Research Article

The Impact of Corporate Governance on the Iranian Banking System Efficiency

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Abstract: According to the importance of Corporate Governance and its role in the Banks accountability, transparency and efficiency, the purpose of this study is to investigate the impact of corporate governance on the bank's efficiency and its relations with banks disclosure of information. Also, this study wants to finds that whether the corporate governance indices can measure the governance conditions precisely? For this purpose, using dynamic panel data model and information of 16 banks of the Iranian banking network during the period of 2007-2017, the relationship between corporate governance indicators and information transparency and their impact on the efficiency of banks have been investigated. The results show that there is no significant relationship between the indicators introduced for corporate governance and information disclosure. Also, none of the indicators introduced for corporate governance had a significant relationship on efficiency of banks, but the information transparency index had a significant positive impact on banks efficiency. According to the results, introduced indices of corporate couldn't measure the corporate governance situations in the Iranian banking sector.

Keywords: Corporate Governance, Banks Efficiency, Information Disclosure
JEL Classification: G34, G14, D82

1.Introduction

The banking sector plays an important role in the financial system of a country. Research on banking performance is very relevant given its central tendency in today's economies. Corporate governance is the system by which banks are directed, monitored and controlled. Effective corporate governance in the financial institutes is a means of mobilizing the capital with the efficient utilization of the resources of the banks (Mayer, 1998). Among the economic sectors, the banking system is of particular importance. Banks as the beating heart of the economy, play a vital role in the financing and flowing funds in the economic body of society. So, any volatility and instability in the banking system can have adverse effects on other economic sectors and consequently on the social and political aspects of society. Therefore, the establishment of proper corporate governance system in the banking sector has a great importance and it can play a significant role in ensuring its health and stability (Babajani et al, 2018).

The corporate governance of banks differs from the corporate governance of other business entities, because of depositor's exposure in addition to shareholders, and higher government involvement in the financial system (Fanta, Kemal & Wake, 2013). In developing countries,

better corporate governance, especially in the banking sector, is needed as the banks are the primary source of savings. The banking sector has a vital role in the development of the economy across the globe and failure may threaten the whole economy of a country (Shari, Khalique & Isa, 2010). Healthier corporate governance of banks can encourage banking efficiency to make the investments and improve the business environment to boost not only the wealth but also for the better retune to depositors, the general public and other stakeholders (Ullah, 2020).

Several problems may be occurred if the banks cannot fulfil their duties as to applying corporate governance practices efficiently. Poor corporate governance practices may be resulted in a decrease in the ability of managing liabilities and assets and this situation gives rise to a bank run or a liquidity crisis. Because banks have a key role as an intermediary in the economy as a whole, any problem that may be taken place in the banking sector may cause several disadvantages across the country. So banks should fulfil the required responsibilities as to applying the corporate governance practices efficiently. At this point it is possible to say that efficient corporate governance practices provide several advantages in setting corporate objectives, operating the bank's business on a day-to-day basis, meeting the obligation of accountability, providing confidence in banks' operations and protecting the interests of depositors. at this point; corporate governance practices provide several opportunities in the operation of the economy. Corporate governance practices pave the way for setting the bank's strategy or objectives, protecting the interests of stakeholders, establishing the control functions and operating the bank's business on a day-to-day basis (Soba etal, 2016).

Like many of other developing countries, the banking system plays an important role in the Iranian financial intermediary. In fact, financial market is a banking-base system. The banking sector controls most of the financial flows and accounts for more than 90% of the financing of the economy. Therefore, it is logical that a profitable and efficient banking sector ensures the efficiency of the entire financial system for economic development. Levin (1988) pointed that the efficiency of financial intermediaries affects the economic growth of the country, and, the bankruptcy of the banking network leads to a systematic crisis and has negative effects on the economy. Therefore, it is necessary to know the main factors that affect the performance of the banking network (Amiri, 2018).

overviews of ownership structure and managements in Iranian financial markets show that ownership structure and management of companies are almost the same, so the corporate governance in financial markets are similar to intra-organizational system. In this system, it seems that accountability and responsibility is not necessary for some managers (Anvari Rostami and Zamani, 2016). In intra-organizational systems, companies are owned and controlled by a small number of major shareholders. These shareholders may be members of the founding family or a small group of shareholders such as lending banks, other companies or the government. In this system because of the close relationship between managers and major shareholders, there is less representation problems. But other serious problems arise, and power is abused due to the low level of separation of ownership and control. Considering the mentioned characteristics, it seems that corporate governance, especially in the banking sector in Iran, is closer to the intra-organizational system (Ghodrati and Faizi, 2015).

Because of the different institutional conditions and legal structures, the introduced indices don't seem to be equally effective in measuring corporate governance situation in different societies. Therefore, it is necessary to investigate the strength and sensitivity the introduced indices for corporate governance with examine the impact of corporate governance on the bank's efficiency.

If the introduced index has the necessary efficiency, it should, as expected, have a significant relationship with the bank efficiency. The main purpose of this study is to investigate the relationship between the quality of corporate governance and the efficiency of banks in Iran.

Also, since one of the consequences of corporate governance is disclosure and transparency of information, the correlation between the quality of corporate governance and information transparency is another goal of this study.

2. Literature Review

The appearance of the theme of governance is assigned to the debate opened by Berle and Means (1932) who were executed after the 1929 crisis. The problem of governance for these two authors was born from the division of the property function into two functions: an adjudicative one and a control one. This quarter, due to a failure of the control systems which are responsible for key management discipline, would have caused deterioration in the performance and counting of shareholders. The problem of governance is thus part of a mind control officers. In this due, financial institutions, mainly banks, are especially concerned with corporate governance. In fact, banks are characterized by distinct agency problems and are relatively supported as other nonregulated businesses. These agency problems are created mainly by the asymmetry of existing information between all stakeholders in the banking sector (Hajer and Anis, 2018). Correct decision-making by depositors, supervisors, and other stakeholders of banks requires their knowledge of the status of banks in several qualitative and quantitative indicators of different dimensions. In this regard, by evaluating the banks 'current state and their compliance with the corporate governance model indicators, the banks' strengths and weaknesses regarding corporate governance are identified, and their public standing and rating can serve as a prerequisite for establishment and performance guarantee. The corporate governance system in banks should function properly.

Changes in bank ownership during the 1990s and early 2000s substantially altered the governance of the world's banking organizations. These changes in the corporate governance of banks raise important policy and research questions. How do these changes affect bank performance? (Berger etal, 2005). Corporate governance involves a system by which governing institutions and all other organizations relate to their communities and stakeholders to improve their quality of life. It is therefore important that good corporate governance ensures transparency, accountability and fairness in reporting. In this regard, corporate governance is not only concerned with corporate efficiency, but also it relates to a much wider range of company strategies and life cycle development (Mayer, 2007). It is also concerned with the way's parties (stake holders) interested in the well-being of firms ensure that managers and other insiders adopt mechanism to safeguard the interest of the shareholders. (Ahmadu and Tukur, 2005). Corporate governance is based on the level of corporate responsibility a company exhibits with regard to accountability, transparency and ethical values (Mohammed, 2012).

Corporate governance is a crucial issue for the management of banks, which can be viewed from two dimensions. One is the transparency in the corporate function, thus protecting the investors' interest (reference to agency problem), while the other is concerned with having a sound risk management system in place (special reference to banks) (Jensen & Macklin, 1976). The Basel Committee on Banking Supervision (1999) stated from a banking industry perspective that, corporate governance involves the manner in which the business and affairs of individual institutions are governed by their boards of directors and senior management thus affecting how banks set corporate objectives (including generating economic returns to owners); run the day-to-day operations of the business; consider the interest of recognized stakeholders; align corporate activities and behaviors with the expectation that banks will operate in safe and sound manner, and in compliance with applicable laws and regulations; and protect the interests of

depositors. Corporate governance mechanisms include a system of controls intended to help align managers' incentives with those of shareholders. According to Oman (2001), corporate governance mechanisms including accounting and auditing standards are designed to monitor managers and improve corporate transparency. Furthermore, a number of corporate governance mechanisms have been identified analytically and empirically. These, according to Agrawal and Knoeber (1996), may be broadly classified as internal and external mechanisms. Davis, Schoolman, and Donaldson (1997, p. 23) suggest that governance mechanisms "protect shareholders" interest, minimize agency costs and ensure agent-principal interest alignment". They further opined that agency theory assumptions are based on delegation and control, which controls "minimize the potential abuse of the delegation". This control function is primarily exercised by the board of directors on the internal/insider mechanisms of corporate governance as they relate to banking operations (Babatunde etal, 2017).

Oso and Semiu (2012) emphasize the importance of corporate governance of banks in developing economies and observe that: first, banks have an overwhelmingly dominant position in the financial system of a developing economy and are extremely important engines of economic growth. Second, with underdeveloped financial markets, banks in developing economies are typically the most important source of finance for majority of firms. Third, as well as providing a generally accepted means of payment, banks in developing countries are usually the main depository for the economy's savings.

Banking supervision cannot function if what Hettes (2002) called "correct corporate governance" does not exist. Hettes explained further by observing that correct corporate governance simplifies the work of banking supervision and contributes towards corporation between the management of a bank and the banking supervision authority (Babatunde etal, 2017).

The board of directors is a fundamental mechanism of the internal control system that helps to discipline and define the rules of the organization. For some, the size of the board is positively related to the bank's performance. Conversely, for others, the size of the board negatively affects the performance of the bank. The most recent empirical studies on the size of the board as an internal control mechanism have revealed that a large board has a significant negative impact on the company's performance due to communication difficulties, consensus issues, and agencies. A large board may be unable to effectively oppose management, as it may face problems of non-coincidence of interests with its many members. Jensen (1993) has argued that large boards are less effective because of coordination, control, and flexibility issues in decision making, and give excessive control to CEOs. Cheng (2008) also pointed out that because of the coordination problems that can occur in a big board, the decisions made by the biggest boards can be less extreme, which reduces the level of risk.

Conversely, according to many other authors, a large board of directors can be beneficial and may increase the profitability of the company. Adams and Mehran (2003a,b) examined the relationship between board size and performance. They concluded that the best performing banks had larger boards. In addition, Coles et al. (2008) found that a big board affects the performance of a company, especially for companies that need more board members, such as complex companies that operate in multiple segments.

The board is considered one of the important mechanisms of corporate governance within the organization and plays an important role in improving the quality of financial reporting and increasing accountability. Accordingly, most studies in the field of corporate governance emphasize the importance of the role of non-executive managers in improving the reporting process and the position of the company's board of directors as the governing body that oversees and oversees the work of executives. It becomes more and more important (Eslamizadeh et al, 2010). Therefore, if the board has a proper structure, the efficiency and effectiveness of the

organization will increase and the most income will go to the stakeholders. Also, in the adverse economic conditions and with the occurrence of negative shocks to the organization, observance the principles of corporate governance can reduce the negative effects of these shocks and cause less damage to the organization, and this is also true for banks.

The theory of asymmetric information can be considered as one of the most important emphasis on the corporate governance. This theory has the more important specially in the financial markets. Stiglitz and Weiss (1981) have played an influential role in the financial literature and have expanded the scope of the role of information asymmetry in credit markets to such an extent that they have played a significant role in the economic policies in financial markets (Karlan and Zinman, 2006). Information economics theories suggest that information asymmetry may lead to market failure, leading to macro- and micro-inefficiencies through a tendency to invest more or less realistically. Two factors affecting market inefficiency are adverse selection and moral hazard. Adverse selection is the first consequence of information asymmetry and occurs when one or more parties to a real or potential business transaction have an information advantage over the other parties. This motivates policymakers and lenders to pay attention to and emphasize the integration of information among users of financial statements. The existence of asymmetric information of beneficiary in situations where the interests of some people are in conflict with the interests of others, in other words, increasing group interests is possible only if the rights of other groups are violated, creates grounds in which abuse of rights and opportunities and abuse of rights. The presence of asymmetric information in an economic project between the agent and the owner can lead the agent to engage in direct or indirect methods that ultimately lead to the loss of the owner's rights. Embezzlement and fraud are among the direct methods and consideration of significant benefits and advantages for themselves in the financial accounts of the project or the use of resources outside the project without informing the owner, are among the indirect methods in which the agent can abuse the interests of the owner (Ghelich, 2016).

In the conventional banking system, depositors refer to the banks at the due maturities by depositing their funds and receive interest on their funds. Although depositors' concerns in conventional banking about bank failures and their inability to repay funds remain strong, in this system depositors can reduce uncertainty to some extent by installing support arms such as insurance. However, the need to provide a mechanism to reduce the potential costs of misusing asymmetric information is even more important in Islamic banking; Because one of the most important parts of Islamic banking is partnership contracts, and in these contracts, depositors have a kind of participation in investments in which banks have significantly more information about those investments.

As a summary, it can be said that corporate governance through external and internal mechanisms is effective on the performance of banks and is a mechanism to protect the interests of bank stakeholders. In general, the corporate governance system is a set of relationships between the executive management, board of directors, shareholders and other relevant parties in a company, which sets the goals of the company with the aim of creating an appropriate structure and determines the ways to achieve goals and monitor performance. Proper establishment of corporate governance mechanisms is a key step to make the best use of resources, promote accountability, transparency, fairness and protect the rights of all corporate stakeholders. Basically, the corporate governance system seeks to resolve the conflict of interest between management and shareholders.

Corporate governance has an extensive empirical literature. In the following, some of the studies focused on the banking sector are briefly introduced.

Chen et al. (2018) showed that government banks with politically connected CEOs experienced significantly higher loan default rates and worse operating performance during the 2007 financial crisis than those without politically connected CEOs. However, these politically connected CEOs were less likely to be penalized for the poor performance of their banks than others.

Ferg et al. (2018) in a study entitled Corporate Governance in Islamic Banks based on bilateral relations of board structure that the structure of the board on the financial performance of banks in 13 countries and 90 banks that affected the data panel model and GMM and 2SLS Analyzed. The results of the research showed that the supervision of the board of directors reduces costs and improves the financial performance of the studied banks.

Lazarides (2019) examines the relationship between corporate governance, capital structure, and bank performance. For this purpose, two samples of European banks in the period 2013-2002 were selected, so that the first sample includes banks that merged after the formation of the union and the second group of banks that did not merge and the table data method was used to estimate the coefficients. The results of this study show that there is no significant difference in the estimated coefficients for the two samples. Based on the research findings, it is concluded that the theory of corporate governance convergence has been confirmed.

Rashid et al. (2020) examined the relationship between corporate governance and productivity in the Bangladeshi banking system. For this purpose, data from 30 banks in Bangladesh in the period 2013-2017 have been used to estimate the coefficients of different methods of composite data and panel data. The results of this study show that the variables of financial performance, ownership structure and characteristics of the board of directors have had a significant effect on bank productivity.

A review of the empirical literature shows that the studies have focused only on the quality of corporate governance and its indicators on the performance of the banking system. In this study, the concepts of corporate governance are considering, and the roles of corporate governance on the disclosure of information and accountability of banks, and so on the efficiency of banks are investigated. Also, since theoretical literature indicated that information disclosures is one of the corporate governance outcomes, so in this article the relationships between corporate governance and information disclosure are investigated, furthermore as indicated, disclosures of information is one of the most important channels of the corporate governance effects on the efficiency, so the joint variables of corporate governance and information disclosures is applicated. In fact, this study seeks to argue that in economies such as Iran, where corporate governance is of the intra-organizational type, the proposed indicators for measuring corporate governance cannot be appropriate criteria, because the main function of corporate governance is accountability and transparency in these systems.

3. Research Methodology

To explore the relation between corporate governance and bank efficiency, the data of 16 banks from the country's banking network that operate in the stock market for the years 2007-2019 have been used. Using the model presented by Olivera et al. (2014), Kashiab, Stein (1995), Kishan, Opila (2000) and Van den Hugh (2002), the effect of corporate governance on efficiency is estimated according to Equation (1).

$$Efficiency_{\mathrm{i,t}} = \beta_0 Efficiency_{\mathrm{i,t-1}} + \beta_1 \mathrm{QCG}_{\mathrm{i,t}} + \beta_2 \mathrm{Information}_{\mathrm{i,t}} + \beta_3 \mathrm{Information} * \mathrm{QCG}_{\mathrm{i,t}} + \beta_4 \mathrm{SIZE} + \beta_5 \mathrm{CAPITAL}_{\mathrm{i,t}} + \beta_6\, \mathrm{NPL}_{\mathrm{i,t}} + \beta_7\, \mathrm{INFLATION}_{it} + \beta_8\, GDPGROWTH_{i,t} + \varepsilon_{\mathrm{i,t}} \quad (1)$$

In equation (1), $Efficiency$ indicates the efficiency of the bank. In the economic literature, there are various approaches to calculating efficiency. In summary, performance studies can be classified into two groups: technical efficiency and economic efficiency.

Technical methods use non-parametric methods such as DEA and FDH, these methods are based on the production or service functions, which the labor and other raw materials considered as input and the deposit as output. economic methods use parametric methods such as DFA, SFA and TFA. These methods are based on the asset approach and consider deposits as inputs for the production of loans and other types of financial assets. Comparing the DFA, DEA, and SFA methods, Almarson (1996) concludes that the calculated values for performance in each of these models differ significantly. Also, Rasti (1997) has obtained different results and believes that the results of econometric methods and linear programming if using the same data and conceptual framework, are not much different from each other. Berger and Mester (1997) compared the DFA and SFA and the flexible Fourier functional form with the translog form and concluded that the choice of performance measurement method usually does not make a difference in terms of average industry efficiency and unit ranking of firms.

Regarding to a set of activities that is done by banks, considering the bank as a purely intermediary firm cannot be complete. Considering the bank as a production's firm based on a production approach provides a more comprehensive understanding of the bank's activities. So, in this study, the production approach is used to calculate the banks efficiency.

According to the higher share of personnel costs in the total costs of Iranian banks and note that this cost is not considering as a decision variable in the decision-making process, it is assumed that banks maximize output with respect to certain amounts of inputs. In fact, personnel costs are the result of the number of labor and its price is wages.

Therefore, measuring efficiency is based on the production function in microeconomic theory and the concept of technical efficiency with the assumption of maximizing output with fixed return to scale and production approach with Data Envelopment Analysis method (DEA). In this approach, outputs include deposits and credits, interest received on loans, and the number of bank branches and inputs include administrative and personnel costs.

Information indicates the transparency and degree of disclosure of information. Stock Price Synchronicity model that introduced by Johnston (2009) is applied to calculate this variable. Johnston (2009) considers stock price Synchronicity as an index of industry and market information that is reflected in a company's stock price. Stock price Synchronicity is a measure calculated using the market model R^2 and measures the ratio of systematic risk to unsystematic risk fluctuations, so, the larger R^2 shows the higher stock price synchronization and the amount of market information reflected in stock returns. In this study, Fama–French three-factor model that introduced by Fama and French (1993) is used to calculate the R^2 as follows.

$$E(R_I) - R_f = \alpha_i + \beta_i\big(E(R_M) - R_f\big) + s_i SMB + h_i HML + \varepsilon_i \quad (2)$$

where, $E(R_I) - R_f$ is the portfolio i's return in excess of risk-free rate R_f, α_i is the intercept of the regression equation representing the non-market return component, $E(R_M) - R_f$ is the market risk premium (market portfolio return in excess of risk-free rate), SMB (small minus big) is the return on small size stocks minus return on big size stocks captures size premium, HML (high minus low) incorporates value premium that is the difference between returns of value stocks (high B/M ratio) and growth stocks (low B/M ratio).

For calculate the SMB and HML two type of classifications are used. In the first, banks are divided into two groups based on size: small size banks (S) and big size banks (B), where each group includes half of the sample. In the second classification, banks are classified based on the ratio of book value to market value into three groups containing 30% high (H), 40% medium (M) and 30% low (L). then SMB and HML are calculated using following equations.

$$SMB = \frac{SH+SM+SL}{3} - \frac{BH+BM+BL}{3} \tag{3}$$

$$HML = \frac{SH+BH}{2} + \frac{SL+BL}{2} \tag{4}$$

After calculating these variables and estimating the coefficients, according to the study of Petrovsky and Rolston (2004) and Johnston (2009), the following equation is used to calculate the transparency of information.

$$INFORMATION = LN(\frac{R_{i,t}^2}{1-R_{i,t}^2}) \tag{5}$$

QCG indicates the quality of corporate governance in the bank. In this research, two approaches are used to calculate this variable.in the first approach, corporate governance is calculated by the shares of non-executive members in the manager's board. In the second approach, corporate governance is measured by the ratio of shares to institutional shareholders (QCG2).

SIZE shows the size of the bank and the logarithm of the total value of the bank shares is used for this variable. CAPITAL represents the ratio of the bank's capital and is obtained by dividing the capital to the total assets. NPL stands for the shares of Non-Performing Loans to total loans. INFLATION shows the inflation calculated based on the consumer price index. GDPGROWTH is the real growth of GDP.

Since the data of the selected variables are time series, so in this study the dynamic panel data approach is applied to estimate the coefficients. Alonso-Borrego and Arellano (1996) and Blundell and Bond (1998) show that when the explanatory variables are persistent over time, lagged levels of these variables are weak instruments for the regression equation in differences. To reduce the potential biases associated with the difference estimator, Blundell and Bond (1998) suggest that Monte Carlo simulations and asymptotic variance calculations show that this extended GMM estimator offers efficiency gains where the first-difference GMM estimator performs poorly. The instruments mentioned are appropriate under the following assumption: although there may be correlation between the levels of the right-hand side variables and the country specific effect in the level equation, there is no correlation between the differences of these variables and the country specific effect. the consistency of the estimators depends on the validity of the assumption of no serial correlation of the disturbance sentences and the introduced instruments. The validity of the instruments must first be checked by the Sargan's J test. Then, the existence of serial correlation of wastes in the first and second order is tested by AR (1) and AR (2) tests. fails to reject the null hypothesis in these tests provides evidence of a lack of serial correlation and validity of the instruments.

4. Results

The first step is to calculate the indicators of transparency and quality of corporate governance. For this purpose, the published information of banks in the website of Iran Securities and Exchange Organization has been used. Information on the total number and number of non-executive board members for each bank in each year is available in the Securities and Exchange

Organization website. Also, since the percentage of shares held by institutional shareholders has varied throughout the year, the average at the beginning and end of each year has been used as the proportion of shares held by institutional shareholders. The descriptive statistics of variables are reported in Table No. (1). Results of Jarque-Bera test shows that the data for corporate governance indices (QCG1 & QCG2) haven't normal distribution, it indicates on the differences of corporate governance quality among the studied sample. Also, the performances of banks in non-performing loans haven't a normal distribution, which shows the significant differences in performance of banks in non-performing loans. Based on Jarque-Bera results, For other variables such as SIZE and CAPITAL the situation of banks didn't have a significant differences.

Table 1. Descriptive Statistics of variables

Index	QCG1	QCG2	CAPITAL	*GDPGROWTH*	INFLATION	NPL	**SIZE**
Max	100/0	83/47	26/90	12/51	34/7	14/6	6/37
Min	0	24/62	9/31	-7/71	9/0	4/3	3/74
Mean	51/3	53/19	11/04	2/30	18/16	8/4	4/43
Kurtosis	8/18	3/32	2/28	0/07	0/69	3/03	3/44
Skewness	2/09	0/14	0/52	3/23	2/15	1/03	0/05
Jarque-Bera	358/9 (0/00)	23/29 (0/00)	2/45 (0/29)	0/03 (0/98)	1/22 (0/54)	7/00 (0/03)	1/23 (0/54)

Source: Research Findings

to calculate the transparency index, first using the relations (3) and (4) of the SMB and HML indices were calculated, then the coefficients of the equation number (2) were estimated separately for 16 banks. To calculate R^2 of each bank in each year, first the absolute value of the disruption component of each year is extracted in series and then the absolute value of the disruption component of each year is subtracted from $R_I - R_f$ and the value obtained is divided by $R_I - R_f$. so, R^2 can be calculated based on the following equation.

$$R^2 = \frac{(R_I - R_f) - |\varepsilon_i|}{R_I - R_f} \tag{6}$$

One of the objectives of the study is to investigate the relationship between corporate governance index and information transparency as one of the main results. For this purpose, the correlation coefficient matrix between different indicators of corporate governance and information transparency has been calculated and reported in Table No. (2). It should be noted that the significance level of each coefficient is given in parentheses.

The results show that the correlation between the quality indicators of corporate governance is equal to 62% and with the increase of the share of institutional shareholders, the average proportion of non-executive members has increased. Also, the coefficient obtained is statistically significant at 95% confidence level (The significance level is 0.043). The correlation between the ratio of non-executive board members with the transparency index is positive but is not statistically significant and it can be said that the correlation coefficient is not different from zero. Also, the second index of corporate governance quality, did not have a significant

correlation with the transparency index. If transparency and disclosure of information considered as the results of corporate governance and as a practical criterion for the level of corporate governance, according to the results, it can be said that the indicators introduced for corporate governance that measure the legal and formal conditions of corporate governance cannot reflect the real conditions of corporate governance in the banks.

Table 2. Results of correlation between corporate governance indicators and information disclosure

Index	QCG1	QCG2	INFORMATION
QCG1	1	(0/043) 0/62	(0/185) 0/28
QCG2	(0/043) 0/62	1	(0/341) 0/19
INFORMATION	(0/185) 0/28	(0/341) 0/19	1

Source: Research Findings

In the following, the relationship between the indicators and the bank's profitability is estimated in the according of equation No. (1). Before estimating the research model, the Im,Shin & Pesaran Panel unit root test is used for investigate the stationary of variables.

Table 3. Unit Root Test Results

variables	**In Level**		**In First Differnces**	
	Statistics	Prob	Statistics	Prob
CAPITAL	-0/96	0/17	-10/86	0/00
GDPGROWTH	-3/13	0.00	-	-
INFLATION	-2/09	0/02	-	-
Efficiency	-0/19	0/43	-7/38	0/00
NPL	3/01	0/99	-7/07	0/00
QCG1	0/11	0/54	-13/57	0/00
QCG2	0/52	0/69	-10/34	0/00
Information	-1/57	0/04	-	-
SIZE	0/59	0/73	-7/29	0/00

Source: Research Findings

$$Efficiency_{i.t} = \beta_0 Efficiency_{i,t-1} + \beta_1 \mathrm{QCG}_{i,t} + \beta_2 \mathrm{Information}_{i,t} + \beta_3 \mathrm{Information} * \mathrm{QCG}_{i,t} + \beta_4 \mathrm{SIZE} + \beta_5 \mathrm{CAPITAL}_{i,t} + \beta_6\, \mathrm{NPL}_{i,t} + \beta_7\, \mathrm{INFLATION}_{it} + \beta_8\, GDPGROWTH_{i,t} + \varepsilon_{i,t}$$
(7)

The result shows that GDP growth, inflation and transparency index are stationary in level and other variables are nonstationary in level and stationary in the first differences. Therefore, the relationship between variables is examined using a dynamic panel approach. The results have reported in Table (4).

Table 4. Results of Estimating the Coefficients

variables	Coefficient	T-stat.
$Efficiency(-1)$	0/54	4/17
SIZE	0/93	2/43
QCG2	0/46	1/12
Information	0/86	2/79
Information $*$ $QGC2$	0/52	2/19
NPL	-1/46	-2/35
CAPITAL	0/18	3/38
INFLATION	-0/03	-2/41
$GDPGROWTH$	0/54	2/37
R^2	0/8627	

Source: Research Findings

Efficiency is as an indicator of the performance of banks in the model. The estimated coefficient for first lag of efficiency is positive and significant and indicates that the efficiency of the country's banking system is improving.

Bank size had a significant positive on efficiency. Results shows that bigger banks have been able to act profitably and attract financial resources through profits and increase returns in the banking network.

Since, between the introduced index for measuring corporate governance, the second index or the shares of institutional shareholders, has a better relation with transparency and quality of information disclosure, so it has been selected for quality of corporate governance. The results show that this variable has an insignificant positive impact on efficiency of banks.

The variability of transparency and disclosure of information has a significant positive effect on the efficiency. It shows that with increasing transparency, labor and fixed capital productivity increases which has led to improved efficiency in the banking system.

The common variable of transparency and quality of governance shows the effect of transparency on the relationship between corporate governance and efficiency. This variable has had a positive and significant effect on the efficiency of banks. So, in a situation where corporate governance is accompanied by information transparency, it can improve the efficiency of the banking system, otherwise it will not have a significant impact on efficiency.

In this study, inflation and GDP growth variables have been used as control variables. The results show that inflation has a significant negative impact on efficiency of banking system but the GDP growth has a significant positive impact on banks' efficiency.

In order to check the accuracy of the model and the estimated coefficients, diagnostic tests have been applied. The results of the tests are reported in Table (5). The results of the Wald test indicate on the overall significance of the model. Also, the statistics of Sargan's J test is statistically insignificant, which indicate that instruments are valid. The Arellano Bond test including AR (1) and AR (2) results confirmed that the model is dynamic and there is no serial correlation in the second lags of error terms.

Table 5. Diagnostic's tests

Tests		**Statistics**	**Prob**
Wald test		59/03	0/00
Sargan's J		23/07	0/53
Arellano Bond test	AR(1)	1/28	0/18
	AR(2)	0/67	0/39

Source: Research Findings.

5. Conclusions

After the global financial crisis of 2007-2010, there was severe financial instability in the international markets, this instability led to special attention to large banks. So, economists pursued to reform supervision and regulations financial markets especially in banking system. It shows that inattentions to the corporate governance principles could lead to the detrimental results in domestic and international banking sectors.

It can be expected that with attention and to the corporate governance in banking, the transparency and accountability will increase, and this leads to the more banking system efficiency. The combination of these processes leads to improved bank efficiency.

The results of this study show that, the index introduced for formal measurement of corporate governance could not be significantly correlated with banking profitability. Therefore, legal indicators do not seem to be very effective in measuring the corporate governance in Iran banking sector. In general, the impact of regulations on economic performance depends on the institutional quality and rule of law in societies. unsuitable institutional situation and low quality of governance have caused the laws and regulation in in the field of corporate governance, especially in the banking system, not to be implemented properly and reduces the profitability of banks and deepens the banking crisis in the country.

Therefore, increasing the supervision of banks performance, especially in the field of compliance with laws and regulations, transparency and protection of shareholders' rights is of great importance. It is also necessary to reform and strengthen the financial system in order to stabilize the economy. Undoubtedly, creating and stabilizing stability in the banking network has a high priority in the country's economic decisions, which due to the sensitivity of customer orientation and maintaining the principles of corporate governance in this system, ensuring stability and stability can reduce the emergence of banking panic.

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