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An Investigation on the Relationship between Internal Audit Quality and Economic Value Added: Evidence from Iran

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ABSTRACT

The aim of this research is to investigate the relationship between the existence of internal audit unit and its qualifications on the creation of Economic Value Added (EVA) as a modern and comprehensive performance index in Iranian context. We examined 80 firms listed on Tehran Stock Exchange (TSE) during the period of 2005-2009. We employed 9 criteria for internal audit qualifications (IAQ) and examined the impact of them on EVA. The research findings indicate that there is a significant positive relationship between the existence of internal audit (IA) in Iranian firms. Additionally, the results show that there are positive significant relationships between age of IA, independence of IA, size of IA, experience of IA's staff, experience of IA's manager and EVA. Nevertheless, there are no significant relationships between knowledge of IA's staff, field of knowledge of IA's staff, knowledge of IA's manager, field of knowledge of IA's manager.
KEY WORDS: Internal Audit (IA), Internal Audit Quality (IAQ), Economic Value Added (VA).

INTRODUCTION

Achieving the goals of corporate governance depends on different intra- and extra-organizational mechanisms in its structure. An efficient and professional internal audit is one of the key intra-organizational mechanisms. In recent decades, expectations from internal audit (IA) have been changed and many topics about effectiveness, performance evaluation, and value adding of internal auditors were propounded. The researches show that the need for internal audit was more for creation of more value added, success in achievement to organizational goals, having an active role in risk management, and corporate governance system. This new role of IA must be organized by managers and the board [8]. Stern (1994), in his research, points to 15 ways of creation of value adding by auditors, which one of them is using knowledgeable staff in trading and internal audit department. If internal audit staff has enough knowledge and experiment, they know progress of trading, they are dutiful, and they know how to increase control. Skillful staff in financial, accounting, IT, communication and engineering relate better with audit [15]. Roth (2003) points out to four factors that affect value added quality of internal auditors: 1. professional Knowledge, 2. innovating new ways to conclude new results for shareholders, 3. knowledge about organization, and 4. courage to change unexpected ways for shareholders. If we think about the existing realities in Iranian companies, we notice that those who are employed for audit mostly pass their pre-retirement period, and their Knowledge plays no role in their election. They are agents of others, and their features are not important because they are going to engage in discrimination. However, an active IA in an organization will create value.

Thus, this research studies relation between internal audit quality (IAQ) as one of the important corporate governance mechanisms and economic value added (EVA) as a criterion to evaluate performance. Indices of internal audit are: Internal Audits (IA) Department, Age of IA, Independence of IA, Size of IA, Knowledge of IAs Staff, Field of Knowledge of IAs Staff, Experience of IAs Staff, Experience of IAs Manager, Knowledge of IAs Manager, and Field of Knowledge of IAs Manager. We tested the effects of these indices on EVA.

Conceptual framework

In corporations, shareholders play no role in administration of the company directly. Therefore, managers, in fact, are agents of the owners. This relationship between owners and agents is called “agency theory” [11]. Separation of ownership from management concluded a well-known organizational problem called “agency problem”. One of the main assumptions of agency theory is that employer and agent have opposite benefits [6]. One of the most important roles of a leader of a company is getting confidence about achieving organizational goals by preserving values and considering social responsibilities. This duty is basically due to board of

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directors. Internal departments such as audit committee, risk committee, and internal audit unit help the board in accomplishment of these goals [4].

American Internal Auditors Association (AIAA) which is known as an organization of leadership and promotion of internal audit in the world suggests the following definition for internal audit: "an assuring and consulting independent realistic activity with goal of value adding and improvement of organization operations". Internal audit help an organization to achieve its goals by providing a systematic approach. It improves effectiveness of processes such as risk management, controls, and leadership.

This definition emphasizes necessity of value adding and corporate leadership of functions of IA [4]. Internal audit improves value added by saving, creation of opportunities, and decrement of losses. It creates a confidence factor by transparency in organizational activities and increases effectiveness of organization policies [10].

On the other hand, in the agency theory, managers are agents of owners, but they may mislead and pursue their personal benefits instead of that of owners [17]. Therefore, shareholders need to ensure that managers maximize their wealth; therefore, performance evaluation of managers is very important for shareholders [11]. There are different methods for performance evaluation, but its financial aspect is more important. Performance evaluation methods from financial aspect have four categories:

1. Methods that use accounting information, such as Return On Assets (ROA) and Return On Equity (ROE), for evaluation;
2. Methods that used a combination of accounting and market information to assess companies, like different Q Tobin ratios or P/E ratio;
3. Ratios that use financial management information, such as earning per share or abnormal return of stock;
4. Ratios that use economic criteria rather than accounting information, such as Market Value Added (MVA), Refined Economic Value Added (REVA), Economic value added and (EVA) [11].

One of the most valuable performance evaluation criteria and anticipation of firm values is EVA. EVA is affected by all decisions such as investment, profit division, capital return rate, financing, and cost of capital. EVA shows that firm value directly depends on management [1]. One of the main benefits of EVA is that it accounts for the opportunity cost of the capital [16]. Thus, it can be expected that the existence of a qualified internal audit in the firm can be leaded to creation of EVA. We examine this relation in this research empirically.

LITERATURE REVIEW

Popescu and Emilia (2011) pointed out that recognition of risks by managers is not enough to prevent them, and managers must care about recommendations of internal auditors. Internal audit standards are accepted by international auditors and provide necessary framework to assure the best procedure in this field. Although internal audit is not to provide reports, it is a communication tool with managers and consultants. Value of internal audit is shown by development of internal control capacity. Managers agree with creation of a risk awareness culture in organization, but they do not appreciate educated auditors. Leadership of internal audit is experimental yet, especially in a developing country such as Iran. In practice, culture of risk acceptance, so that each employee plays its own role, has not been taken seriously. Popescu and Emilia (2011) also suggest the following reasons of failure by analyzing failure noticed by managers: non-coordination between internal policies and work procedures, recognition of risk but taking them impossible, and weak internal control system. Creation of a risk management system and an internal control system are the greatest challenge of managers. Internal auditors play the most important role in this regard because they can receive value added from internal audit structure by evaluation of special risks and reorganizing internal control system [10].

In research of Mubbsher et al. (2011), the relation between corporate governance and financial performance of firms listed in Pakistan Stock Exchange was studied. Corporate governance as an independent variable include seven elements: risk management, internal audit, responsiveness, shareholders' structure, reward of board, dividend policy, and activity sustainability. Financial performance as a dependent variable includes three elements: return on equity (ROE), price/earning ratio (P/E), and earning per share (EPS). The results show that shareholders' structure, internal audit, responsiveness, and sustainability have direct relation with performance, and reward of board, risk management, and dividend policy have reverse relation with financial performance [9]. However, this research used traditional performance indices instead of modern one like EVA.

In the research of Elmir and Seboui (2008), corporate governance and relation between EVA and created value for shareholders was investigated. In this research, a sample of 67 American firms was studied for 7 years (1998-2004). Four factors were mentioned as general mechanisms of corporate governance, which each of them was divided into smaller variables: features of board, internal audit (number of meetings of audit committee, financial experience of audit committee members), ownership structure, and reward of managers. The results show that some of corporate governance mechanisms, such as independence of board, experience and

reputability of auditors, ownership structure, and stock purchase options for description of convergence and divergence between created shareholders value (CSV) and EVA are important and effective. On the other hand, these variables affect value added [3].

Bota-Varm (2008) investigated international standards of internal audit published by Internal Audit Association (IAA) (Performance Standard 2000, Internal Audit Management). He suggests that internal audit manager must manage so that he assures creation of value added. Now, the question is that "What does create value added for an organization and how an internal audit can do it?" IAA defines internal audit as creator of value by development of situations to achieve the goals, recognition of improving ways, and risk decrement by confident activities and services. Some general rules about creation of value added by internal auditors are as follows: a) An internal auditor must be aware of his responsibility to create value added for organization, b) auditors should describe internal audit for managers and shareholders, c) auditors must train managers. He states that Official Auditors Association (OAA) can play an important role by development of internal audit standards to create value added [2].

Mihret et al. (2008) focused on infrastructures that create value added by auditors. They concluded that three factors can create these infrastructures: 1. organization goals, 2. strategies that an organization obeys them, 3. risk level of organization. In not- for profit organizations, goals conflict with concept of value adding of internal auditors. Probable incentive puts manager under pressure to consult with auditors and lead them toward value adding. Value adding features of internal auditors are increased within a risk environment. In companies with higher risks, consulting pattern of internal audit is encouraged. Companies with aggressive strategies (with high risk acceptance), demand more consulting services from internal auditors [7].

Roth (2003) studied the factors affecting on the value adding quality of internal auditors. These factors are as follows: a) courage to change way unexpected for shareholders, b) deep knowledge about organization, c) professional complementary knowledge, d) innovation and innovating ways to create new unexpected results. He also pointed out five indices to project value adding of internal auditors: 1. experiment of staff, 2. active work environment, 3. organizational efforts to use expert audit managers, 4. participatory audit department, 5. on-time risk estimation and supplying desirable audit services (Roth, 2003).

Stern (1994) also suggests that organizations expect internal audit unit creates value, decreases costs, and solves problems. He introduces 15 ways for auditors to create value added: 1. become a catalyst for change, 2. make auditing collaborative, 3. use self-assessment, 4. bring business employees into auditing, 5. concentrate on business risk, 6. aim to increase profit, 7. creating invasive space against problems, 8. share technology with business units, 9. align with customers, 10. issue advisory role of auditing, 11. preventive conduct of internal audit, 12. reduce audit costs, 13. crating specialty space for auditors, 14. proving on-time audit reports, 15. taking in mind that auditors must have value added [15]. Therefore, internal audit is expected to create value added in organization. Internal audit features and quality conclude creation of value.

As we discussed before, internal audit (IA) can create value added for its firm. We can expect there is a significant relationship between the quality of IA function and EVA.

Research Hypotheses

The main question of this research is that "whether IA unit in Iranian firms does conclude to create value added? Is there a significant relation between IAQ and EVA (as a comprehensive value creation criterion)? Regarding to these questions, the following hypotheses are propounded:

1. There is a significant relation between EVA and the existence of internal audit (IA).

We use of some proxies for IAQ and test each of them in the next hypotheses. If there is an IA in the firm, we represent our next hypotheses in the research:

2. There is a significant relation between age of IA and EVA.
3. There is a significant relation between independence of IA and EVA.
4. There is a significant relation between size of IA and EVA.
5. There is a significant relation between Knowledge of IA's Staff and EVA.
6. There is a significant relation between field of knowledge of IA's staff and EVA.
7. There is a significant relation between experience of IA's Staff and EVA.
8. There is a significant relation between experience of IA's manager and EVA.
9. There is a significant relation between knowledge of IA's manager and EVA.
10. There is a significant relation between field of knowledge of IA's manager and EVA.

RESEARCH VARIABLES AND MODEL

Independent variables

We examined the relationship between existence of IA and EVA. In the second step, we tested the relation between IAQ and EVA. Thus, the existence of IA and IAQ are independent variables and EVA is the depend variable. For IAQ we used some proxies.

1. Existence of IA (EIA): Information of site of Stock Exchange was used to extract this item. If a firm has an IA unit we assign 1 to this variable otherwise, 0.
2. Age of IA (AIA): we used the number of years that IA was established and worked in the firm.
3. Independence of IA (IIA): This is measured by unit or authority that an internal auditor works under its supervision. We measured this supervision by four supervision levels: 1. audit committee, 2. Board of directors, 3. managing director, 4. other units in the firm.
4. Size of IA (SIA): The number of IA's staff was used to measure this item.
5. Knowledge of IA's staff (KIAS): Each staff is assigned a score on his/her field of knowledge. Then their average was used for making a proxy of the level of knowledge of IA's staff (doctorate degree (5), master degree (4), bachelor degree (3), Associate degree (2), Diploma and lower (1)).
6. Field of knowledge of IA's staff (FIAS): Regarding to the Qualification Code for Iranian Association of Certified Public Accountants (IACPA), auditors must educate in a related academic major. The related fields of knowledge are accounting, auditing, financial management, business management, industrial management, and banking. We assign 1 if each of staff studied in a related major otherwise 0.
7. Experience of IA's staff (EIAS): we measured this variable by the number of experience years in accounting or auditing for each staff of IA. Then their average was used for this item.
8. Experience of IAs manager (EIAM): The years of experience in this post was used for this variable.
9. Knowledge of IA's manager (KIAM): A mark was assigned up on academic degree.
10. Field of knowledge of IA's manager (FIAM): this variable is also measured like field of knowledge of IA's staff for the IA's manager.

We gathered the information of IAQ proxies by a questionnaire that was administered to IA's managers.

Dependent variables

The use of Economic Value Added (EVA) was first suggested by Stewart (1991). He suggested that managers should maximize EVA instead of maximizing profits. He also suggested the use of EVA for "setting goals, evaluating performance, determining bonuses, communicating with investors, and for capital budgeting and valuations of all sorts" [16]. To calculate EVA, we should subtract the opportunity cost of the capital from the profits generated by the firm. Thus, EVA focuses on the profitable use of capital. When maximizing EVA, activities which result in positive profits but return less than the cost of capital are discontinued, even though this decreases overall profits [18].

In this research, EVA is dependent variable. EVA indicates if operating profit considered for cost of capital is enough or not? EVA is net operating profit minus capital cost and tax (NOPAT) [16]:

$$\text{Capital employed} \times \text{EVA} = \text{NOPAT} - \text{cost of capital} \quad (1)$$

$$\text{EVA} = \text{Net operating profit} - \text{tax} - (\text{Capital} \times \text{Capital cost}) \quad (2)$$

If we consider return rate as ratio of NOPAT to capital, we have:

$$\text{EVA} = (r - c) \times \text{Capital} \quad (3)$$

$$\text{EVA} = (\text{Capital return rate} - \text{cost of capital rate}) \times \text{Capital} \quad (4)$$

Only those firms with return rate more than capital cost rate average, have a positive EVA. In other words, if net profit of a firm is more than capital opportunity cost, firm value and wealth of shareholders will increase. EVA shows that company value directly depends on management performance, while other measurement criteria of performance cannot do this action [18, 12, 13]. According to relation (4) we have:

$$r = \frac{\text{NOPAT}}{\text{Capital}} \quad (5)$$

$$c = w_d k_d + w_e k_e \quad (6)$$

In which,

w_d : debit weight
k_d : debit cost
w_e : common stock weight
k_e : common stock cost

$$c = \left(\frac{D}{D+E}\right)Y(1-T) + \left(\frac{E}{D+E}\right)\left(\frac{D_0}{P_0}\times 100\right) \quad (7)$$

In which,

D : sum of interest-bearing debt
E : market stock price
Y : bank interest rate = 18%
T : tax rate = 22.5%
P_0 : market stock price
D_0 : divided

Regarding to hypotheses and variables of this research, the research model is:

$$EVA = \beta_0 + \beta_1(EIA) + \beta_2(AIA) + \beta_3(IIA) + \beta_4(SIA) + \beta_5(KIAS) + \beta_6(FIAS) + \beta_7(EIAS) + \beta_8(EIAM) + \beta_9(KIAM) + \beta_{10}(FIAM) + \varepsilon \quad (8)$$

In equation (8), EVA is dependent variable. Independent variables are EIA, AIA, IIA, SIA, KIAS, FIAS, EIAS, EIAM, KIAM and FIAM. β is a constant factor and ε is error factor.

Statistical Population and Sample

Statistical population of this research is manufacturing firms listed in Tehran Stock Exchange with the following conditions:

1. The firm has an active IA.
2. The firm has a 12 month financial period.
3. The firm was a member of TSE during 2005-2009.
4. Related data can be extracted from software of TSE, financial statements, and their notes.

Finally, 80 firms with the above conditions were selected as our sample we examined 80 firms for hypothesis one. Among them, 24 firms had internal audit department. Then their number was decreased to 24 firms to test hypotheses 2-10.

Descriptive statistics

The theoretical model and hypotheses of this research was examined by multi-variable model and then analyzed by cross sectional regression. The relation between EVA and IAQ is analyzed in a regression setting. In order to take into account the probable individual firm effects, fixed effect regression are employed besides the pooling regression. We also used from logistic regression when it was a proper statistical method.

Next, we present the results for descriptive statistics of variables and results of test of hypotheses.

EVA: EVAs of sample companies were calculated. These variables were measured by interval scale as firm-year values. The table 2 indicates descriptive statistics for interval variables of the research.

EVA with average of 15775.10, StD of 97265.792, and variance of 9463634352.862 has a negative skewness and positive extension. Deviation of coefficients of skewness and extension is greater than absolute of 1.96, thus its distribution and curve is not symmetric. In other words, skewness and extension coefficients have severe deviation. A negative skewness indicates that furthermost points from central indices are located at the left side of scale. A positive skewness indicates that compression of points around central indices is more severe than a normal distribution.

In a brief, the standard deviation of EVA is about six times the mean suggesting a high variation of EVA among the sample firms. The mean of EVA is 15775.1 which means that on average the wealth created by the firms for shareholders at the study period.

Existence of Internal Audit: There were 75 firm- year observations with IA and 325 items without IA. Table 1 presents this data.

Table 1- the situation of existence of IA
according to sample firm- year observations

year and internal audit position		*Years of observations*					*total*
		2005	2006	2007	2008	2009	
internal audit existence	no EIA	69	69	67	63	57	325
	EIA	11	11	13	17	23	75
total		80	80	80	80	80	400

IAQ: as we explained earlier IA qualifications were introduced by 9 indices: Age of IA, independence of IA, size of IA, Knowledge of IA's staff, field of knowledge of IA's staff, experience of IA's staff, experience of IA's manager, Knowledge of IA's manager, field of knowledge of IA's manager. We present statistics of these indices.

Indices with interval scales: Three indices were expressed by interval scale: AIA, EIAS, and EIAM. AIA with average of 7.853, StD of 5.469, and variance of 29.911, and EIAM with average of 14.747, StD of 7.744, and variance of 59.975 have positive skewness and negative extensions. Deviation of skewness of extension coefficients of these variables is greater than absolute of 1.96. Thus their distribution is symmetric. EIAS with average of 10.722, StD of 5.863, and variance of 34.375 has a positive skewness and extension. Deviation of skewness and extension coefficients of this variable is greater than absolute of 1.96. As a result, their distribution is not symmetric. Therefore, the furthermost points are in the right side of scale and compression around central indices is severe. Table 2 presents descriptive statistics of indices with interval scales of IAQ.

Table2- descriptive statistics of indices with interval scales of IAQ

Variable	number	mean	median	Std. deviation	variance	Skewness	kurtosis	Deviation coeffient	
								kurtosis	*Skewness*
EVA	400	15775.1	6903.8	97265.792	9460634353	-2.449	34.607	-20.067	142.157
AIA	75	7.853	7	5.496	29.911	0.48	-0.587	1.732	-1.070
EIAS	75	10.722	9.415	5.863	34.375	1.292	1.934	4.658	3.527
EIAM	75	14.747	16	7.744	59.975	0.106	-1.020	0.383	-1.862

Indices with ordinal scales: Five indices were expressed by ordinal scale EIA, SIA, KIAS, KIAM, and FKIAS. Independence of IA (EIA) with average of 2.147, StD of 0.392, and variance of 29.154, and size of IA (SIA) with average of 2.227, StD of 1.871, and variance of 3.502, and Knowledge of IAs manager (KIAM) with average of 3.307, StD of 0.615, and variance of 0.378 have positive skewness and extensions. Deviation of skewness and extension coefficients of these variables are greater than absolute of 1.96. Thus, their distribution is not symmetric. Knowledge of IA's staff with average of 3.082, StD of 0.420, and variance of 0.176, and field of knowledge of IA's staff with average of 0.838, StD of 0.296, and variance of 0.087 have negative skewness and positive extensions. Deviation of skewness coefficients of these variables is greater than absolute of 1.96. Thus, their distribution is not normal. Deviation of skewness coefficient of knowledge of IA's staff is less than absolute of 1.96. Thus, its distribution is normal. But, deviation of skewness coefficient of field of knowledge of IA's staff is greater than absolute of 1.96. Thus, its distribution is not normal.

Table 3- descriptive statistics of indices with ordinal scales of IA quality

Variable	*number*	*mean*	*median*	*Std. deviation*	*variance*	*Skewness*	*kurtosis*	*Deviation coeffient*	
								Skewness	***kurtosis***
IIA	75	2.147	2	0.392	0.154	2.703	7.149	9.746	13.041
SIA	75	2.227	1	1.871	3.502	2.063	3.91	7.438	7.133
KIAS	75	3.082	3	0.42	0.176	-0.198	10.684	-0.713	19.489
KIAM	75	3.307	3	0.615	0.378	0.426	2.816	1.537	5.137
FKIAS	75	0.838	1	0.296	0.087	-1.917	2.77	-6.912	5.053

Indices with nominal scales: Index of field of Knowledge of IA manager (FKIAM) was measured by nominal scale. Among 75 observations, 89% have related field of knowledge. This index shows that in firms with IA, except 11%, field of knowledge of IA's manager is related to accounting and auditing field.

Table 4- Indices with nominal scales position of knowledge of IAs principal

Academic major of IA manager	***frequencies***	***% frequencies***	***% accumulated frequencies***
No accounting and auditing major	8	10.7	10.7
Accounting and auditing major	67	89.3	100
total	75	100	

Since data was gathered from companies listed in Tehran Stock Exchange during many years, and the goal of this research is test of hypotheses and fitness of econometric model of EVA according to IAQ, thus cross section regression analysis is suitable.

Statistical tests showed that distribution of variables is not normal,[1] but since sample number is large (> 30), then the distribution can be said normal by Central Limit Theorem, and then parametric tests can be used. Generally, it is concluded that parametric tests of regression analysis can be used and the results are reliable.

EMPIRICAL RESULTS

The theoretical model and the hypotheses were tested with IAQ as a total variable and with cross section regression analysis. To examine our hypotheses, a main model and 9 sub-main models were tested.

Main model: In this model, 9 indices are independent variables. Since the observations are low and the number of variables are high, then backward step-by-step regression analysis was used, which five significant variables were remained in step 5. By this method the effect of variables AIA, IIA, KIAS, EIAS, and KIAM, were significant. Among these significant variables, KIAS affect EVA positively. R statistic is 41.6%, which indicates that about 42% of changes of EVA of the sample firms by IA effects are determined by these five variables: AIA, EIA, KIAS, EIAS, and KIAM. Therefore, it can be supported statistically that there is a significant relation between some of IAQ and EVA. The results are shown in table 5.

Table 5- Result of regression analysis for test of IAQ effect

variable	Nonstandard coefficients		standard value	t	sig
	value	Standard error			
constant	-145697.155	93711		-1.555	0.13
AIA	4629.6	1918.4	0.241	2.413	0.02
IIA	112746	25771	0.421	4.375	0
KIAS	-129136.095	37903	-0.516	-3.407	0
EIAS	3565.5	1829.9	0.199	1.948	0.06
KIAM	85867	27829	0.502	3.086	0

sig	f	error Standard	ADR^2	R	R2
0	9.817	83160	0.373	0.416	0.645

As we stressed before, we test other hypotheses (the effect of IAQ indices on EVA) in the firms which have IA units. The sub hypotheses for IAQ are:

Sub models: In these models, each IAQ measure plays role of an independent variable. These models were fitted sectional. In fact, 9 separate models were analyzed. f statistics and significant levels for variables of KIAS, FKIAS, KIAM, and FKIM, indicate that there is not a linear relationship between descriptive variables and the dependent variables (the significance level is more that 0.05). t statistics and significance levels for these variables have not enough power to reject lack of a direct effect on EVA. But f statistics for variables of AIA, IIA, SIA, EIAS, and EIAM indicate a linear relationship between these variables and the dependent variable (the sig statistic is more than 0.05). Also, t statistic and significance levels for these variables have not enough power to reject lack of a direct effect on EVA. Regarding to the positive sign of coefficients of independent variables (the direction of the significant relationship), their direct effect on EVA was supported. The results for these models are shown in table 6. Coefficients with significance level less than 0.05 are significant and those with significance level greater than 0.05 are insignificant [5].

1. If they become normal, then negative data are lost.

Table 6-Result of regression analysis for test of each of IA's qualifications effect

model	*variable*	*Nonstandard coefficients*		*standard value*	*t statistics*	*sig*
		value	***Standard error***			
model1	Constant	13674.9	20570.95		0.665	0.508
	AIA	5494.458	2154.213	0.286	2.551	0.013
model 2	Constant	152337-	63697.99		2.392-	0.019
	IIA	97435.56	29195.93	0.364	3.337	0.001
model3	Constant	10688.14	17711.8		0.603	0.548
	SIA	20720.02	6106.307	0.369	3.393	0.001
model4	Constant	136283.6	90592.02		1.504	0.137
	KIAS	25779.6-	29126.16	0.103-	0.885-	0.379
model5	Constant	82966.21	36773.1		2.256	0.027
	FKIAS	31202.6-	41420.8	0.088-	0.753-	0.454
model6	Constant	935.395	24481.2		0.038	0.97
	EIAS	5212.518	2006.379	0.291	2.598	0.011
model7	Constant	29995.7-	23789.52		1.261-	0.211
	EIAM	5887.462	1430.304	0.434	4.116	0
model8	Constant	35999.3-	66362.1		0.542-	0.589
	KIAM	28071.78	19735.71	0.164	1.422	0.159
model9	Constant	68936.13	37364.53		1.845	0.069
	FKIAM	13557.6-	39532.37	0.04-	0.343-	0.733
--	***R***	***R^2***	***ADR^2***	***Standard error***	***f***	***sig***
model 1	0.286	0.082	0.069	101348.5	6.505	0.013
model 2	0.364	0.132	0.12	98519.133	11.138	0.001
model 3	0.369	0.136	0.124	98299.535	11.514	0.001
model 4	0.103	0.011	0.003-	105204.96	0.783	0.379
model 5	0.088	0.008	0.006-	105359.24	0.567	0.454
model 6	0.291	0.085	0.072	101193.28	6.749	0.011
model 7	0.434	0.188	0.177	95286.415	16.943	0
model 8	0.164	0.027	0.014	104332.07	2.023	0.159
model 9	0.04	0.002	0.012-	105682.86	0.118	0.733

Therefore, the brief results for examining of sub hypotheses are:

1. **There is a significant relation between Age of IA and EVA.**
2. **There is a significant relation between independence of IA and EVA.**
3. **There is a significant relation between size of IA and EVA.**
4. There is not a significant relation between knowledge of IA's staff and EVA.
5. There is not a significant relation between field of knowledge of IA's staff and EVA.
6. **There is a significant relation between experience of IA's staff and EVA.**
7. **There is a significant relation between experience of IA's manager and EVA.**
8. There is not a significant relation between knowledge of IA's manager and EVA.
9. There is not a significant relation between field of knowledge of IA's manager and EVA.

Other findings of research

EVA in firms with IA unit is more than that in firms without IA unit. Comparison of EVA in companies with IA and without IA by mean comparison test indicated that average of this variable in companies with IA unit was more. Therefore, it was concluded that companies with an active IA unit have higher EVA. Thus, internal audit can create EVA in Iranian firms. The results are indicated in table 7.

Table 7- Test of comparison of mean of EVA on two Samples

Mean- with internal audit	*Mean -without internal audit*	*variance comparison*		*mean comparison*			
		f	p	t	Freedom	p-value	mean differences
-3674.345	100056.03	18.182	0	-9.147	398	0	-103730.4

The hypotheses were tested by sectional regression analysis. Among 10 hypotheses, 6 were supported and 4 were not supported. The results are shown in table 8.

Table 8- Summary of test of hypotheses with regression analysis

Hypotheses	*independent variable*	*Empirical results: The impact on EVA*
Hypothesis1	**existence of IA in the firm**	**Direct and significant impact**
Hypothesis2	**age of IA**	**Direct and significant impact**
Hypothesis3	**Independence of IA**	**Direct and significant impact**
Hypothesis4	**size of IA**	**Direct and significant impact**
Hypothesis5	knowledge of IA 's staff	No significant impact
Hypothesis6	Field of knowledge of IA's staff	No significant impact
Hypothesis7	**Experience of IA 's staff**	**Direct and significant impact**
Hypothesis8	**Experience of IA 's manager**	**Direct and significant impact**
Hypothesis9	knowledge of IA 's manager	No significant impact
Hypothesis10	Field of knowledge of IA 's manager	No significant impact

Conclusions and suggestions

In this research, relation between IAQ, as one of the mechanisms of corporate governance, and EVA, as a modern criterion for performance evaluation was examined in Iranian context. Each variable was examined in two models. In the first model (general model of explanatory variables), all variables were examined and a direct and significant level was observed between Age of IA, independence of IA, size of IA, Knowledge of IA's staff, experience of IA's staff, and knowledge of IA's manager, with EVA. However, there was no relation between size of IA, field of knowledge of IA's staff, experience of IA's manager, and field of knowledge of IA's manager, with EVA. In the second model (including 9 separate models), each sub variable of IAQ as well as existence of IA unit were tested. The results showed a positive and significant relation between existence of internal audits unit, age of IA, independence of IA, size of IA, knowledge of IA's staff, experience of IA's staff, and experience of IAs manager with EVA. However, there was no relation between knowledge of IA's staff, field of knowledge of IA's staff, knowledge of IA's manager, and field of knowledge of IA's manager with EVA. The results show that some of qualifications of internal audit in the firms that there is an internal audit unit, can create EVA for shareholders and decrease problems of agency theory.

The results of this research coincide with the results of Mubbsher et al. (2011) [9], which indicated a direct relation between IA and performance, and the results of Elmir and Seboui (2008) [3], which indicated a direct relation between reputability and related experience of members of IA with EVA and producing value for shareholders.

Regarding to our research findings and the goals of corporate governance including IAQ, the following suggestions are offered for Iranian context:

1. Internal audit is a supervision mechanism for corporate governance, but it does not exist in most companies listed in Tehran Stock Exchange. If it is, it has not enough efficiency. Regarding to necessity of development of corporate governance, settlement if IA in Iranian companies is necessary.
2. In Iranian firms, experience of internal auditors affects performance more than their knowledge and academic degrees. However, auditors with higher education, have little experiences. They are often young and from the new generation of academic auditors in Iranian firms. It could be worthy to investigate about reasons of inefficiency of higher education on EVA in Iran.
3. Companies with IA or experienced auditors are better for investment of shareholders, because they have better performance.

This research introduces some proposals for future researches:

1. Study of relation between IA and other criteria of value added, such as cash, and market value added.
2. Study of relation between value added and qualifications of independent audit.
3. From the approach of corporate governance, study of relation between value added and other indices of corporate governance, including reward of managers, knowledge and experiences of managers, experience members of board of directors, risk management, and profit division policy, can be useful.

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