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The Study of Board's Remuneration and Its relationship with Accounting Indicators for Firm's Performance Evaluation (Evidence from Tehran Stock Exchange)

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Abstract: With the advent of agency theory and distinguishing management from ownership, manager's performance evaluation was raised. Therefore, some indicators and components must be considered for this purpose including accounting and economic indicators. In this study, we have investigated the influence of board's bonus on the performance evaluation accounting indicators. For this purpose and based on empirical testing of agency theory, the required data have gathered from all the firms that listed in Tehran Stock Exchange (TSE) during years 2001 through 2010 and have used adjusted coefficient of determination (R^2), analysis of variance and linear regression model in order to examine this relation. In this study, the effect of remuneration on net cash flows from operating activities and Tobin's Q Ratio that have calculated for all firms and selected industries was tested. Findings of the study show that there is a significant relationship between board's bonus and net cash flows from operating activities. Results indicate that there is a poor relationship between board's bonus and Tobin's Q Ratio. Similarly, results from testing hypotheses at level of selected industries indicated that cash flows from operating activities (CFO) in cement, lime and gypsum and auto spare parts manufacturing industries had a significant effect on board's bonus. A significant relation observed between board's bonus and Tobin's Q Ratio in cement and rubber industries in firms quoted in TSE.

Key words: board's bonus, director's performance evaluation, net cash flows from operating activities, Tobin's Q Ratio

INTRODUCTION

In order to reduce the conflict of interests between stockholders and managers and to make sure that the agent's effort is oriented towards protecting the interest of business owner (proprietor), signing agreements on remunerating managers for their services; providing historical financial reports on financial performance; and as popularized recently, implementing mechanisms of revealing environmental and social performance and also using financial and economical tools are useful (Namazi, M., 1985; Roberts, J., 2005; Tosi, H. and L. Gomez-Mejia, 1994). Of course, one of the main objectives of establishing the firms is to increase productivity, which undoubtedly relies on how well it performs in the market. Thus, owners of the firms endeavor to adopt approaches that will lead towards improving the performance of their firm. One of the approaches is to increase the efficiency and efforts of the managers through motivating them, which is the focus of agency theory. For this reason, agency models mainly focus upon fees. Thus, the basis for agency relationship is the interrelation between remuneration and performance (Moradi, J., 2005). Now, such an insight on agency relations increasingly highlights the importance of establishing supervisory controls and of payments for agency. Thus, it appears necessary to identify criteria for correct measurement of management performance of the firm and form an appropriate basis for its payment system for management and remuneration of services and enhancing managers' motivation level. Furthermore, the stockholders require the most efficient performance evaluation criteria in order to make correct decisions. In addition, stockholders need the most suitable performance evaluation criteria to make proper decisions and to coordinate managers' interest with owner's interests through linking their interests and remuneration with stockholders' wealth. There are various criteria and values by which one can evaluate performance of managers and determine their value-creating rate as a basis for remunerating their services. These criteria generally fall into two groups including accounting indices and economical indices.

Economical Indices of Performance Evaluation:

Economical indices convert accounting data into economical data through modifying them in an effort to conduct performance evaluation of the firms based on economical data, i.e. these criteria evaluate performance based on how powerful the firm is to gain profit from its available assets and potential investment while taking

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into account the rate of cost on investment (Moradi, J., 2005). Criteria such as market value added (MVA), economic value added (EVA) and revised economic value added (REVA) are the most important economic criteria used in performance evaluation.

Accounting Indices of Performance Evaluation:

Although economic indices, which assess the performance of firm based on its power to gain profit from its available assets and potential investment and regarding the rate of cost on investment, accounting indices of performance evaluation assess the performance of firm based on accounting data. Indices such as profit, profit growth, dividend, cash flows, profit of each share and financial ratios (including return on assets, return on equities, P/E ratio, ratio of market value to book value of stock and Tobin's Q Ratio) can be designated as accounting indices of performance evaluation, which are divided further into two categories as follow:

A: Accounting data based criterion: mainly measures firm's performance using historical data in financial statements and accompanied notes. These criteria include profit, profit of each share, profit growth rate, dividend, free cash flows, return on equities (ROE) and return on assets (ROA) (Jahankhani, A. and A. Sajjadi, 1995).

B: Accounting and market data based criterion: These criteria use market data, in addition to data available in basic statements and accompanied notes to measure the performance of firm. Consequently, these criteria not only maintain the advantages of previous criteria but also eliminate some of their disadvantages. In other words, since we also use market data, the criteria are approximately more relevant and more consistent with reality. However, they are less reliable and since market data is constantly changing, these criteria are relatively unstable. In general, these criteria are more efficient than those based on historical data, and are capable of measuring the performance of the firms with higher precision. These criteria include P/E Ratio (price-to-earnings ratio), ratio of market value to book value of the stock and Tobin's Q Ratio (Jahankhani, A. and A. Zariffard, 1996).

The present study focuses on relation between remuneration for board of directors of firms quoted in TSE and accounting indices of performance evaluation. In this study, net cash flows were used as criteria based on accounting data, whereas Tobin's Q Ratio as criteria based on both accounting and market data. The most important advantages of these criteria can be summarized as below:

1- They reflect the remuneration status of board of directors (of the firms quoted in TSE) based on data in financial statements

2- Applying accounting indices for performance evaluation in agreements directed towards assisting stockholders in relation to evaluating the real performance of the managers.

Tobin's Q Ration: market value divided by replacement value of assets gives the Tobin's Q Ratio of a firm. In theory, Tobin's Q Ratio is typically higher, equal to, or lower than one in three conditions.

When Q Ratio is equal to one, this means than market value of the firm is equal to replacement value (or historical value in some equations) of its assets, thus data reflected in financial statements becomes consistent with real data of the market. Therefore, decision-making based on data in financial statements is completely consistent with real world. However, when Tobin's Q ratio is higher than one, this clearly means that market value of the firm is greater than replacement value or historical value of its assets. In other words, market data is not consistent with that of financial statements, so one can conclude that data of financial statements is irrelevant for decision-making. Therefore, Tobin's Q Ratio, by clarifying that market value of the firm is greater than replacement or historical value of its assets, reveal to the investors that the firm holds investment opportunity. The third condition is when Tobin's Q Ratio is lower than one, which is the reverse of previous condition. The general conclusion may be that there is a direct relationship between Tobin's Q Ratio and investment opportunities, while the normal value from capitalization of rent values or monopolized profits are abnormally higher than expected, even without taking into account the statistical variations (Salehi, A., 2001).

Cash From Operating Activities:

Since the aim of commercial enterprises is to supply services and products for gaining profit, here the cash flows are results of operating activities include those cash inputs and cash outputs associated with main operations of the enterprise, which ultimately represents the net values of these flows i.e. cash fund from the operation or cash profit of the firm.

Previous Studies:

Jensen and Zimmerman (1985), in their article on "remuneration for management and workforce market for management", by taking look at previous studies on the field concluded that any set of remuneration for executive managers contributes to positive interdependency of managers' and stockholder's interests (Jensen, M.C. and K.J.L. Zimmerman, 1985).

Wallace (1997) in his article on “application of remuneration plans based on residual profit: does the investment produce any return?” studied the effect of incentive economic value added plans on investment, financing and operating decisions. Results showed that use of economic value added in remuneration plans affect the decisions made by managers on investment, operating and financing issues (Wallace, J.S., 1997).

Krolick (2005) also in his study on “How relevant the data in financial statements are for performance evaluation of executive managers: evidences on selection of remuneration plan based on criteria of accounting performance” concluded that selection of remuneration plans based on accounting criteria of performance evaluation by the businesses is, one way or another, usefully predictable. He also found that while investment in intangible assets of a firm is high, criteria of performance evaluation based on rate of return (on assets and on equities) are never used in remuneration plans for executive managers (Krolick, D.L., 2005).

Jahankhani and Zariffard (1996) in their study on “financial motivation of managers and increasing wealth of stockholders” declared various methods of remuneration for managers and argued that managers should receive remuneration in return for creating additional value for stockholders. They argued that remuneration based on economic value added (EVA) would prove efficient because the managers would get paid based on their real performance. In addition, they believe that there should not be any fixed upper level considered for remuneration; otherwise its motivational impact will be restricted (Jahankhani, A. and A. Zariffard, 1996).

Namazi and Seyrani (2004) in their research with the subject of “empirical study on structures considered as important in determining agreements, indices and parameters of remuneration for managing directors of Iranian firms” concluded that the time and stability of agreement is effective on firm’s value. Furthermore, all the respondent groups have underlined that the remuneration should be based on some percentages of market value added and maintained that share offering motivates the directors to increase their associated effort. In addition, in an efficient remuneration agreement, remuneration for the directors is defined as a linear and exponential function of profit, which must not involve a fixed upper level (Namazi, M. and M. Seyrani, 2004).

Namazi and Moradi (2005) during their study on structures influencing remuneration for board of directors of firms quoted in TSE reported that there is a significant relation between dependent variable of remuneration and indices such as ratio of return on assets, variation in ratio of return on assets, financial leverage, natural logarithm of sales (a criterion of firm size) and ownership concentration. The three relative variables in the study (including relative variation of operating profit, relative variation of earnings before taxes and relative variations of sale) had not a significant relation with remuneration of board of directors in any of the industries (Namazi, M. and J. Moradi, 2005).

Ghorbani (2007) during his study on relation between remuneration for board of directors of firms quoted in TSE and economical models of performance evaluation (economical value added and market value added) concluded that the overall remuneration for board of directors is significantly related to market value added (Ghorbani, H., 2007).

Hypotheses of the Research:

Hypotheses:

1. There is a significant relationship between remuneration for board of directors and net cash flows from operating activities of firms quoted in TSE.
2. There is a significant relationship between remuneration for board of directors and Tobin’s Q Ratio of firms quoted in TSE.

Sub-hypotheses:

1. Type of industry has a significant effect on relationship between overall remuneration for board of directors and net cash flows from operating activities of firms quoted in TSE.
2. Type of industry has a significant effect on relationship between overall remuneration for board of directors and Tobin’s Q Ratio of firms quoted in TSE.

Population and Sampling:

Statistical society of the research included all firms quoted in TSE. Firms that had already ratified at least 3 periods of remuneration for performance of their board of directors were selected from this statistical society. Based on test of hypotheses of the research, in total 95 firms active in 7 different industries were selected for the research with respect to the type of industry as determined by sub-hypotheses and with regards to constraints in sample selection.

Data Gathering:

In this study, data gathering was implemented using two methods namely: library studies and field research. During library studies, theoretical basics of the research were gathered from technical books and journals written in Persian and English languages, as well as from available Internet Sites. Field research was conducted through gathering data from sampled firms and by referring to organization of TSE and extracting the required data from official notices of the organization, and when necessary by referring to selected firms and data banks of the Stock Exchange Market, while taking into account the constraints described in population and sample selection part.

Data Analysis and Test of Hypotheses:

Excel software was used in the research to calculate the variables by using raw data as input. Descriptive statistics (mean values, standard deviation, percentage and diagram) and inferential statistics of Pearson's Correlation Coefficient, determination coefficient, linear regression model and analysis of variance all were used to analyze the research data. SPSS software was used to implement the abovementioned tests. The following section focuses on describing the statistical methods used for test of hypothesis.

Test of Hypotheses:

Based on Chart 1, results from the test suggest that the first hypothesis is verified, i.e. there is a significant relationship between operating cash flows and remuneration for board of directors. Based on analysis of variance used in presented regression model, the obtained P-Value for coefficient is greater than error level, α = 0.05, in year 2001 only, i.e. they are statistically related to each other. This result is consistent with theoretical predictions, because operating cash flows is associated with the firm's performance and affects the wealth of stockholders, so this by itself can account for necessity of remuneration for board of directors.

Chart 1:

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
sample	95	95	95	95	95	95	95	95	95
Correlation coefficient	0.123	0.410	0.426	0.492	0.348	-0.015	-0.125	0.035	-0.148
p-value	0.274	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
Test result	Accept H0	Reject H0	reject H0	Reject H0	Reject H0	Reject H0	Reject H0	Reject H0	Reject H0

As shown in Chart 2, in testing second hypothesis, the obtained correlation coefficient between the variables suggests that these variables had an insignificant correlation with each other in all years except years 2003, 2007 and 2008. P-value calculated in various year shows that the correlation coefficient is not significant at 5% error level. The calculated correlation coefficient suggests that there is a poor relationship between the overall remuneration (bonus) for board of directors and Tobin's Q Ratio of firms accepted in TSE. These criteria, in addition to using data available in basic financial statements and accompanied notes, also use market data for measuring performance of the firm. These criteria are more relevant than are reliable, and since market data are subject to constant variation, these criteria are rather unstable. This result, i.e. poor correlation between independent and dependent variables (for years other than 2003, 2007 and 2008), may be due to inefficiency of the market, which has a delaying effect on reflecting the positive and negative outcomes of directors' performance. Consequently, this delays effort, if any, to either exploit or remunerate the directors. The existing poor relation between overall remuneration and Tobin's Q Ratio of firms quoted in TSE implies that stockholders use other criteria to remunerate board of directors and this ratio is not representing the value of directors for the firm. Such a conclusion is not unexpected in Iran where the market is inefficient and owners have been focusing on traditional criteria.

Chart 2: Results from test of second hypothesis.

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
sample	95	95	95	95	95	95	95	95	95
Correlation coefficient	0.123	0.410	0.426	0.492	0.348	-0.015	-0.125	0.035	-0.148
p-value	0.274	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000
Test result	Accept H0	Reject H0	reject H0	Reject H0	Reject H0	Reject H0	Reject H0	Reject H0	Reject H0

Test of Sub-Hypotheses:

Based on Chart 3 presented in regression model for test of first sub-hypothesis, net cash flows (NCF) from operating activities in cement, lime and gypsum industry and auto spare parts manufacturing industry influences significantly the remuneration of board of director. This means that in level of cement, lime and gypsum industry as well as in auto spare parts manufacturing industry, results from the tests were consistent with results obtained for all the firms. Therefore, it may be safe to say that in these industries the focus of stockholders is on the net cash flows while determining the remuneration for board of directors. In addition, based on correlation coefficient, explanatory model in auto spare parts manufacturing industry is more powerful than in other industries, whereas in rubber and plastic industries it has been affected by other factors, which are not to be discussed in this study. It also might be due to other factors such as selection of number of various samples in various industries. In short, the intensity of correlation between net cash flow and remuneration varies by the industry, which may be due to expectations of stockholders, type of auditing report etc.

Chart 3: Results from test of first sub-hypothesis.

Industry	Correlation coefficient	P-value	Result
Cement, Gypsum and lime	0.397	0.000	reject H0
Ceramic	0.075	0.608	Accept H0
Oil products, nuclear fuel	-0.29	0.314	Accept H0
Plastic and rubber	0.005	0.976	Accept H0
Chemical products	0.144	0.09	Accept H0
Machinery	0.02	0.86	Accept H0
Automobile and parts	0.486	0.000	reject H0

Based on Chart 4, correlation coefficient obtained between the variables of second sub-hypothesis, i.e. effect of type of industry on relation between remuneration for board of directors and Tobin's Q Ratio, suggests that these two variables were poorly correlated in all the industries. P-value calculated in various industries, shows that correlation coefficient was not significant in the industries other than cement and rubber industries, at 5% error level. This means that it is so little that may be overlooked at 5% error level.

Chart 4: Results from test of second sub-hypothesis.

Industry	Correlation coefficient	P-value	Result
Cement, Gypsum and lime	-0.065	0.000	Accept H0
Ceramic	0.037	0.798	Accept H0
Oil products, nuclear fuel	-0.057	0.846	Accept H0
Plastic and rubber	-0.102	0.000	Accept H0
Chemical products	0.056	0.508	Accept H0
Machinery	-0.079	0.495	Accept H0
Automobile and parts	0.085	0.307	Accept H0

Discussion and Conclusion:

Findings of this research indicate that there was a significant relation between the overall remuneration for board of director and net cash flows from operating activities, whereas there was a poor relation between overall remuneration for board of directors and Tobin's Q Ratio, in level of all firms. Similarly, results from test of hypotheses in level of all industries suggested that cash flows from operating activities (CFO) in cement, lime and gypsum industry and auto spare parts manufacturing industry had a significant effect on overall remuneration for board of directors. Furthermore, test of hypotheses shows that there was not a significant relation between overall remuneration for board of directors and Tobin's Q Ratio of firms quoted in TSE, in level of all industries (except for cement and rubber). In general, results from the hypotheses may not be consistent with results obtained for all the firms quoted in TSE. These results are rather consistent with those reported by Krolick (2005) who concluded that selection of remuneration plans based on accounting criteria of performance evaluation is, one way or another, predictable by businesses.

Suggestions for Future Researches:

1. To study the effect of some independent variables on dependent variables with a time delay
2. To study the relationship between remuneration for general director and performance variables.
3. Study on relation of some other variables such as revised economical value added, cash value added with remuneration for directors leading to gain new and useful insights.
4. To study on structure of remuneration for board of director based on type of industry and its combination with new criteria of performance evaluation in management accounting such as balanced scorecard and criteria assessment.
5. To study on relation between components of economical value added and components of remuneration for managers

Suggestion Based on Results From the Research:

1. Results from the test verify the content of first hypothesis, i.e. "there is a significant relation between cash flows from operating activities and remuneration for board of directors." Thus, stockholders should consider this as the criterion for determining remuneration for board of directors.
2. Based on results from this study including poor relation between overall remuneration and Tobin's Q Ratio of firms accepted in TSE, which was observed in all industries, stockholder should use other criteria to remunerate the board of directors.

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