



## Characteristics of Board of directors and creating Economic Value Added in listed companies in Tehran Stock Exchange

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**Abstract:** The purpose of this research is investigation of the relationship between characteristics of board of directors and economic value added in companies listed in Tehran Stock Exchange. Therefore 80 manufacturing companies listed in Tehran Stock Exchange were selected for applying statistical analysis within five years (2005-2009). Pooled regression analysis was used to test hypotheses with panel data. The main hypothesis is based on the relation between characteristics of board of directors as a corporate governance mechanism and economic value added. The dependent variable is economic value added and independent variables are size of Board of directors, Proportion of outside directors, and CEO-Chairman Duality (CEO: Chief Executive Officer) and control variable is the existence of internal audit. The results show a direct and significant relation between CEO-Chairman Duality with economic value added. But there is no significant relation between size of Board of directors, Proportion of outside directors and economic value added. The results comply with the previous researches about characteristics of board of directors as a corporate governance mechanism.

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**Keywords:** characteristics of board of directors, size of Board of directors, Proportion of outside directors, CEO-chairman Duality, economic value added (EVA).

### 1. Introduction

Beginning of corporate governance via share ownership has a substantial effect on the firm control method and according to the owners assigned the firm management to the managers (Hasas Yeganeh, 2005). There are various methods to define corporate governance which are in the spectrum of limited and centralized definitions to corporate governance and their shareholders through comprehensive definitions and including responsiveness of corporate against all stockholders and society in total. However, based on a general definition it can be dubbed corporate governance as a system by which a company is governed (Hasas Yeganeh, 2005). Thus in view of shareholders, it is important to evaluate managers performance. A number of papers link corporate governance practices to firm value (Durnev and Kim, 2005). Overall these studies support the importance of firm level corporate governance, especially in countries with weak legal protections for investors (Klapper and Love, 2004).

Nowadays economic EVA is known as an important tool for performance measurement and management in the world, especially in advanced economies by adopting it as corporate strategy (Sharma and Kumar, 2010). If the market is perfect-efficient and firms could finance in this market, efforts that aim to improve corporate

governance are meaningless actions. But it is evidenced that most of capital markets are not perfect-efficient then to promote corporate governance and to augment manager's responsiveness to shareholders, the intervention in the structure of board of directors is necessary. Therefore, we expect a significant relation between characteristics of board and economic value added in the firms as a comprehensive measure of management performance since both corporate governance and economic value-added emphasize on the advocating shareholders and value creation. In Iran so far a small number of studies have given to consider linkage between board of director features as one of important corporate governance mechanisms and economic value-added as a tool to evaluate the performance. There are rare studies on this relationship on emerging markets. Optimal governance likely differs between developed and emerging markets (Bebchuk and Hamdani, 2009), and potentially also between different emerging markets (Durnev and Fauver, 2007).

Therefore, results of this research can contribute to expand the literature in this area. Thus it is important to consider relation between board characteristics and creation of economic added value. In the research, board characteristics are considered size of Board of directors, proportion of

outside directors to all board members, CEO-chairman Duality.

## 2. Materials and Methods

### Theoretical Framework

In corporations shareholders has no direct role on the controlling corporate but a board of directors whom are selected by stockholders will run the company. Therefore, In fact, managers are agents that the Boards select them. This linkage between owners and, agents, is called agency relationship (Resain and Asghari, 2007). Separation between ownership and management (control) resulted in an organizational problem so called agency problem. One of the main hypotheses of agency theory is that agents and ownership are in interest conflict problem. One of the main hypotheses of agency theory is that agents and ownership are in interest conflict (Hasas Yeganeh, 2005).

In the agency theory, managers are owner's agent but more often they are attempted and prefer their personal interest (Van-Ness, 2010). In agency hypothesis managers may not always act on interest of shareholders, when ownership is separate from management. In other words, they prefer their interest over owners (Bonazzi and Islam, 2007). Therefore, evaluation of management performance is important for shareholders. They need to ensure that managers or agents follow their benefits and maximize their wealth in the company (Hajiha and Ghasempoor Farhani, 2012). Distinction to chief executive officer and chairman (CEO-chairman Duality), using powerful and influential (members in board and proportion of non-responsible members of the board (outside directors) are arguable in the agency theory (Van-Ness, 2010). Thus evaluation of manager's performance is important in view of shareholders. Committee of board of directors specifies Reward managers. Board features is an important mechanism of corporate governance that can affect performance managers of the firm. Then a strong board can cause that managers improve firm performance. One of the best performance measures is economic value added (EVA). Then corporate governance could be paid attention as problem-solving source of manager's bonus. Fair policies and proper remuneration has a substantial role in financial performance growth (Mubbsher et al., 2011). There are different methods for performance evaluation, but financial aspect is more important. Performance evaluation methods from financial aspect have four categories: 1)Methods that use accounting information, such as Return On Asset (ROA) and Return On Equity (ROE), for evaluation; 2)Methods that used a combination of accounting and market data to assess companies, like different Tobin's Q ratios or P/E ratio; 3)Ratios that use financial management data, such as return 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) (Rasaeian and Asghari, 2007). These groups are largely used by academic and professional community in recent years. EVA indicates flexibility, responsibility, and value creation of management and shows how the firm will be successful in future. EVA links interest, equity capital, net operating profit etc (Girotra and Yadav, 2001)

One of the most profitable 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 capital cost rate. EVA shows that firm value directly depends on management (Anvare Rostami et al, 2004). Meanwhile, corporate governance and EVA are basic criteria for firm valuation and these indicators could effect on the financial reports and shares market value ( ElMir and Seboui,2008). In agency relationships, the owners aim to maximize their wealth and to obtain this goal, they supervise the agent's performance and evaluate it (Namazi and Kermani, 2008). So the research aims to examine effect Characteristics of Board of Directors on the creating EVA in listed company in Tehran Stock Exchange in respect of EVA.

### Research Literature

Research of Kumar Naveen and Singh J.P (2013) explores the relationship of board size and promoter ownership on firm value for a sample of firms listed on the Bombay stock exchange (BSE) of India, using linear regression analysis. The sample includes 176 firms listed on the BSE during years 2008- 2009. Tobin's Q was considered as a performance variable. The study shows a negative relationship of board size with firm value. (kumar , 2013)

Research of Ujunwa Augustine (2012), investigates the impact of corporate on the financial performance of Nigerian quoted firms. Board size, board skill, board nationality, board gender, board ethnicity and CEO duality are parameters of board characteristics. The study uses panel data from 122 quoted firms in Nigeria between 1991 and 2008. This study shows that board size, CEO duality and gender diversity have negative relationship with firm performance, whereas board nationality, board ethnicity and the number of board members with a PhD qualification have positive relationship with firm performance. The result of the robustness test using the same board characteristics for 160 small firms showed that board duality was positively linked to firm performance, while a PhD qualification was negatively linked to firm performance. (Ujunwa, 2012)

Research of Hyun Kim et al. (2012) explores the effects of size of the board of directors and board involvement in strategy on financial performance in the private club industry. And the results showed that board member's involvement in strategy and the size of the board of directors have a positive influence on a private club's financial performance. (Hyun Kim, 2012)

Mentes (2011) has explored the linkage of board size and corporate performance in his research in 120 firms of Turkey Stock Exchange during 6 years (2004 - 2009). He explains that board of directors is the first protective bumper of shareholders right. Dependent variable in this research is board size and independent variable, ROA (return on assets) and EVA (economic value added). The results of research indicate a positive relationship between ROA and EVA with board size. In addition, the family relationship, social culture, legal structure and ownership focus have a major role in findings of this research. (Mentes, 2011)

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 of directors, risk management, and dividend policy have reverse relation with financial performance. (Mubbsher, 2011)

Van-ness et al (2010) have reviewed the director composition and financial performance in Sarbanes –Oxley (SOX) world. SOX Act of 2002 may be one of most important securities legislation affecting publicly-traded companies since the formation of securities exchange commission in 1934. This act was passed in July 2002 in USA to respond to corporate scandals. This law was introduced to control managers behavior and corporate directors. This research examines how corporate board composition might influence firm financial performance in the current SOX environment. In this regard, influence of board composition on criteria of financial performance in 185 US firms were explored during 2006-2007. Dependent variables of this research include revenue, return on asset (ROA), financial leverage, market price to book value, free cash flows to Net income. Independent variables include, CEO-COB duality (duality refers to situations in which the chief executive officer (CEO) position is combined

with the board chair (COB) position), proportion of outside directors, average age of board members, Gender-Diversity (firm with a larger proportion of female to total directors), Average board tenure, Board size, Occupational Expertise . The results of research indicate that there is no relationship between outside directors, Gender, Average age of board members, and performance. Also, there is a relationship between Duality, Occupational expertise, Board size, and, Board tenure with firm financial performance. (Van-ness, 2010).

The research of Alsinawi (2010) offers an empirical investigation of three variables that have an effect on financial performance of 28 corporation listed in Palestine securities Exchange, during 4 years (2005-2008). One of these three Variables is Board of directors themes (CEO-Chairman duality, and Board size). The results of the study indicate that the CEO-Chairman duality has a significant impact on the financial performance. Also this paper finds out that the Board size has a significant negative impact on finance Performance (Alsinawi, 2010).

El mir and Seboui (2008) also reviewed corporate governance and the relationship between EVA and created shareholder value. In this research 4 cases have been taken as general mechanism of corporate governance including: Board of directors characteristics (number of meeting for the board of directors, compensation committee, the number of meeting for the compensation committee, nomination committee, the number of meeting for the nomination committee, the total board size, fraction of board comprised of outside director, and managers Entrenchment), Auditors quality, Ownership structure, and Compensation mix. The research concludes that some of corporate governance mechanisms such as board independence, experience and reputation of auditors, ownership structure and stock-option assignment are important and effective to explaining in the relationship between created shareholder value (CSV) and economic value added. (El mir et al, 2008)

In the research of Yammeesri and Kanthi (2008) the effect of board composition on the EVA has been explored in 245 Thailand companies. The research concludes that taking non-executive managers in the board is not effective on the firm value increase. In another research the results showed the education and board members expertise and differentiation of board chairmanship position and managing director has not effect on the increase of firm value. (Yammeesri, 2008)

Ho and Williams (2003) investigated the relationship between board features and firm performance for a sample of 286 South Africa (84 firms), Sweden (94 firms), and the UK (108 firms). Corporate board features are board composition,

inside director ownership, duality and board size and performance is defined as the efficiency of value added. Findings show association between board features and efficiency of value added. Finally, the study analyzed the association between board features and corporate performance. Comparable to general findings from studies using U.S. data, the empirical analysis as a whole did not discern consistent significant link between the four board features and corporate performance across the three nations. However, individual board features were found to influence corporate performance in isolated cases. (Ho, 2003)

In Iranian context there are also some related researches. For instance, Bavandpoor's research (2010) investigated corporate governance effect on the listed firm's performance in Tehran Stock Exchange. His results showed that there is a positive relationship between institutional investor's proportion and firm performance, but between large stockholder, outside directors, and firm performance there is no significant relationship. In the research by Izadinia and Rasaeian (2010) the relationship between some corporate governance mechanism tools and economical and financial criteria of performance and governance was investigated. Percentage of Outside directors and institutional shareholders percentage were considered as corporate governance mechanisms, and ROA, Q Tobin ratio, ROE, and market value added as performance evaluation criteria. The results showed that there was a positive relationship between corporate governance and ROA, Q Tobin, ROE, and market value added. Heydarian Chali (2009) studied the relationship between some corporate governance mechanisms and profit quality in companies listed in TSE. The results showed that there was a relationship between proportion of outside directors, CEO-chairman duality and profit quality.

### Hypotheses

The main question of this research is that "is there a significant relationship between Board of Directors Characteristics and EVA in Iranian context?" according to respond to this question, the following hypotheses are provided:

- 1) There is a significant relationship between size of board of directors (SBD) and EVA;
- 2) There is a significant relationship between Proportion of outside directors (OBD) and EVA;
- 3) There is a significant relationship between CEO-chairman duality (DBD) and EVA. (CEO: Chief Executive Officer)

### Research variables and model

In the research (like previous researches (Emir and Sebui 2008, Van-Ness 2010, Mubbsher et al., 2011, Kumar and Singh J.P 2013), size of board of directors (SBD), Proportion of outside directors

(OBD), and CEO-chairman Duality (DBD) have been taken as independent variables, we also used EVA measure as a dependent variable and the internal audit entity (IA) as control variable. Internal auditor is one of the internal governance mechanisms and one of the tools of board of directors to access goals of shareholders (Fakharian, 2010). Value added role of internal audit and its effect on managers performance were tested in previous researches. Their results show that internal auditor creates value added and improves performance of managers. Furthermore, a recent research in Iranian context indicates that quality of IA can affect the timeliness of independent audit; it implies that IA is a critical factor of performance of a firm in a modern approach (Hajiha and Rafiee, 2011). Therefore, we controlled the effect of this variable on EVA.

**Size of board of directors (SBD):** In the research number of board members has been taken as a criticism to measure SBD.

**Proportion of outside directors (OBD):** Under definition of regulation draft of corporate governance rules issued by Tehran Stock Exchange (TSE), outside director is a part-time member of board who has no executive responsibility in the firm. In this research, proportion of outside directors has been obtained by dividing number of outside directors members to all number of board members.

**Duality of board of directors (DBD):** According to definition of regulation draft of TSE corporate governance rules, one member of board should not be chairman and Chief Executive Officer simultaneously.

**Economic Value Added (EVA):** In this research, EVA is dependent variable. EVA indicates whether operational profit is enough for cost of capital, or not. EVA is net operating profit minus the cost of capital and tax (NOPAT):

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

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

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

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

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

Only those companies with return more than capital cost rate average, have a positive EVA. In other words, if net profit of a company is more than capital opportunity cost, company 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 (Rahnamye Rudposhti and Jalili, 2008). According to relation (4) we have:

$$r = \frac{\text{NOPAT}}{\text{Capital}} \tag{5}$$

$$c = wdkd + weke \tag{6}$$

in which:

wd: debit weight

kd: cost of debit

we: common stock weight

ke: common stock cost

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

in which:

D: total of interest-bearing dept

E: market value of shares

Y: bank interest rate = 18%

T: tax rate = 22.5%

P0: market stock price

D0: divided

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

$$\text{EVA} = \beta_0 + \beta_1(\text{SBD}) + \beta_2(\text{OBD}) + \beta_3(\text{DBD}) + \beta_4(\text{IA}) + \varepsilon \tag{8}$$

In model (8), EVA is the dependent variable. Independent variables are SBD, OBD, and DBD. Internal auditor (IA) is control variable, which is 0 or 1 as a dummy variable.  $\beta$  is a constant factor and  $\varepsilon$  is error factor.

Required information about EVA, characteristics of board of directors, and internal auditor were provided from software extracted from the formal website of TSE.

**Population and Sample**

Statistical population includes manufacturing companies listed in TSE with the following constraints:

Company was a member of TSE during 2005-2009.

In terms of increase comparability, their fiscal year ends in March. Required data for research variable can be available. Finally, 80 companies with the above conditions were selected as a research sample.

**3.Results**

Theoretical model and hypotheses were examined by multi-variable regression. The results of descriptive statistics of independent and explanatory variables are as follows. Table 1 and 2 presents descriptive statistics for our variables used in the tests. To test the hypotheses we used cross sectional and panel data techniques. To achieve the research goals, EVAs for sample companies were calculated. The result indicates that EVA has a negative skewness and positive kurtosis with mean of 15775.10, median of 6903.8, standard deviation of 97265.792, and variance of 9460634352.862. Deviation of skewness and kurtosis factors are greater than absolute of 1.96, therefore, the distribution is not symmetric. Negative skewness reveals that the farthest observation from central indices is located in the left domain of scale. Positive kurtosis indicated that compression around central indices is more than that of a normal distribution.

SBD has a positive skewness and a positive kurtosis with mean of 6.105, median of 6, standard deviation of 0.721, and variance of 0.520. Deviation of skewness and kurtosis factors are greater than absolute of 1.96, and then the distribution is not symmetric. Namely, the distribution deviates from normal distribution.

OBD has a negative skewness and a positive kurtosis with mean of 0.544, median of 0.600, standard deviation of 0.190, and variance of 0.036. Deviation of skewness and kurtosis factors are greater than absolute of 1.96, and then the distribution is not symmetric. Namely, the distribution deviates from normal distribution.

Table 2 indicates that in 96% percentage of companies, CEO and Chairman are separated.

The table 3 shows descriptive statistics of dependent variables. There are 75 firm-year observations with internal auditor and 325 without it. Data are demonstrated in table 3.

**Table1-** deceptive statistics for interval scale variables

variables	number	Mean	median	Std. deviation	variance	Skewness	kurtosis	Deviation coefficient	
								Skewness	kurtosis
EVA	400	15775.1	6903.8	97265.792	9460634352.862	-2.449	34.607	-20.067	142.157
SBD	400	6.105	6	0.721	0.520	1.612	4.209	13.210	17.288
OBD	400	0.544	0.600	0.190	0.036	-0.293	0.620	-2.402	2.456



**Table2-** CEO-Chairman duality position in the sample

CEO-Chairman Duality position	Frequency	Frequency	Cumulative Frequency
CEO-Chairman Duality	14	3.5	3.5
Not CEO-Chairman Duality	386	96.5	96.5
Sum	400	100	100

**Table 3-** Internal audit position in the Sample based on IAs position

Internal audit Year and position		Year					number
		2005	2006	2007	2008	2009	
Internal audit position	Not Existence of Internal audit	69	69	67	63	57	325
	Existence of Internal audit	11	11	13	17	23	75
Sum		80	80	80	80	80	400

### Hypotheses Testing

Given that in the present research, the information has been gathered from a sample group of accepted firms in Tehran stock exchange and during a few years. And research aims to test hypothesis and evaluate EVA model based on board of director's characteristics in:

Independent variables (SBD, OBD, DBD) and Internal Audit (IA) as a control variable effect over dependent variable EVA. Thus required test is appropriate with regression analysis problem. Regarding to being temporal and fragmental, regression analysis has been used in this research. In the analysis with compositional data, this model has been evaluated based on the temporal a fragmental data. Statistical tests show that the studied variables distribution is not normal. As variables of research distribution are not normal, but because of big sample volume and central limit theorem in statistics, we could take the variables normal.

Theoretical model and research hypotheses, recording to general variable of corporate governance managerial mechanism were explored at first during a multivariate model and then in the sub main models with compositional regression analysis and regarding to general mechanism, Internal audit entity.

One main model and 3 sub main models have been explored to test research hypothesis. In the main model, 3 indicators are independent variables:

SBD, OBD and DBD, and control variable of internal audit entity (IA) have been entered into the descriptive variables.

Model consideration with chow test shows that width of origins equality has been rejected and fitted effects model is relevant (Aflatooni and Nikbakht, 2011). Model consideration with incidental and fixed effects has protected the relevance of incidental effects model. Thus, final model has been evaluated with compositional recursion of incidental effect. Durbin-Watson statistic supported autocorrelation (Fotoohi and Asghari, 2004). f statistic and calculated significance level shows that at least one of the descriptive variables has a linear relationship with the dependent variable. t Statistic and calculated significance level for DBD and (IA) entity has a enough power to reject absence of direct effect. But t statistic and calculated significance level for variables such as SBD, OBD has no enough power to reject absence of direct effect. Thus in a multiple regression model the following variables have been accepted:

R2 is 217% which shows more than 22% EVA changes is stated by 4 model descriptive variables which is low ratio. Thus it could be accepted that in general only there is a direct and significant relationship between CEO-Chairman Duality and internal audit entity with EVA. The results of this model are depicted in Table 4.

**Table4:** Result of multiple regression analysis for test of variables

Dependent variable: EVA , period:5 years , section:80 , number of observations:400							
Variable			value	Standard error	t statistics	sig	
$\beta_0$	C	Constant	82625.52	52198.71	-1.582903	0.1142	
$\beta_1$	SBD	Size of board of director	10504.87	6678.254	-1.572996	0.1165	
$\beta_2$	OBD	Outside directors	5247.877	27850.90	0.188428	0.8506	
$\beta_3$	DBD	CEO-Chairman Duality	145754.3	28712.33	5.076367	0.0000	
$\beta_4$	IA	Internal audit existence	105045.9	12284.49	8.551095	0.0000	
SSR		S.D.DV	MDV	D-W	S.E	F	R <sup>2</sup>
+12E1.93		78718.53	8751.070	1.577622	69989.17	27.43427	0.217414

**Test of Hypothesis 1:** there is a significant relationship between SBD and EVA.

First Hypothesis model: in this model, SBD index has independent variable role. Meanwhile the control variable (IA) has entered in to the model as a descriptive variable.

To reject incidental effect compositional regression, the fixed effect compositional regression has been evaluated. Durbin-Watson statistics has protected autocorrelation absence (Fotoohi and Asghari, 2004). Statistic f and model calculated significance level indicate that at least one of descriptive variables has linear relationship with dependent variable. t statistic and calculated

significance level for SBD and t statistics have not enough power to reject direct effect absence. But t statistic and calculated significance level for IA entity have enough power to reject direct effect absence. Thus in a multiple regression model, the SBD direct effect is not accepted but internal audit entity is accepted. R<sup>2</sup> is 57%. Which shows that more than half percent of EVA changes is stated by two model descriptive variables.

As a result it can be claimed that there is no signification relationship between SBD and EVA. The results of this model are depicted in Table No5.

**Table 5-** Result of regression analysis for test of size of board of director effect

Dependent variable: EVA , period:5 years , section:80 , number of observations:400							
Variable			value	Standard error	t	sig	
$\beta_0$	C	Constant	5095.455	53411.71	0.095400	0.9241	
$\beta_1$	SBD	Size of board of director	-1789.928	8713.123	-0.205429	0.8374	
$\beta_2$	IA	Internal audit existence	115238.2	15814.06	7.287070	0.0000	
SSR		S.D.DV	MDV	D-W	S.E	F	R <sup>2</sup>
+12E1.62		97265.79	15775.10	1.991629	71425.31	5.208975	0.570228

**Test of Hypothesis 2:** there is a signification relationship between OBD and EVA.

Second sub main model: In this model, OBD index of has independent variable role. Meanwhile the control variable (IA) has entered in to the model as a descriptive variable.

To reject the fixed effect compositional regression, model of incidental effect compositional regression has been evaluated. Durbin-Watson statistic has protected autocorrelation non-existence (Fotoohi and Asghari, 2004). f statistic and model calculated significance level indicate that at least one of descriptive variable has linear relationship with

dependent variable. t statistic and calculated significance level for OBD has not enough power to reject direct effect absence. But t statistic and calculated significance level for IA variable have this power. Thus in a multiple regression model the direct effect of OBD is not accepted and internal audit entity is accepted. R<sup>2</sup> is 15.7% which shows that more than %16 EVA is stated by two model descriptive variables.

As a result it can be claimed that there is no signification relationship between OBD and EVA. The results of this model are depicted in Table No6.

**Table 6-** Result of regression analysis for test of outside directors effect

Dependent variable: EVA , period:5 years , section:80 , number of observations:400						
Variable			value	Standard error	t	sig
$\beta_0$	C	Constant	-18512.56	17511.44	-1.057170	0.2911
$\beta_1$	OBD	outside directors	25290.59	29157.09	0.867391	0.3863
$\beta_2$	IA	Internal audit existence	108007.4	12850.04	8.405220	0.0000
SSR	S.D.DV	MDV	D-W	S.E	F	R <sup>2</sup>
+12E2.02	77528.47	8171.122	1.600419	71353.37	37.02459	0.157201

**Test of Hypothesis3:** There is a significant relationship between DBD and EVA.

Third sub main model: in the model, CEO-Chairman Duality is an independent variable role. In the model, meanwhile, control variable named IA has been entered in to the model as a descriptive variable.

To reject the fixed effect compositional regression, the incidental effect compositional regression model has been evaluated. Durbin-Watson statistics has protected autocorrelation non-existence (Fotoohi and Asghari, 2004). f Statistic

and calculated significance level for DBD and IA have enough power to reject non- existence of direct effect. That is their t statistic is bigger than absolute value 1.96 and calculated significance level is smaller than 0.05. Therefore the direct effect of DBD and IA on the EVA is accepted. R<sup>2</sup> is 0.211200 which shows that almost 21% EVA is stated by two descriptive variables: DBD and IA.

As a result it can be claimed that there is significant and direct relationship between DBD and EVA. The results of this model are depicted in the table 7.

**Table 7-** Result of regression analysis for test of CEO-Chairman Duality effect

Dependent variable: EVA , period:5 years , section:80 , number of observations:400						
Variable			value	Standard error	t	sig
$\beta_0$	C	Constant	-148862.9	28330.93	-5.254429	0.0000
$\beta_1$	DBD	of CEO-Chairman Duality	150745.9	28733.53	5.246340	0.0000
$\beta_2$	IA	Internal audit existence	106250.3	12289.18	8.645845	0.0000
SSR	S.D.DV	MDV	D-W	S.E	F	R <sup>2</sup>
+12E1.93	78224.30	8513.950	1.580586	69649.24	53.14802	0.211200

Research hypotheses were tested, using compositional regression analysis test. Among 3 tested hypotheses, one hypothesis was affirmed and two were rejected.

#### 4. Conclusions

In the research, the relationship between Characteristics of Board of Directors as a corporate governance mechanism and economic value added as a new performance evolution criterion is explored.

Either variables of the research were considered in two models. In the first model all main variables were considered by intervention of control variable IA and there was a direct and significant relationship between DBD and EVA but there was not any relationship between SBD and OBD with EVA. In the second model, either variables: SDB, OBD and DBD were considered

with intervention of IA separately and the results of tests show a positive and significant relationship between DBD with EVA that indicates the importance of CEO-chairman duality as a corporate governance mechanism in Iran business environment, but size of board of directors and outside directors has no significant effect on the value creation. Also IA in all models has the effect which shows the importance of Internal Audit as a governance index. In view of independent auditing, active internal audit circle will promote independent auditing quality and decrease its time and expenditure. The present research results are compatible with Elmir and sebui, (2008), Alsinawi's research (2010), van-Ness (2010), Ujunwa Augustine (2012) and the research of Heydarian chali (2009). These researches reveal that there is a positive relationship between CEO-Chairman Duality and performance.



The present test results show that there is no relationship between size of board of directors and EVA which is not compatible with Hyun Kim et al. (2012), and van-Ness (2010) and mantis's researchs results, in which the positive relationship has been seen between board size and performance and Alsinawi (2010), and Kumar Naveen (2013) in which the negative relationship has been seen between board size and performance. The reason to reject this hypothesis can be: non-efficiency, non-professionalism and dependence of board members. According to Iran trade law, number of board members should not be lesser than 5 and the managers may be observed as a tool to form a quorum members of board.

Mean while in the present research there is no relation between Outside Directors with EVA which is not compatible with research results of Elmira and Seboui (2008), Heydarian chali (2009) and Izadinia and Rasaeian (2010) which has seen a positive relationship between ODB and EVA. But it is compatible with van-ness (2010), Yammeessri an Herath (2008) and Bavandpoor's (2010) which have not seen a relationship between OBD and performance. The reasons to reject this hypothesis may be said as follows: non-responsible managers have no enough strategic and financial knowledge to create value added for shareholders, because they have not sufficient financial resources from corporate than have no necessary motorization to supervise and create value added, simultaneous membership in the board of some corporates or that outside directors really are not independent and somehow are dependent to the corporate.

Automation of this hypothesis, relation between DBD with EVA indicates the relationship of board independence and reduction of agency problem with performance in accepted corporates in IRAN stock exchange. But non-affirmation of relationship hypotheses between SBD and OBD with EVA shows non-relationship of board independence and agency problem increase with performance in accepted corporates in IRAN stock Exchanges.

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