1.984	0.9365132	0.501	0.506	0.711

Dependent variable	model Independent variable	Non-standard factors		Standard factors		t	Significance level
		B	Dependent variable	Independent variable			
REVA	(Constant)	150.088	0.772			19.532	0.000
	)X <sub>1</sub> (agency cost	0.114	0.041	0.140		2.760	0.006
	)X <sub>2</sub> (firm size	1.690	0.086	0.648		19.560	0.000
	)X <sub>3</sub> (capital structure	-2.042	0.329	-0.250		-6.205	0.000
	)X <sub>4</sub> (growth opportunities	.013	.017	.035		.780	.436

$$REVA=15.08+0.1141(Agency)+1.69(Size) - 2.042(D/V)+e_i$$

### Results of third sub-hypothesis testing

The Results third sub- hypothesis testing is presented in table 4:

**Table 4.** Results of third sub-hypothesis testing

**Third sub- hypothesizes: There is a relation between the agencies costs and market value added (MVA) of firms accepted in Tehran stock exchange.**

Independent variable x1: agencies costs  
 dependent variable Y: market value added (MVA)  
 Control variables: firm size (X2), Capital structure (X3), growth opportunities (X4)  
 Statistical methods : linear regression model  
 Number of statistical sample : 92 firms  
 Duration : 1385-89 (A.H.)

Significant level	f	Dourbin-watson test	Estimation criteria error	Standard determination factor	Determination factor	Correlation factor
.000	375.87	1.641	.6289566	.766	.768	<b>.876</b>

model		Non-standard factors		Standard factors		t	Significance level
Dependent variable	Independent variable	B	Dependent variable	Independent variable			
<b>MVA</b>	13.476	.519		25.976	.000	13.476	
	.278	.028	.348	9.997	.000	.278	
	1.803	.058	.707	31.085	.000	1.803	
	-.924	.221	-.116	-4.181	.000	-.924	
	.074	.011	.200	6.556	.000	.074	

$$MVA=13.76+0.278(Agency)+1.803(Size) - 0.924(D/V) + 0.074(Growth) + e_i]$$

**Table 5.** Summary of second main hypothesizes results

Standard determination factor	Relation kind	Dependent variable	Industry kind
<b>%81</b>	Positive significant	EVA	Drug
	reject	REVA	
<b>%82</b>	Positive significant	MVA	Vehicles and spare parts
	Reject	EVA	
<b>%85</b>	Positive significant	MVA	Material and chemical productions
	reject	EVA	
<b>%88</b>	Positive significant	MVA	
	Reject	REVA	

## CONCLUSION

Authors such as Dr. Mehdi Taghavi have concluded that profit management is considerably affected by agencies costs in firms accepted in Tehran stock exchange. Therefore, it can be concluded that firms with high agencies costs have higher economic performance. In other words, manager’s economic performance

## Studying the Relation between Agencies Costs and Economical Performance ...

has a positive relation with agency contrast intensity. The empirical evidences related to the relation between agencies costs and economic performance is partly ambiguous, since profit management is done with different aims by the managers. If the profit management is done with an opportunism nature, then firms with high agencies costs will have higher profit management and consequently economic performance. In other words, performance has a positive relation with agencies contrast intensity. If so, it is expected for firms with higher agencies costs to have lower economic performance, since their managers don't manage profit for their interests<sup>15</sup>.

In other hand, agencies costs has a reverse effect on firms' value, so if market expects this costs then the firms' value will be decreased<sup>9</sup>. The results obtained in this research are consistent with those<sup>9, 15,16,17,18 & 19</sup>.

## REFERENCES

1. Ang, J., Cole, R. & Lin, J. (2000). Agency costs and ownership structure, *The Journal of finance*, 55: 81-106.
2. Chung, R., Firth M, Kim J. (2005). Earning management, surplus free cash flow, and external monitoring, *Journal of Business Research*, 58: 766-776.
3. Coles, J., Lemmon, M. & Mescke, J. (2005). Structural models and endogeneity in corporate finance: The link between managerial ownership and corporate performance, Arizona State University working paper.
4. Crutchley, C.E., M.R.H. Jensen, J.S., Jahera, J.r. & J.E. Raymond. (1999). Agency problems d the simultaneity of financial dacusion marking: The role of institutional ownership, *International Review of Financial Analysis*, 8:177-197.
5. D.V, Ramana. (2005). Market value added and Economic value added: some empirical evidence. Working paper, available ssrn website.
6. Denis, D.K., McConnell, J.J. (2003). *International Corporate Governance*, Finance Working Paper, 5: 1- 62.
7. De Villiers, E. (1998). Economic Value Added as Management Tool, P:31.
8. Doukas, J.A., P.J., McKnight. & C, Pantzalis, (2005). Security analysis, agency costs and UK firm characteristics, *International Review of Financial Analysis*, 14:493-507.
9. ElMir, a. & Seboui, s. (2008). Corporate governance and the relationship between EVA and created shareholder value, *corporate governance*, 8: 46-58.
10. Fernandez, P.EVA. . (2001). Economic profit and cash value Added di Not Measure Shareholder value Creation, SSRN, Working paper,
11. Finegan, P.T. (1991). Maximizing Sharholder Value at the Private Company, *Journal of Applied Corporate Finance*, Vol.4 No.1:30-45.
12. Fleming, G., R, Heaney. & McCosker. (2005). Agency costs and ownership structure in Australia, *Pacific- Basin Finance Journal*, 13: 29-52.
13. Florackis, C. (2008). Agency costs and corporate governance mechanisms: Evidence for UK firms, *International Journal of Managerial Finance*, 4: 37-59.

14. Henry, D. (2010). Agency costs, ownership structure and corporate governance compliance: A private contracting perspective, *pacific – Basin Finance journal* 18(2010): 24-46.
15. J. H. V. H Dewet. (2001). A Strategic Approach in Managing Shareholder Wealth for Companies Listed on the JSE Securities Exchange South Africa, Doctoral Thesis, and PP: 21-28.
16. Jensen, M.C.(1986). Agency costs of free cash flow, corporate finance and take overs. *American, Economics Review*, 76:323-339.
17. Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of financial economics*, 3: 305-360.
18. Kleiman, R.T. (1999). Some New Evidence on EVA Companies, *Journal of Applied Finance*, No.1, P: 80-91.
19. Lehn, K. & Makhija, A. K. (1996). EVA and MVA as performance measures and signals for strategic change. *Strategy & Leadership*, May/June: 34-38.