



The Relationship between Governance Indicators and Firm Performance

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Abstract

The present study is concerned about the relationship between governance indicators (control of corruption, government effectiveness, regulatory quality, political stability, voice and accountability, and role of law) and performance (return on assets based book value, return on assets based market value, return on equity based on book value, return on equity based on market value, sales growth rate, net income growth rate, and Tobin's q ratio) in listed companies on the Tehran Stock Exchange. Data related to firm performance indexes were gathered from 296 listed companies on the Tehran Stock Exchange from 1996 to 2016 by using the systematic elimination method. The data of six-fold governance indicators are computed annually by the World Bank and Heritage Foundation for different countries based on similar criteria. Moreover, the resultant statistical tests from panel data methods and multiple regression were administered using data analysis and R Software. The study results indicate a positive or inverse significant relationship between six indicators of corruption control, government efficiency, quality of law, political stability, right to comment, law rule, and listed companies' performance on the Tehran Stock Exchange.

This study is innovative. It analyzes the relationship between all governance indicators and various firm performance measurements, which is not assessed in the Iranian and international studies. Hence, this study can contribute considerably to the development of knowledge in this field.

Keywords: governance indicators, firm performance, Heritage Foundation, World Bank

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1. Introduction

The aim of running business units for managers and investors is to earn a profit and maximize profit. Enhancing firm performance would lead to maximization, so managers, investors, and other beneficiaries should be fully aware of the contributing factors to the firm performance. One of such contributing factors to performance is the firms' economic setting in that the status and economic condition affect the firm performance. Users of financial statements analyze the firm performance using different criteria. To this end, we can make use of accounting or economic criteria. In accounting criteria, firm performance is analyzed concerning the accounting data. This is while in economic criteria, firm performance is analyzed regarding the power of earning a profit of current assets, potential investment, regarding the rate of return and rate of capital cost (Safdari, 2012). Firm performance evaluation is a vital issue, for doing which those accepted criteria are used that considered different aspects of performance (Ferguson et al., 2007).

On the other hand, improving the governance indicators is an opportunity for economic security, enhancing business setting, attracting domestic and foreign investment and firm performance, which are analyzed through six indexes of control of corruption, the rule of law, regulatory quality, government effectiveness, political stability, voice, and accountability annually by international institutions and determine the status of each country, score, rank. Its position among other countries worldwide (these indicators results from three scholars of the World Bank, named Danial Kahneman, Aart Kraay, and Pablo. Zoido. Lobaton merged the findings of different international institutes, like EIU, ICRG, Heritage Foundation (2018), and Freedom House, about countries' economic, political, and social status and introduced new general indexes title of governance indicators). Among these indicators, bribery as one of the factors of corruption can bring about efficiency reduction and firm profitability. Besides, it can also increase efficiency and firm innovation (Sharma et al., 2015). Hence, corruption will influence the formation of firms (Rocca et al., 2017). On the other hand, regulatory quality, in turn, by controlling corruption would lead to firm efficiency enhancement because the growth of regulatory quality, adopting detailed rules and regulations, and preventing the bribery would affect the private section (World Bank, 2005).

Therefore, given Iran's rank among governance indicators, it is vital to identify the impacts of these indicators on accounting and finance and apply them for deciding about investors, managers, and other beneficiaries. Hence, the present study aims to assess the relationship between governance indicators and firm performance. By evaluating the related literature and background of the study, we realized that this project is the first to assess the issue, contributing to the furtherance of knowledge in this field and filling the current gap in the literature.

2. Theoretical principles

2.1. Firm performance

Several definitions proposed about the performance so far. For example, performance lexically means the function, amount of work, and the result of an action and idiomatically compares the results with the expectations. It can be said that performance both implies the action and the result of an action. Moreover, Carroll and Shabana (2010) defined the performance as today's action, which produces a certain amount of an individual's output value. Besides, Neely et al. (2002) proposed the most salient definition of performance, which declares that performance is the process of elucidating the quality of previous actions' effectiveness and efficiency. Broadly, organizational performance is a criterion for measuring the amount of proper and effective access of action to predetermined objectives, which can be realized by the organization's efficiency and effectiveness in achieving the objectives (Stones et al., 2007). Performance evaluation indicates the

dynamism of a system and can lead to growth and rectify the shortcomings and problems. Like other systems, financial systems require performance evaluation to compare the performance results with the defined expectations. Performance evaluation has long been a significant section of accounting, management, and economics discussions. Principally, performance is directly associated with the objective. Performance evaluation means measuring to what extent does the firm achieves its predefined objectives. In this paper, seven indicators of return on assets based on book value, return on assets based market value, return on equity based on book value, return on equity based on market value, sales growth rate, net income growth rate, and Tobin's q ratio were used to analyze the performance.

2.2. Governance indicators

Presently, good governance has gained importance in scientific associations. This topic was put forward for the first time in the late 1980s by the World Bank. After the World Bank fails to implement the adjustment policies or what is called Washington Consensus in some countries, this institution concluded that since these countries' governments are not qualified, they cannot execute this bank's recommendations freed up the prices. This was the first step for the formation and advent of "good governance" thought. Thus, although the economic factor plays a significant role in forming this thought, its strong tie with some governmental management topics cannot be taken for granted in terms of the government's major role. Today's "good governance" is a type of governance with the following conditions: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law, and corruption (Naderi, 2011).

As for governance, different definitions are offered so far. For example: from the World Bank perspective (1999), governance means the process and constitutions through which a country adopts some decisions and authorities. Moreover, according to the United Nations Development Program (1997), governance is imposing administrative, political, and economic authority for running the country's affairs at all levels. According to the International Monetary Fund (2005), governance is improving governmental resources, supporting development, and holding a stable economic and legal setting to direct the private section's efficient activities. Moreover, according to Kaufmann (2003), governance is imposing authority through institutions and official and nonofficial traditions for the public interest.

Corruption is one of the main indexes of governance; a phenomenon increases doubt, uncertainty, and risks of a business unit because it leads to a series of questions about the legal and judicial system (Rocca et al., 2016). Chen (2011) describes the moderating role of corruption and says that "in financially undeveloped countries where investors are not fully supported, and level of corruption is high, firms are inefficient and performance will drop". Further, Chen (2011) believes that firm management holds cash to achieve its interests. It seems that cash holdings have a negative effect on those firms that exploit the regulations instrumentally, and their activities are more intense in countries where continuous opportunities are provided for corruption-oriented activities. The reason is that management, instead of maximizing the wealth of shareholders, can use the cash reserves for corruption activities, for increasing power, authorities, and opportunistic governance.

In contrast, in conditions that corruption control is more intense, cash holdings, due to balancing interests between investors and management, will increase the firm performance without distorting the money laundering regulations. There are two opposite views about the effect of corruption on the economy. Egger and Winner (2005) argue that in office settings with strict rules and regulations, the presence of a small amount of

corruption will cause economic growth, productivity, and entrepreneurship. The opponents of this theory claim that for evaluating the effect of corruption, we should consider the destructive and endogenous function of corruption and its consequences on institutions (Aidt, 2009). On the other hand, the results of the previous studies (like Mauro, 1995: 1997; Rocca et al., 2016; Sharma et al., 2015) indicate that there is a significant relationship between corruption and performance. The basis of these studies is proposed by Mauro (1995) using the corruption index and income growth rate. Two factors of firm size and corruption influence the decline of firm sales, and there is a strong negative association between firm corruption and sales growth. Hence, the presence of corruption would lead to the decline of firm resources; in other words, we expect corruption to decrease firm performance and efficiency. Some conducted studies on the relationship between corruption and firm performance are as follows:

Chen (2009) states that the stock return has a poor relationship with economic freedom, and, on the other hand, economic freedom is associated with a decrease in stock market fluctuations. Athanasouli et al. (2012) declare that two factors of the firm level and corruption influence the firm sales drop, and a negative relationship is found between firm corruption and growth. Moreover, larger firms seem to suffer more from corruption than medium or small-sized ones. Sharma et al. (2015) argue that the impact of bribery on firm performance is different. Bribery would cause a decrease in firm efficiency and profitability and, on the other hand, increase productivity and positively affect firm innovation. Moreover, the study's findings show that firms probably offer government officials a bribe to break through the barriers. Hence, we can say that the system (politics or bureaucratic) would result in the tendency to increase the chance of bribery and performance drop.

Hall (2013) carried out a study on the works and studies in which the economic freedom index is used with accounting variables. Among 402 articles that refer to the index of economic freedom, 198 indexes are used as an independent variable in an experimental study. More than two-thirds of these studies have found economic freedom as a "good" result, like faster growth, better living standards, more happiness and less than 4% of them defined economic freedom as a "bad" result like increased income inequality. The evidence shows, on average, that economic freedom is by a broad spectrum of positive consequences and almost has no negative impact. Rocca et al. (2017) discuss the significance of corruption in forming the signs and the growth of cash holdings value and argue that the signs of firms' liquidity effect on firm performance are different concerning the different levels of corruption.

Based on the above-said facts, the first hypothesis of the study is as follows:

H₁: There is a significant relationship between the control of corruption and firm performance

Furthermore, this paper is also concerned about another conceptual topic named government effectiveness. From the World Bank point of view (2005), government effectiveness is obtained from the quality of government services, the quality of social services, their degree of freedom from political pressures, the quality of policy compilation and implementation, and the government amount commitment to such policies. This index is collected, calculated, and proposed by the World Bank based on 82 different resources. Higher government and social services and compilation of governance policies out of political pressures indicate this index's better status. According to definitions of government effectiveness from the Central Bank point of view and the calculation components of this index, we expect to enhance the government effectiveness index to lead to social justice and better firm performance.

Hussain et al. (2017) analyze the effect of political stability, government effectiveness, and control of corruption in East Asia's stock market and found a strong and positive

relationship between control of corruption, government effectiveness, political stability, and performance of the stock market.

Padmanabha and Bhatt (2017) assess the relationship between corporate governance and firm performance in Malaysia and notice a positive and significant relationship between firm performance and corporate governance.

Mamduh et al. (2018) carried out a study on ownership structure and firm performance and realized a positive and significant relationship between the cash flow of equity and firm performance.

Based on the above-said facts, the second hypothesis of the study is as follows:

H₂: There is a significant relationship between government effectiveness and firm performance

The quality of rules and regulations is the cost of setting additional regulations on economic activities. Constant interventions of the government in price control, currency transfer, non-traditional barriers to import and export, legal limitations for indirect possession of people in the stock market, the volume of bumpy regulations to import and export, the amount of effectiveness of anti-monopoly policies, and additional regulations are among the elements of the regulatory quality index (Alizadeh and Bayat, 2012). According to the World Bank (2005), the regulatory quality is the government's ability to compile and implement correct policies and regulations that enhance the private section's development. Since the increase of regulatory quality, setting detailed rules and regulations, preventing bribery, developing the private section, and a fair economic system, the regulatory quality, as a body of the local economy, can contribute to economic activities and firm performance.

Arvate et al. (2013) discovered that higher regulatory quality could lead to firms' lower performance.

Based on the above-said facts, the third hypothesis of the study is as follows:

H₃: There is a significant relationship between regulatory quality and firm performance

The rule of law is currently one of the main introduced concepts in public law, especially fundamental law with universal value. It is even one evaluation scale for legal and political systems (Markaz Malmiri, 2007). Every legal and political system is evaluated and asked to describe the rule of law. Since the main function of law is to regulate the relationship between government and people, on the one hand, and people with each other, on the other hand, by more complication of these two interactions, the role of law and consequently, the concept of the rule of law become more salient. The core of the rule of law comprises several components, including “discipline” and “limitation.”

That to what extent the regulations in society are real and can be assured of them is assessed with this index. In this index, especially for executing contracts, the possibility of violent and non-violent crimes and the effectiveness and predictability of performance judicial courts are considered in a society (Kaufmann, Kraay, and Lob, 2002). The rule of law is among those concepts with no translucent and single definition, and there is no consensus about that. It is an “extremely important concept but has no definition and cannot be defined easily”. This is due to the variation of elements and constituting components of this concept. One of the opinion leaders wrote that:, today, the rule of law is generally applied in five meanings or final objectives as follows:

- 1- Limited government by law,
- 2- Equality before the law,
- 3- Law and order,
- 4- Efficient and predictable justice, and;
- 5- No violation of human rights by the government.

Within the past decades, societies and business settings' economic performance is evaluated based on the measurement of variables and economic components and based on a legal framework (like Michael and Ronald, 2008; Kaufmann et al., 2002; Markaz Malmiri, 2007; Haggard, 2008). Such an evolution is driven by the advent of some fundamental topics, like the rule of law, in the economic-analytical framework. One of the main damages to most countries' business settings, including Iran, is the lack of law rule. This claim is evident in economic policy-makers and practitioners' opinions when reviewing the government's business settings performance. In case the business setting comprises factors that influence the management of firms but are out of control of the firms, rules, and regulations are among the major factors in an evaluative business setting. Businesses require some different prerequisites and necessities to be able to continue their activity. One of the main requirements is an appropriate legal-judicial framework represented by implementing the rule of law. Setting the rule of law has some considerable economic consequences. One of the advantages of establishing the rule of law in the economic setting is the predictability of citizens and economic practitioners' conditions and planning based on rational predictions. One of the major consequences of the commitment to the rule of law is the predictability and rationality of transaction costs for citizens, especially economic practitioners and investors. Hence, given the effect of the rule of law on economic units, firm performance is expected to be influenced by the rule of law.

Gomez (2016) carried out a study on the impact of the law on firm performance in developing countries and noticed a positive and significant relationship between the rule of law and firms' sales growth.

Based on the above-said facts, the fourth hypothesis of the study is as follows:

H₄: There is a significant relationship between the rule of law and firm performance

Several definitions are proposed, so far, on political stability. For example, Hurwitz (1973) states that political stability means the presence of a calm and reliable sociopolitical setting, continuity in regulations, management, and policies and also means the absence of some conditions like war, turmoil, coup, chaos and irregularities, and threats against the system and society. Moreover, Ake (1974) defines political stability as the regularity of the flow of political interactions. Lustick (1979) defines political stability as the predictability of political behavior in the future. Kunwar (2012) believes that despite numerous tourist attractions, the tourism industry of countries with political instabilities and conflicts shoulders considerable costs. This is not limited to tourism but bears exorbitant costs for other industries. Using the index of political stability, the absence of violence, and terrorism, the World Bank (2005) measures the chance of political instability and/or motivational violence, including terrorism. Based on this index, higher instability in a country is indicative of weak governance in that country, and a country with higher political stability gains higher scores among the good governors. On the other hand, good governance will enhance industries' conditions, increasing business firms' performance. Hence, as expected, firm performance is under the influence of political stability.

Hosny (2017) noticed that import and larger companies are more likely to report political instability as a barrier to their operation. He also declared that there is a negative and significant relationship between political instability and firm performance.

Based on the above-said facts, the fifth hypothesis of the study is as follows:

H₅: There is a significant relationship between political stability and firm performance

The right to voice and accountability expresses the extent to which the citizens of a country participate in their government selection and how freedom and speech and the freedom of communities and free media (World Bank, 2005). Accountability is a vital issue for good governance because the government institutions and the private section

and civil organizations must be accountable to the public people and all beneficiaries. On the other hand, accountability is not effective without transparency and legal governance. Barro (1996) argues that the right to voice can be defined as democracy; on the other hand, democracy has a negative and significant impact on firm performance and growth. Kaufmann et al. (2002) declare that the more important role of people in a community contributes more significantly to the determination of governors and the leading party, the presence, and role of parties, organizations, associations, and the like community. The mass media have independence, and those who run society have the authority, are responsive, and can freely express their opinions—society benefits from good governance. Therefore, there is a significant relationship between the ease of doing business and governance indicators, including accountability and the right to voice. Engerman et al. (2003) believe that should a country benefit from active civil freedom, that system is accountable against its people, adopting those policies that increase human capital accumulation. On the other hand, human capital accumulation is associated with increased production levels, affecting production performance and efficiency. Barro (1996) carried out a study on the relationship between democracy and economic performance and found a negative and significant relationship between these two variables.

Based on the above-said facts, the sixth hypothesis of the study is as follows:

H₆: There is a significant relationship between the right of voice and accountability and firm performance

3. Research methodology

This study is causal-correlational, and, in terms of methodology, it is quasi-experimental and retrospective in the realm of positive accounting studies carried out using real information. This paper is practical in terms of nature and objectives. Practical studies aim to develop practical knowledge within a certain field. However, in terms of collection method and data analysis, this study is causal-correlational.

3.1. Statistical Population

The present study's statistical population includes all listed companies on the Tehran Stock Exchange from 2012 to 2016.

3.2. Sampling method

For sampling, no special method is used, so after imposing the following conditions, the statistical population will be selected:

- 1- Being admitted in Tehran Stock Exchange until the end of 2011;
- 2- Being active during the period of the study and their stocks being transacted (no more than 6 months of transaction halt is accepted);
- 3- Presented the required financial information during the period of study; and,
- 4- They are not being affiliated with investment, banks, insurance, and financial intermediaries.

Concerning the gathered information at the end of 2016, the final sample was achieved based on Table 1.

4. Research methodology

Table 1. No. of companies of the statistical population by imposing the conditions of sample selection

Description	Eliminated companies in total periods	Total No. of companies
Total listed companies on the Tehran Stock Exchange		445
Eliminating financial intermediaries, financial supply, insurance, and investment companies	88	
Eliminating those companies entered the Stock Exchange during the study period	4	
Elimination due to lack of access to information	57	
Statistical population		296

4.1. Data collection method

The required information of the study is gathered from different resources based on their types. The information related to the study's literature and theoretical topics is collected from library resources, like Persian and Latin books and journals, and internet websites. Information related to companies (balance sheets and profit and loss statements) is used as the study instrument.

Raw and primary information and data for hypothesis testing are gathered from the information bank of Tehran Stock Exchange, including Tadbri Pardaz and Rah Avaran Novin, and also the published reports of Tehran Stock Exchange via direct access (by analyzing disclosed reports in the Codal Website and collecting them manually) and other resources.

4.2. Data analysis method

The data analysis method is cross-sectional and year-by-year (panel data). In this paper, the multivariable linear regression method is used for hypothesis testing. The descriptive and inferential statistical methods are used to analyze the obtained data, such as describing the frequency distribution table's data. At the inferential level, the F-Limer, Hausman, normality test, and multiple linear regression model are used to test the hypotheses.

4.3. Research variables:

This section introduces the research model variables, involving the dependent variable(s), independent variables, and auxiliary variables.

4.3.1. Dependent variable

The dependent variable of the study (OP) is firm performance indexes, which are explained in the following:

Return on assets based on the book value of assets (ROA_B): which is calculated by dividing net earnings before interest and taxes (EBIT) into the book value of total assets

Return on assets based on the market value of assets (ROA_M): which is calculated by dividing net earnings before interest and taxes (EBIT) into the current value of assets (total debts + market value of the firm stock)

Return on equity based on book value (ROE_B): net earnings after interest and taxes divided by book value of shareholders' equity

Return on equity based on market value (ROE_M): net earnings after interest and taxes divided by market value of shareholders' equity

Sales growth rate (Sales. Growth): achieved by dividing (current year sales – sales

of the previous year) into sales of the previous year

Net income growth rate (Net Income. Growth): achieved by dividing net earnings of the current year into net earnings of the previous year minus 1

Tobin's q ratio (Q. Tobin): achieved by dividing (market value of firm stock + total firm debts) into total firm assets

4.3.2. Independent variables

Six governance indicators were analyzed as the independent variables of the test model.

Six governance indicators are as follows:

Control of corruption which is realized by the CC sign

Right to voice and accountability, which is realized by the VA sign

Political stability and absence of violence which is realized by the PS sign

Government effectiveness, which is realized by the GE sign

Regulatory quality, which is realized by the RQ sign

The rule of law which is realized by the RL sign

4.3.3. Control variable

The model's control variable is the firm size identified by the SIZE sign and is equal to the natural logarithm of firm sales.

From a statistical perspective in the economy and the analysis of quantitative data, the following types of data will be applied:

- 1- Time series data: these data present the values of one or several variables during a period, like the inflation rate of Iran from 2001 to 2016,
- 2- Cross-sectional data: these data are collected from the point of time for one or several variables, like the stock return of listed companies on the Tehran Stock Exchange in 2016; and,
- 3- Panel data: these data benefit from the conditions of both previous data. In other words, these data are both time-series and cross-sectional, like the economic growth of the Middle East countries from 2000 to 2016.

By having a brief analysis of data of the present study, we can observe that these data are not the same and are considered as two different types:

- 1- Data related to governance indicators are among time series data.
- 2- Data related to performance indexes are among the panel data.

Given the facts as mentioned above, since the type of independent variables of the study is time-series and the type of independent variables of the model is panel data, it is obvious that due to such a difference between independent variables and the dependent variable, the use of the regression model is not possible. For statistical analysis, we should make the type of these models similar to compare them and perform the statistical analysis.

4.4. Research model

The following regression model is used for hypothesis testing. Besides, the R¹ statistical software is used, and depending on the statistical calculations of this software, the research hypotheses were tested using two models of panel data or regression:

$$OP_{it} = a_0 + a_1CC_{it} + a_2GE_{it} + a_3RQ_{it} + a_4PS_{it} + a_5RL_{it} + a_6VA_{it} + a_7Size_{it} + \varepsilon_{it}$$

Where

OP is the study's dependent variable, which includes seven dependent variables, which will be introduced in the next section.

VA, RL, PS, RQ, GE, CC are the acronyms of six governance indicators used in the study model as independent variables.

Size is used as the complementary variable of the model.

5. Results

Table 2. General descriptive statistics of research variables

Variable	Mean	Median	Min.	Max.	Std. dev.
ROA. B	0.109	0.108	-2.945	2.098	0.210
ROA. M	0.068	0.071	-0.811	2.238	0.108
ROE. B	0.425	0.330	-34.241	56.438	1.714
ROE. M	0.058	0.121	-7.750	7.564	0.533
Sales. Growth	0.241	0.149	-1.129	31.323	1.024
Net Income. Growth	0.098	0.058	-88.253	96.310	6.103
Q. Tobin	1.802	1.449	0.360	22	1.310
Size	5.389	5.327	0.602	8.602	0.800
Control of corruption	-0.590	-0.604	-0.947	-0.190	0.201
Government effectiveness	-0.486	-0.491	-0.676	-0.204	0.132
Regulatory quality	-1.444	-1.458	-1.720	-1.177	0.173
Political stability	-0.977	-0.925	-1.630	-0.321	0.315
Rule of law	-0.860	-0.923	-1.056	-0.507	0.149
Right to voice and accountability	-1.389	-1.513	-1.608	-0.857	0.240

Table 2 depicts the descriptive statistics of research variables, including mean, minimum, maximum, and standard deviation.

In the following, the results of hypothesis testing will be explained.

5.1. The results of the inference test (results of main model fitting) net income growth and governance indicators

Table 3. The relationship between net income growth and governance indicators using the GLS method

Net income growth relationship with	Variable	Coefficient	Std. dev.	T statistic	p-value	Test result
Corruption control	f1	-1.197	0.767	-1.561	0.118	Hypothesis rejected
Government effectiveness	f2	-1.762	0.824	-2.138	0.033	Significant with an inverse relationship
Regulatory quality	f3	0.943	0.493	1.915	0.055	Hypothesis rejected
Political stability	f4	-0.579	0.475	-1.219	0.223	Hypothesis rejected
Rule of law	f5	0.289	0.997	0.29	0.772	Hypothesis rejected
Right to voice and accountability	f6	1.964	0.733	2.679	0.007	Significant with a positive relationship
Firm size	size	0.415	0.109	3.779	0.000	Significant with a positive relationship

The level of significance of the test is 95%

Table 3 indicates the relationship between governance indicators and net income growth. According to the Table, there is no relationship between net income of growth and control of corruption, regulatory quality, political stability, and the rule of law since the p-value of these variables is more than the significance level (0.05), which indicates there is no relationship between these variables and net income growth. However, there is a significant relationship between government effectiveness and net income of growth since the p-value of this variable is 0.033, which is less than the significance level of 0.05. Moreover, this variable's coefficient is a negative value (-1.762), which shows a negative and significant relationship between this variable and net income growth. In addition, there is a significant relationship between the right to voice and accountability with net income growth since the p-value of this variable is 0.007, which is less than 0.05. This shows a significant relationship between the right to voice and accountability, and net income growth. On the other hand, since the coefficient of right to voice and

accountability is a positive value (1.964), this relationship is positive and significant.

5.2. Sales growth and governance indicators

Table 4. the relationship between sales growth and governance indicators

Sales growth rate relationship with	Variable	Coefficient	Std. dev.	T-statistic	p-value	Test result
Corruption control	f1	-0.171	0.119	-1.43	0.152	Hypothesis rejected
Government effectiveness	f2	-0.659	0.128	-5.146	0.001	Significant with an inverse relationship
Regulatory quality	f3	0.211	0.076	2.748	0.005	Significant with a positive relationship
Political stability	f4	0.069	0.074	0.936	0.349	Hypothesis rejected
Rule of law	f5	0.073	0.155	0.471	0.637	Hypothesis rejected
Right to voice and accountability	f6	0.181	0.114	1.584	0.113	Hypothesis rejected
Firm size	size	0.092	0.017	5.363	0.001	Significant with a positive relationship

The level of significance of the test is 95%

Table 4 indicates the relationship between governance indicators and sales growth. According to the Table, there is no relationship between control of corruption, political stability, the rule of law, right to voice and accountability, and sales growth, since the p-value of these variables is more than the significance level (0.05), which shows that there is no relationship between these variables and sales growth. However, there is a significant relationship between sales growth and government effectiveness since the p-value of government effectiveness is 0.001, which is less than the significance level (0.05). Moreover, this variable's coefficient is a negative value (-0.659), which shows a negative and significant relationship between this variable and sales growth. In addition, there is a significant relationship between regulatory quality and sales growth since the p-value of this variable is 0.05, which is less than the significance level (0.05). This shows a significant relationship between regulatory quality and sales growth. On the other hand, since the coefficient of regulatory quality is positive (0.211), this relationship is positive and significant.

5.3. Tobin's q ratio and governance indicators

Table 5. the relationship between Tobin's q ratio and governance indicators

Tobin's q relationship with	Variable	Coefficient	Std. dev.	T-statistic	p-value	Test result
	Intercept	4.855	0.252	19.247	0.001	
Corruption control	f 1	0.530	0.144	3.662	0.000	Significant with a positive relationship
Government effectiveness	f 2	-0.042	0.146	-0.29	0.772	Hypothesis rejected
Regulatory quality	f 3	1.344	0.129	10.369	0.001	Significant with a positive relationship
Political stability	f 4	-0.693	0.088	-7.829	0.001	Significant with an inverse relationship
Rule of law	f 5	-0.068	0.174	-0.393	0.694	Hypothesis rejected
Right to voice and accountability	f 6	0.371	0.148	2.507	0.012	Significant with a positive relationship
Firm size	size	-0.189	0.035	-5.381	0.001	Significant with an inverse relationship

The level of significance of the test is 95%

Table 5 indicates a relationship between governance indicators and Tobin's q ratio. According to the Table, there is no significant relationship between the rule of law and government effectiveness and Tobin's q ratio because the p-value of these variables is larger than the significance level (0.05), which is indicative of the presence of no relationship between these variables and Tobin's q ratio. However, there is a significant relationship between the control of corruption and Tobin's q ratio because the p-value of this variable (0.000) is smaller than the significance level (0.05). Further, this variable's coefficient is a positive value (0.530), which shows a positive and significant relationship between this variable and Tobin's q ratio. Besides, there is a significant relationship between regulatory quality and Tobin's q ratio in that the p-value of this variable is 0.001, which is smaller than the significance level (0.05). This shows that there is a significant relationship between regulatory quality and Tobin's q ratio.

On the other hand, since the coefficient of regulatory quality is a positive value (1.344), this relationship is positive. Moreover, there is a significant relationship between political stability and the right to voice and accountability, and Tobin's q ratio. The p-value of this variable is 0.001, which is less than 0.05. however, the coefficient of political stability is a negative value (-0.693). The coefficient of right to voice and accountability is a positive value (0.371), which indicates a negative and significant relationship between political stability and Tobin's q ratio. There is a positive and significant relationship between the right to voice and accountability and Tobin's q ratio.

5.4. The relationship between the rate of return on assets based on the book value of assets and governance indicators

Table 6. ROA.B relationship with governance indicators

ROA.B relationship with	Variable	Coefficient	Std. dev.	T statistic	p-value	Test result
	Intercept	-0.509	0.034	-14.746	0.001	
Corruption control	f 1	0.042	0.017	2.391	0.016	Significant with a positive relationship
Government effectiveness	f 2	-0.296	0.018	-16.404	0.001	Significant with an inverse relationship
Regulatory quality	f 3	-0.056	0.016	-3.55	0.000	Significant with an inverse relationship
Political stability	f 4	-0.017	0.010	-1.624	0.104	Hypothesis rejected
Rule of law	f 5	-0.112	0.021	-5.258	0.001	Significant with an inverse relationship
Right to voice and accountability	f 6	0.397	0.018	21.506	0.001	Significant with a positive relationship
Firm size	size	0.155	0.005	29.232	0.001	Significant with a positive relationship

The level of significance of the test is 95%

Table 6 indicates a relationship between governance indicators and assets' returns using the book value method. According to the Table, there is no relationship between political stability and return on assets using the book value method. The p-value of these variables is larger than the significance level (0.05). This indicates no relationship between this variable of return of assets and the book value method. However, there is a significant relationship between control of corruption, government effectiveness, regulatory quality, the rule of law, and right to voice and accountability and return on assets using the book value method because the p-value of these variables (0.016, 0.001, 0.000, 0.001, and 0.001) is smaller than the significance level (0.05). Further, the coefficient of these variables (0.042, -0.296, -0.056, -0.112, and 0.397) shows that there is a positive relationship between control of corruption and right to voice and

accountability and return on assets using the book value method because the coefficient of these variables is a positive value. Also, there is a negative and significant relationship between government effectiveness, regulatory quality, and the rule of law and return on assets using the book value method. The coefficient of these variables is a negative value.

5.5. The relationship between the rate of return on assets based on the market value of assets and governance indicators

Table 7. ROA.M relationship with governance indicators

ROA.M relationship with	Variable	Coefficient	Std. dev.	T statistic	P-value	Test result
	Intercept	-0.248	0.021	-12.091	0.001	
Corruption control	f 1	0.005	0.011	0.517	0.605	Hypothesis rejected
Government effectiveness	f 2	-0.141	0.011	-12.088	0.001	Significant with an inverse relationship
Regulatory quality	f 3	-0.065	0.010	-6.336	0.001	Significant with an inverse relationship
Political stability	f 4	0.032	0.007	4.604	0.001	Significant with a positive relationship
Rule of law	f 5	-0.051	0.013	-3.716	0.000	Significant with an inverse relationship
Right to voice and accountability	f 6	0.121	0.011	10.186	0.001	Significant with a positive relationship
Firm size	size	0.056	0.002948	19.106	0.001	Significant with a positive relationship

The level of significance of the test is 95%

Table 7 indicates a relationship between governance indicators and the return of assets using the market value method. According to the Table, there is no relationship between corruption control and return on assets using the market value method. The p-value of these variables is larger than the significance level (0.05), which is indicative of the presence of no relationship between this variable of return of assets and the market value method. However, there is a significant relationship between government effectiveness, regulatory quality, the rule of law, and right to voice and accountability and return on assets using the market value method because the p-value of these variables (0.001, 0.001, 0.001, 0.000, and 0.001) is smaller than the significance level (0.05). Further, the coefficient of these variables (-0.141, -0.065, 0.032, -0.051, and 0.121) shows that there is a positive and significant relationship between political stability and right to voice and accountability and return on assets using the market value method because the coefficient of these variables is a positive value. In addition, there is a negative and significant relationship between government effectiveness, regulatory quality, and the rule of law and return on assets using the market value method in that the coefficient of these variables is a negative value.

5.6. The relationship between the rate of return on equity based on the book value of equity and governance indicators

Table (8) indicates a relationship between governance indicators and equity return using the book value method. According to the Table, there is no relationship between corruption, government effectiveness, political stability, and the rule of law and return on

equity using the book value method. The p-value of these variables is larger than the significance level (0.05), which is indicative of the presence of no relationship between this variable of return of equity and the book value method. However, there is a significant relationship between the right to voice and accountability, and return on equity using the book value method. The p-value of these variables (0.000) is smaller than the significance level (0.05). Further, this variable (0.710) shows a positive and significant relationship between the right to voice and accountability, and return on equity using the book value method. These variables' coefficient is a positive value.

Table 8. ROE.B relationship with governance indicators

ROE.B relationship with	Variable	Coefficient	Std. dev.	T statistic	p-value	Test result
Corruption control	f1	0.054	0.202	-10.979	0.788	Hypothesis rejected
Government effectiveness	f2	-0.416	0.218	0.268	0.056	Hypothesis rejected
Regulatory quality	f3	-0.164	0.132	-1.908	0.215	Hypothesis rejected
Political stability	f4	0.031	0.126	-1.238	0.801	Hypothesis rejected
Rule of law	f5	-0.496	0.264	0.251	0.060	Hypothesis rejected
Right to voice and accountability	f6	0.710	0.196	-1.877	0.000	Hypothesis rejected
Firm size	size	0.106	0.030	3.614	0.000	Significant with a positive relationship

The level of significance of the test is 95%

5.7. The relationship between the rate of return on equity based on the market value of equity and governance indicators

Table 9. ROE.M relationship with governance indicators

ROE.M relationship with	Variable	Coefficient	Std. dev.	T-statistic	p-value	Test result
	Intercept	-1.192	0.108	-10.979	0.001	
Corruption control	f 1	0.075	0.059	1.281	0.200	Hypothesis rejected
Government effectiveness	f 2	-0.412	0.059	-6.888	0.001	Significant with an inverse relationship
Regulatory quality	f 3	-0.232	0.052	-4.398	0.001	Significant with an inverse relationship
Political stability	f 4	0.062	0.036	1.743	0.081	Hypothesis rejected
Rule of law	f 5	-0.112	0.071	-1.577	0.114	Hypothesis rejected
Right to voice and accountability	f 6	0.574	0.061	9.418	0.001	Significant with a positive relationship
Firm size		0.276	0.016	17.18	0.001	Significant with a positive relationship

The level of significance of the test is 95%

Table 9 indicates a relationship between governance indicators and equity return using the market value method. According to the Table, there is no relationship between corruption control, political stability, and the rule of law and return on equity using the market value method. The p-value of these variables is larger than the significance level (0.05). This indicates no relationship between this variable of return of equity and the market value method. However, there is a significant relationship between government effectiveness, regulatory quality, and right to voice and accountability and return on equity using the market value method because the p-value of these variables (0.001, 0.001, and 0.001) is smaller than the significance level (0.05). Further, the coefficient of these variables (-0.412, -0.232, and -0.574) shows a negative and significant relationship between regulatory quality and government effectiveness and return on equity using the market value method. Its coefficient of these variables is a negative value. However, since this variable's coefficient is a positive value, there is a positive and significant relationship

between the right to voice and accountability and accountability and return on equity and market value method.

6. Conclusion

The present study is concerned about the relationship between governance indicators and firm performance. The results of hypothesis testing are, in general, indicative of a significant relationship between governance indicators and firm performance. Firm performance is tested concerning the seven indicators (sales growth, net income growth, Tobin's q, return on assets using the book and market value, and return on equity using the book and market value). The study results show a positive and significant relationship between the right to voice and accountability and all performance indicators, except sales growth. This finding is in line with that of Barro (1996) since Barro believes that there is a positive and significant relationship between the right to voice and firm performance. He also states that the right to voice affects the financial system and firm performance. Moreover, there is a positive and significant relationship between the control of corruption and performance (Tobin's q ratio and return on assets using the book value method). This finding conforms with that of Sharma et al. (2015), Rocca et al. (2017), and Athanasouli et al. (2012) but in contrast with that of Mauro (1995). He declares a significant relationship between the control of corruption and firm performance (using the firm's index of sales growth). Moreover, results reveal that government effectiveness is negatively and significantly associated with firm performance (sales growth, net income growth, return on assets using market and book value method and return on equity using the market value method). This result contrasts with that of Husain et al. (2017), who posits a positive and significant relationship between corruption control, government effectiveness, political stability, and firm performance. The hypothesis testing results demonstrate a negative and significant relationship between the rule of law and firm performance (return of assets using the book and market method). This result is in line with Haggard (2008), who declares a relationship between the rule of law and firm performance.

On the other hand, the results suggest a significant relationship between regulatory quality and political stability, and firm performance. Still, in some cases, this relationship is direct, and in some cases, this relationship is inverse. This can be due to the governance changes of countries and governments.

In some cases, this result is in line with the findings of Arvate et al. (2013), who state that there is a negative and significant relationship between regulatory quality and firm performance, which is measured using the variable of return on assets, sales, and operational profit. According to the results, the present study's hypothesis testing shows a negative and significant relationship between regulatory quality and firm performance using the variable of return of assets with a book value method. However, there is a positive and significant relationship between regulatory quality and firm performance using sales growth, which contrasts with Arvate et al. (2013). Therefore, in a general overview, we can declare a significant relationship between governance indicators and firm performance. Still, following the applied indicators for firm performance, the direction of this relationship may change. This means that it is positive in some cases and negative in some other cases. In other words, any change in governance indicators will affect firm performance. Moreover, this study can contribute to the development of knowledge in this field. Moreover, this study is practical for financial experts, academics, analysts, and firms.

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