# **DOES CORPORATE GOVERNANCE MATTER IN IRAN?**

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# Abstract

In this paper, we construct a corporate governance Index (G-index) based on 13 attributes, which are associated with good and bad governance to investigate the impact of corporate governance on a firm's stock return. After correlating each of the governance attributes of 141 Tehran Stock Exchange listed companies with their performance separately over a period of six years, we find the direction of each attribute's correlation. After that, we compute the G-index by aggregating the individual attributes and converting each firm's scores on attribute into the same scale. Finally, these scores are summed up by subtracting negatively correlated attributes from positively correlated attributes for each firm. We find a significantly high correlation between the firm's performance and firm's G-index. In the next step, we made three governance-sorted portfolios – from low to high governance - which we use to evaluate stock returns. We find better-governed portfolios significantly outperformed the poorly governed portfolios. We find that corporate governance score really matters in since the results show statistically significant relationship between the qualities of the corporate governance as measured by our G-index and firm's stock return.

*Key Words*: Corporate Governance, Corporate Governance Index, Performance, Return *JEL Classification*: G34, G32, G11

# **1. Introduction to Governance Literature**

The list of corporate governance research has increased significantly during the last decade (Gillan, 2006). The reason is corporate governance is presently known as an effective mechanism for exerting corporate control in the literature in order to secure sustainable higher stock return. Jensen (1986) puts it, if there is lack of ability of the other corporate control mechanisms such as capital market, legal-political-regulatory system, product and factor markets, it is effective to apply internal control system headed by the board of directors, he notes. The fundamental insight from which the field of corporate governance emanates is that there are potential problems associated with the

separation of ownership and control that is inherent in the modern corporate form of organization (Denis, 2001).

Although in Jensen's opinion (1993) the board of directors is the apex of the internal control system with the final responsibility for the functioning of the firm, it was around 2001 this topic attracted intense attention following the collapse of Enron. The aftermath of that collapse was accompanied by enormous amounts of research and numerous corporate governance reforms including the Sarbanes-Oxley Act of 2002 (SOX) (Gillan et al. 2007).

Since then, increasing evidence points to the association between corporate governance and firm performance (Aman and Nguyen, 2008). Gompers et al. (2003) found that a broad index based on 24 provisions of the Investor Responsibility Research Center (IRRC) giving each IRRC provision equal weight was negatively correlated with firm value measured using Tobin's Q. They construct a Governance Index (G-index) to proxy for the level of shareholder rights found in approximately 1,500 large US firms during the 1990s. Their results suggest that firms with stronger shareholder rights have higher firm value, higher profits, higher sales growth, lower capital expenditures, and make fewer corporate acquisitions. In addition, they find a significant positive relation between the G-index and stock returns over the sample period. They explain that weak shareholder rights create agency conflicts, which in return lead to low firm value in the long run.

Bebcuk et al. (2005) construct an entrenchment index based on six factors, which are selected from 24 governance factors developed by the IRRC. They find a negative relation between the index scores and the value of firm as measured by Tobin's Q for US firms over 1990-2003 (Bebcuk et al. 2005).

Using a broader index, Brown and Caylor (2004) has confirmed earlier that corporate governance is positively correlated with operating performance, market valuation, and dividend payout for a large sample of US firms. Black et al. (2006) using emerging markets construct a corporate governance index for 515 Korean companies, using a survey conducted by the Korea Stock Exchange, He found a positive relation between corporate governance practices and market valuation, as measured by Tobin's Q and the market-to-book ratio. Similar results have been documented by Beiner et al. (2006) in Europe; Ahmadjian (2006) and Miyajima (2006) in Japan; and by Klapper and Love in 25 emerging markets (2004).

Following the work done by Brown and Caylor (2004), Aman and Nguyen (2008) constructed a governance index based on several attributes known to be associated with good corporate

governance and showed positive correlation with firm performance. Using the index to evaluate the returns on governance-sorted portfolios, they found that poorly governed firms significantly underunderperformed better-governed firms. Their result might be due to the greater risk exposure of poorly governed firms. After adjusting for size and book-to-market ratio, the excess returns become insignificant across all portfolios. Finally, they concluded that stock prices appear to reflect fairly the higher (lower) risk associated with poor (good) corporate governance (Aman et al. 2008). Brown and Caylor (2006) related the corporate governance to firm's valuation using 1,868 firms based on 51 internal and external corporate governance provisions provided by institutional Investor Services (ISS) as of February 1, 2002.

### 1.1 The Governance Index (G-index)

In this paper, we start with constructing a governance index, G-index. We use Rahavard Novin and Tehran Stock Exchange Data set to identify 13 attributes of corporate governance, which are known to decrease agency conflicts and thus are associated with good (poor) corporate governance. To applying this index in this market, we had to construct the index and face the other difficulty on the lack of a publicly available information on governance attributes as well as ambiguity about the effect of corporate governance measurements.

The attributes cover three dimensions of corporate governance: board composition, ownership structure and disclosure policy. Contrary to that of Gompers et al. (2003) on anti-takeover measures the firm's resistance to external control mechanisms, our index is considered by those authors as emphasizing the quality of the firm's internal controls. It is due to that reason that the market for corporate control in Iran is underdeveloped (Ghalibaf et al., 1985). Further, the exchange is not even efficient in weak form. Our index is closer to the index constructed by Brown et al. (2004) and Aman et al. (2008). However, considering the data availability issues for this research, we have to ignore some of the corporate governance aspects and add few more. In the following sections, we review each variable and the motives for its inclusion in our index in order to justify the selection.

## 1.2 Board structure

Many researchers view the board of directors as the lynchpin of corporate governance. With fiduciary obligation to shareholders and the responsibility to provide strategic direction and monitoring, the board's role in governance is important (Gillan, 2006). Unfortunately, in practice, it is not clear that the average member of the board of directors has enough incentive to do the job

properly. Management typically has a great deal of say about who the directors shall be. Nothing in the law prevents manager from stacking the board with individuals sympathetic to management's interests. Historically, many of them have done much sacking (Denis, 2001). A good example is Enron. Although Enron has been ranked as one of the five best corporate boards in 2000 by Chief Executive Magazine, we now know that Enron's board did not restrain the firm's management from engaging in risky behavior that led to the firm's collapse (Gillan et al., 2007).

Amidst public attention and calls for change by various parties, many firms are undertaking reform of the board structure. The typical reform includes some combination of reducing board size, increasing the relative proportion of outside directors, assigning these outside directors only to such tasks as nominating new directors and setting executive compensation plans, separating the positions of chief executive officer and chairperson on the board and requiring that board members own stock in the firm (Denis, 2001). However, it is still not clear whether small size and the more independent board are related to better performance.

According to Aman et al. (2008), Japanese firms' board size is negatively correlated with performance. Yermack (1996) and Denis et al. (1999) provide evidence that US firms with smaller boards achieve higher market values. Saito (2002) confirms that board size and Tobin's Q are negatively correlated in Japan. Elsewhere, Mak et al. (2005) single out board size as the most significant factor in explaining firm value in Singapore and Malaysia.

The interesting point is the increase in the board size and independence after Sarbanes-Oxley (SOX), which shows the incremental emphasis on board structure (Chhaochharia et al. 2005). Findings of Hermalin et al. (2001) show that smaller boards and greater proportions of outside directors appear to lead management teams to take actions that are more in line with shareholders' interests. In contrast to this finding, Bhagat et al. (2002) find no relationship between the proportion of independent directors and various indicators of firm performance while (Rosentein et al. 1990) observe a positive market reaction to the appointment of independent directors. Other reports (Coles, Daniel, and Naveen 2008) show that the relation between firm value and board size is U-shaped. In other words, both small and large boards are good for firms. Dutchin et al. (2010) also show evidence that increased percentage of independent directors may actually hurt a firm's performance. Linck, et al. (2008) found a negative relation between past firm performance and board independence.

In this paper, we use the number of board members (BOARD\_NUM), non-executive board members (NE\_NUM) and the proportion of non-executives on board (NE-RTO) as a proxy for board structure. Because there has been no previous research done in this regard in this market, we do not associate board structure elements with better or worse performance and market value, so we take a neutral approach in terms of predicting the direction of these factors.

#### **1.3 Ownership Structure**

Conflicts of interest between owners-managers and outside shareholders as well as those between controlling versus minority shareholders have been the subject of many studies going far back as Berle et al. (1932), Jensen et al. (1976) and Sheifer et al. (1986). Accordingly, there is relatively a large literature on the effects of ownership and corporate performance (Margaritis et al., 2010).

Numerous studies investigate the role of ownership structure on firm performance. In particular, large shareholders, such as institutional investors, are documented to have a positive influence on valuation (McConnell et al., 1990). By generally accepted definition, a shareholder who holds 5 per cent or more of a corporation's common stock is considered to be a large shareholder or block holder (Denis, 2001). It is believed that the holder's share of the firm is significant enough to potentially give them both the ability and the incentive to monitor and influence what is happening in the firm. These block holders may be individuals, corporations, and/or institutional investors (Denis, 2001). Nesbitt (1994), Smith (1996), Del Guercio et al. (1999) and Hartzell et al. (2003) find evidence that corporate monitoring by institutional investors can constrain managers' behaviour. Sheifer et al. (1986) show that large external equity holders can mitigate agency conflicts because of their strong incentives to monitor and discipline management. Cole et al. (1998) examined the stockprice performance and ownership structure. They found that changes in performance are positively associated with changes in ownership by management: it is negatively associated with changes in ownership by employee stock ownership plans. In contrast, Morck et al. (2000) show that bank ownership is detrimental to firm valuation. Weinstein et al. (1998) appear to suggest that bankcontrolled firms exhibit a lower profitability.

Family firms are a special class of large shareholders with unique incentive structures (Margaritis et al., 2010). Although controlling family shareholders may expropriate minority shareholders' value (Claessens et al. 2002), several studies (e.g. Anderson et al. (2003); Villalonga and Amit (2006); Maury (2006); King and Santor (2008)) show that family firms especially those with large personal owners tend to outperform non-family firms. In addition, the empirical findings of Maury

(2006) suggest that large controlling family ownership in Western Europe appears to benefit minority shareholders rather than harming them. Large institutional investors may not, on the other hand, have incentives to monitor management (Villalonga and Amit, 2006) and they may even coerce with management (McConnell et al., 1990; Claessens et al. 2002; Cornett et al., 2007). Moreover Shleifer and Vishny (1986) and La Porta et al. (2002) argue that equity concentration is more likely to have a positive effect on performance in situations where control by large equity holders may act as a substitute for legal protection in countries in the context of weak investor protection in less developed capital markets: they also classify Continental Europe in that class.

In this paper we use the percentage ownership by institutional investors (INST), percentage of ownership by Non-Institutional large shareholders (M\_RTO), the percentage of ownership by Family shareholders (FAMILY), and the percentage of ownership by Foreign investors (FRGN) to proxy for ownership structure in our Index.

### 1.4. Information and Disclosure

Governance role of accounting information simply means the utilization of the presented reports as a mechanism to control corporate governance. Good information disclosure usually represents CEO's willing to communicate with and surrender some of her/his power to shareholders. Information disclosure plays a significant role on investment decisions for both domestic and foreign institutional investors (Aggarwal, et al., 2005; Ferreira and Matos, 2008).

To exercise control and to effectively monitor management, financial contracting parties also need value-relevant information for their individual decisions. The allocation of information rights directly affects the exertion of control and therefore, ultimately, the distribution of future payouts for investors. Information rights and the flow of information inside and outside of the firm consequently constitute important elements of corporate governance (Wustemann, 2001).

It is expected that the quality of information released by firms exhibits a positive correlation with their performance, one reason being good performers are more willing to disclose information. In addition, recent studies (Durnev et al., 2004) emphasize the role of information in relation to efficient capital allocation and growth (Aman et al., 2008).

In this paper, we use several attributes to reflect quality of disclosure. One is the total number of announcements (AN\_NUM) disclosed annually by a firm. The total number of mid-term financial announcements (MTFI) disclosed by a firm in a year is another. The transparency rank (TR) which

encompasses both timeliness and quality of the information releases, along with the firm's success to meet its forecasts. Transparency rank is accessed from the Tehran Stock Exchange database. Several attributes are employed for investigating the firm's respect for its shareholders.

- The existence of a website, which enables the shareholders to find general information about the company,
- The existence of shareholder section in firm's website which shows the specific emphasis that the company puts for its shareholders, and
- Whether the shareholders' section of the firm's website is updated.

The rest of the paper is divided into four section: methodology is in section 2 followed by results on overall analysis in sections 3 and 4. The paper ends with conclusion in section 5.

### 2. Aggregation of Individual Attributes and Construction of G-index

We first collate the values of every variable. Next, we divide each variable by the difference between its maximum and minimum and then multiply the result by 10. After that, we use the result of Spearman's regression to add those variables. The calculated value is G-index score for each variable. In this way, we will have very few missing data.

$$\bar{v}_{i,m} = v_{i,m} * (MAXv_{i,m} - MINv_{i,m})/10$$
<sup>(1)</sup>

 $\bar{v}_{im}$  = Corporate governance variable of same scale,

- $v_{i,m}$  =Corporate governance variables,
- i = Variables from one to 13,
- m= Company.

The regression to be used for this analysis is as in Equation (2):

$$\begin{split} \textit{ROA}_{m,t} &= \alpha_1 + \alpha_2\textit{BOARD} - \textit{NUM}_{m,t} + \alpha_3\textit{NE} - \textit{NUM}_{m,t} + \alpha_4\textit{NE} - \textit{RATIO}_{m,t} + \alpha_5\textit{INST}_{m,t} \\ &+ \alpha_6\textit{MJ}_{m,t} + \alpha_7\textit{FRGN}_{m,t} + \alpha_8\textit{FAMAILY}_{m,t} + \alpha_9\textit{FINF}_{m,t} + \alpha_{10}\textit{MTFINF}_{m,t} \\ &+ \alpha_{11}\textit{WEBE}_{m,t} + \alpha_{12}\textit{WEB}\_\textit{SH}_{m,t} + \alpha_{13}\textit{WEB}\_\textit{UPDATE}_{m,t} + \alpha_{14}\textit{TRANS}\_\textit{RANK}_{m,t} \\ &+ \alpha_{15} + \varepsilon \end{split}$$

 $BOARD - NUM_{m,t} = Number of board members, NE - NUM_{m,t} = Number of non-executive board members$ 

 $NE - RATIO_{m,t} = Non-executive board members ratio, INST_{m,t} = Institutional investor's ownership percentage$ 

 $MJ_{m,t}$  =Major investor's ownership percentage,  $FRGN_{m,t}$  = foreign investor's ownership percentage

**FAMAILY**<sub>m,t</sub> = Family ownership percentage,  $FINF_{m,t}$  = the number of official reports published annually

MTFINF<sub>m.t</sub> =The number of financial reports published in an interim period

WEBE<sub>m,t</sub> = The existence of company website

WEB\_SH<sub>m.t</sub> = The existence of shareholder's menu in companies website

 $WEB_UPDATE_{m,t}$  = The existence of up to date information for shareholders in company website TRANS\_RANK<sub>m,t</sub> =Company transparency rank

Below is the fomula (Equation (3)) for the construction of G-index:

$$GINDEX_{m,t} = \sum_{i=1}^{13} (P\bar{V}_{i,t}) * \sum_{i=1}^{13} \overline{MAX} P\bar{V}_{i,t} / MAX(\bar{V}_{i,t}) - \sum_{i=1}^{13} (N\bar{V}_{i,t}) * \sum_{i=1}^{13} \overline{MIN} N\bar{V}_{i,t} / MIN(\bar{V}_{i,t})$$

 $GINDEX_{m,t}$  = Gindex Score of company (m) at time (t)

 $P\bar{V}_{i,t}$  =Same scale corporate governance variables with positive correlation with performance

 $N\overline{V}_{it}$  = Same scale corporate governance variables with negative correlation with performance

 $\overline{MAXPV}_{i,t}$  = The maximum amount related to each variable with the same scale

 $\overline{MINNV}_{i,t}$  = The minimum amount related to each variable with the same scale

| Variables         | No. | Min   | Max     | Mean     | S.D      |  |  |
|-------------------|-----|-------|---------|----------|----------|--|--|
| Board Structure   |     |       |         |          |          |  |  |
| BOARD-NUM         | 846 | 0.000 | 11.000  | 13.000   | 5.3049   |  |  |
| NE-NUM            | 846 | 0.000 | 12.000  | 12.000   | 3.3108   |  |  |
| NE-RATIO          | 846 | 0.000 | 1.000   | 1.000    | 0.62038  |  |  |
| Capital structure |     |       |         |          |          |  |  |
| INST              | 846 | 0.000 | 100.000 | 100.000  | 32.8084  |  |  |
| MJ                | 846 | 0.000 | 99.500  | 99.500   | 72.5652  |  |  |
| FRGN              | 846 | 0.000 | 49.960  | 49.960   | 1.8893   |  |  |
| FAMAILY           | 846 | 0.000 | 100.000 | 100.000  | 12.4527  |  |  |
| Disclosure        |     |       |         |          |          |  |  |
| FINFO             | 846 | 0.000 | 63.0000 | 15.4066  | 7.45401  |  |  |
| MTFINFO           | 846 | 0.000 | 31.000  | 7.7446   | 4.48176  |  |  |
| WEBE              | 846 | 0.000 | 1.000   | 0.8368   | 0.36969  |  |  |
| WEB_SH            | 846 | 0.000 | 1.000   | 0.3617   | 0.48077  |  |  |
| WEB_UPDATE        | 846 | 0.000 | 1.000   | 0.3120   | 0.46360  |  |  |
| TRANS_RANK        | 846 | 0.000 | 310.000 | 169.4468 | 104.6571 |  |  |
| GINDEX            | 846 | 0.000 | 13.000  | 6.4255   | 2.43223  |  |  |

Table-1: Summary statistics for the aggregate index and each separate attribute

Table 1 presents the summary statistics for the aggregate index and each attribute. As is evident from the measured ratios, the numbers are within expected ranges. The data transformation should enable these measures to be accurate values of the attributes.

## 3. Relation of Governance to Performance

Table 2 presents the correlation values of the governance index and its individual components of firms' performance. According to the previous research, performance is more accurately measured by ROA (Ghalibaf et al., 2008) and (Namazi et al., 2009). This is the step to verify empirically the relevance of each governance attribute (and ultimately that of the index) and quantify the firm's governance quality by providing evidence of its impact on firm performance (through its effect on agency costs). ROA is measured by operating profits scaled by total assets as at March 2004. Due to the discrete nature of many governance attributes, Spearman rank correlation value is also provided as the measure of the strength of the relationship on performance.

| Correlation of Governance Attributes with ROA |            |            |  |  |
|---|------------|------------|--|--|
|   | R          | ROA        |  |  |
| Correlations                                  | Pearson    | Spearman   |  |  |
| Board Structure                               |            |            |  |  |
| BOARD-NUM                                     | 0.001      | 0.007      |  |  |
| NE-NUM  | -0.122(**) | -0.130(**) |  |  |
| NE-RATIO                                      | -0.109(**) | -0.130(**) |  |  |
| Capital structure                             |            |            |  |  |
| INST  | 0.000      | 0.025      |  |  |
| MJ  | -0.032     | -0.052     |  |  |
| FRGN  | 0.010      | -0.058     |  |  |
| FAMAILY                                       | 098(**)    | -0.095(**) |  |  |
| Disclosure                                    |            |            |  |  |
| FINFO   | 0.339(**)  | 0.376(**)  |  |  |
| MTFINFO                                       | 0.356(**)  | 0.411(**)  |  |  |
| WEBE  | 0.179(**)  | 0.231(**)  |  |  |
| WEB_SH  | 0.209(**)  | 0.216(**)  |  |  |
| WEB_UPDATE                                    | 0.249(**)  | 0.238(**)  |  |  |
| TRANS_RANK                                    | -0.462(**) | -0.531(**) |  |  |
| GINDEX  | 0.38(**)   | 0.410(**)  |  |  |
|   |            |            |  |  |

Table-2: Correlation of Governance Attributes with Perfomance Measure (ROA)

\*\* indicates significant at 0.01 level; \* at 0.05 level (2-tailed).

In contrast to (Aman et al., 2008), the results show an insignificant negative correlation with board number and performance. The reason could be that the majority of the Iranian firms tend to have 5 to 7 board members to follow the minimum requirements of Iranian business law. Findings of Yermack (1996), Saito (2002), Mak et al. (2005) and Aman et al. (2008) have shown the existence of such a relation even though the results are different.

We find that non-executive members' number and ratio have significant negative relation to performance. One of the reasons might be lack or low expertise of such members. The other reason might be the decrease in synergy and the speed of decision making due to the increase in the number of non-executive members. Outside members may be working for other than the shareholders' interests. These managers are not usually informed of company's daily events and are influenced largely by the executive mangers. The findings of this study are contrary to the findings of Bhagat et al. (2002), and Aman et al. (2008).

We have also shown that the family ownership in Iranian firms has a significant negative relationship to performance. Other variables related to the ownership structure (i.e., institutional investors, foreign investors and major stockholders) had no significant effect on performance, which is opposite the findings of Margaritis et al. (2010), Anderson et al. (2003), Villalonga et al. (2006) and Maury (2006).

These findings can be justified by knowing that the main stockholder of the majority of the Iranian firms are government and the institutional investors are finally governed by the governmental sector, which is usually synonymous with lack of management expertise and productivity. Moreover, the firms with major foreign investors are rare, which might make the results unraveling. Private sector is not usually supported by the government, and is under heavy regulations, taxes, and tariffs.

The variables related to transparency on the other hand make significant correlation with performance. Transparency rank is computed by the Exchange and it interestingly has a significant negative correlation with performance, which shows the reliability of this rank for users' decision-making. The finding is consistent with that of Aman et al. (2008) and Miyajima (2006).

The finding also confirms a significant positive correlation of our G-index with performance. All three dimensions of corporate governance appear to be closely related to firm performance. Using

survey data, Miyajima (2006) finds disclosure to be the governance dimension with the most significant association to the firm performance in Japan. It can be noted that some individual attributes exhibit a higher correlation than the index with the performance measures. For instance, Transparency rank has a higher correlation with ROA. Hence, the index, using paramteric (pearson) as well as nonparametric (spearman) correlation, provides a compact measure that is strongly correlated with performance measure.

#### 4. Returns on Governance-sorted Portfolios

In order to control for firm-specific information which is unrelated to corporate governance, we divide firms into governance-sorted portfolios. Hence, we construct three separate portfolios with strong, medium and weak corporate governance according to the firm's G-index values (where group 1 is the strong, group 2 is the medium and group 3 is the weak portfolio on governance). We have equal number of 282 firms in each group. The governance-sorted mean ranks for each of the groups are shown in Table 3.

| Governance rank | Group (portfolios) | Ν   | Mean Rank |
|-----------------|--------------------|-----|-----------|
| Strong          | 1                  | 282 | 462.3918  |
| Average         | 2                  | 282 | 434.2234  |
| Weak            | 3                  | 282 | 373.8848  |
|                 | Total              | 846 |           |

Table-3: The mean rank of governance-sorted portfolios

Stock returns are computed by taking the log difference between two consecutive monthly prices over 6 years sourced from the Tehran Stock Exchange price database. We have used Kruskal Wallis Test (H test), which is a nonparametric test, to check the significance of the difference in our portfolio's return: this is appropriate as the variable is an index.

The result of the analysis indicates that there is significant difference in at least one of the medians, (2, N=846) = 19.41, p=6.07E-05 (Table-4). In addition, mean rank shows the higher return of the strong portfolio compared with average and weak portfolios. Although the overall test is significant and the mean return (Table-5) and mean rank (Table-3) for strong portfolio are higher, we cannot conclude that better-governed portfolio significantly outperforms medium and weak governance-sorted portfolios untill we perform post hoc analysis.

|             | VAR00002                    |
|-------------|-----------------------------|
| Chi-Square  | 19.41936                    |
| D.f.        | 2                           |
| Asymp. Sig. | 6.07E-05                    |
| Α           | Kruskal Wallis Test         |
| В           | Grouping Variable: Grouping |

**Table-4: Kruskal Wallis Test** 

The parameters in Table 5 shows the simple mean return of the governance-sorted portfolios along with their standard deviation. As expected, the portfolio with better-governed companies has the highest mean return (0.0809) and the portfolio grouped as the weakest from the governance standpoint has the lowest mean return (0.0210). However, post-hoc analysis is necessary to statistacally verify the findings.

| Variables                 | Ν   | Mean return | stv      | Min   | Max  |
|---------------------------|-----|-------------|----------|-------|------|
| Equal weighted portfolios |     |             |          |       |      |
| Strong Portfolio          | 282 | 0.080887    | 0.193047 | -0.59 | 0.96 |
| Average Portfolio         | 282 | 0.06273     | 0.200624 | -0.42 | 1.06 |
| Weak Portfolio            | 282 | 0.021028    | 0.131211 | -0.56 | 0.76 |

Table-5: Mean returns of governance sorted portfolios

The post-hoc pairwise comparisons are conducted by using the Mann-Whitney test for determining which groups significantly have different mean return. To calculate the statistic, this test like many non-parametric tests uses the ranks of data rather than their raw values to calculate the statistic.

Table 6 is summary of the Median Ranks of governance-sorted portfolios. Group 1 (strong governance) has the highest mean rank campared with the average and the weak portfolios. Also, average governance portfolio has higher rank compared with weak portfolio. So as expected, the results indicate the higher mean return of strong governance portfolio compared with average and weak governance portfolios. Likewise, mean return of average governance portfolio is higher compared with weak governance portfolio.

|        | Group       | Ν   | Mean Rank | Sum of Ranks |
|--------|-------------|-----|-----------|--------------|
| Return | Strong (1)  | 282 | 300.56    | 84758.00     |
|        | Average (2) | 282 | 264.44    | 74572.00     |
|        | Total       | 564 |           |              |
|        | Average (2) | 282 | 302.13    | 85199.50     |
|        | Weak (3)    | 282 | 262.87    | 74130.50     |
|        | Total       | 564 |           |              |
|        | Strong (1)  | 282 | 324.26    | 91442.50     |
|        | Weak (3)    | 282 | 240.74    | 67887.50     |
|        | Total       | 564 |           |              |

Table-6: Pair wise comparison of governance-sorted Mean ranks

It can be concluded that there is a statistically significant difference between each pair (Table-7). It can also be concluded that the strong governance portfolio has statistically significant higher mean return than average and weak governance portfolio.

Pair-wise comparison of strong and average governance portfolios results in U=34669, P=0.000; for pair wise comparison of strong and weak governance portfolios U=27985.5, P=0.000; and for pair wise comparison of average and weak governance portfolio U=34227.5, P=0.004)

Table-7: Pair wise comparison of governance-sorted Mean ranks by Mann-Whitney test

|  | Return           | Return         | Return        |
|--|------------------|----------------|---------------|
|  | (strong-average) | (average-weak) | (strong-weak) |
| Mann-Whitney U                         | 34669.000        | 34227.500      | 27984.500     |
| Wilcoxon W                             | 74572.000        | 74130.500      | 67887.500     |
| Z                                      | -2.633           | -2.880         | -6.115        |
| Asymptotic Significance (2-<br>tailed) | 0.008            | 0.004          | 0.000         |

Our findings, though different with results of Aman and Nguyen, (2008), Core et al. (2006) and Bauer et al. (2004), is line with Gompers et al. (2003) and Drobetz et al. (2004).

# 5. Conclusions

Corporate governance is widely associated with better performance, whether the direction of causality stems from governance towards performance, or because high performers choose to operate under better governance rules (Aman et al., 2008). A large number of empirical studies

confirm this association using aggregate governance ratings or specific governance attributes, such as board independence, performance-related compensation, or disclosure standards. In particular, well-governed firms appear to exhibit higher stock prices (Aman et al., 2008).

In this article, we investigate the case of Iranian firms using our own governance index constructed to reflect the firm's board characteristics, ownership structure, quality of disclosure and respect for investors' interests. Then we correlated our index with performance. The result confirms a strong relationship between our constructed index and performance.

In the next step, we used the index to make three governance-sorted portfolios whose monthly returns are analyzed for a six-year period. The results show a significant difference between the governance sorted portfolio returns. The portfolio with strong governance makes the highest return while the portfolio with weak governance has the lowest return. The findings show that the investors take the governance measures into their decision-making even though they do not actually refer to these constructs as we describe to be the attributes of corporate governance.

It is worthwhile to mention that our results do not imply that governance ratings are certainly a ruler for measurement of stock return. Governance scores contribute to the information publicly available to market participants like many other sources of information. Governance ratings might motivate the firms to improve their governance standards.

In this paper, we faced different limitations, one of which is this was the first time to construct a G-index in Iran. Data were very hard to gather, as there was no single database, which contains data concerning all the corporate governance attributes. Other limitation might be due to the sample used, which might make the extension of the results to other periods and places problematic.

For continuing research, it is proposed that the other corporate governance mechanisms and other attributes be used to make a G-index. In addition, it is advised to adjust for risk factor and use the risk-adjusted return instead of gross return.

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