Journal of Money and Economy
Vol. 12, No. 1, Winter 2017
pp. 55-71

Introducing a Model to Measure the Corporate Governance Index in Usury-Free Banking

Mehdi Ghasemi Aliabadi* **Abbass Shakeri†**
Ali Nassiri Aghdam‡

Received: 10 Jun 2018 Approved: 04 Sep 2018

Good implementation of corporate governance principles is considered as an important component for stability and soundness of a financial institution. An extensive body of literature has reviewed the effects of corporate governance on the performance of corporations. The majority of these studies have found more corporate values for implementing the principles. Therefore, the assessment of compliance with corporate governance principles is a critical factor for external inspectors to ensure long-term sustainability of any economic organization. Based on these, this research aims to introduce a mechanism for assessing corporate governance in Iranian banks. This mechanism helps to calculate points for ranking of any banks compared to other banks and with regard to the compliance with four corporate governance principles: accountability, responsibility, transparency and fairness. To this end, and based on corporate governance principles, a set of measurements, elements and sub-indices have been introduced that some of them are estimated. The value domain for each of sub-indices is determined with respect to the published information by the bank. This paper has introduced 153 sub-indices, 17 elements and 3 measures that explain corporate governance. These are all valued and altogether in the form of a suitable model, make possible to calculate the Corporate Governance Index (CGI) in a usury-free bank.

Keywords: Corporate Governance Index, Assessment, Typical Bank, Usury-Free Banking
JEL Classification: G34, G21

1 Introduction

Basel Committee on Banking Supervision introduces three pillars in Basel 3 as the main factors for creating and fostering a sound banking system. One of the requirements of the second pillar (management and control of risks) is the establishment of a sound corporate governance system.

* Faculty of Economics, Allameh Tabataba'i University, Iran; ghasemi.mehdi89@gmail.com (Corresponding Author)
† Faculty of Economics, Allameh Tabataba'i University, Iran; abbas.shakeri@gmail.com
‡ Faculty of Economics, Allameh Tabataba'i University, Iran; alin110@atu.ac.ir

Basel Committee's guidance which is derived from OECD Principles for corporate governance follows protection of the interests of all beneficiaries along with general interests based on sustainable routines and preference of depositors' interests to shareholders' interests in retail banking* (Basel, 2015).

Corporate governance may also be considered as an institutional innovation that reduces the transaction costs. The inability of economic actors to finance their large-scale businesses through the capital market is to a large extent due to investors' concerns about probable use of their capital for the benefits of those economic actors and against the benefits of shareholders. (Nasiri Aghdam & Mortazavi, 2017)

Desirable implementation of corporate governance principles in the banking system enables the inspectors to get more trust on the bank's internal processes. The experiences of monitoring agencies show that with a good level of transparency, accountability, responsibility and fairness along with an effective control system in each credit institution, inspectors will pay more attention to the correspondence between "chief director and members of the board of directors' operating manner "and "existing regulations".

There are a few studies to assess the compliance with corporate governance principles in banks and design suitable models for ranking the banks. So one of the essential questions of this paper is how to design the applicable measures, elements and indices for assessing the level of corporate governance compliance in Iran's banking system. We also design a consistent model for the corporate governance measurement that could be the basis for "Corporate Governance Index (CGI)" in any non-governmental banks in Iran.

After some reviews on theoretical basis and previous studies, using qualitative content analysis, we have introduced a set of measures, elements and indices that may be applied for measuring compliance with corporate governance principles for Iranian banks in a usury-free banking system.

The contributions of this paper are as follows: first, this study offers a ranking model for the banking system since there are no such models for the banking system in the related studies as their main focus is on the other industries. Second, this paper presents an assessment model based on the corporate governance fourfold principles of responsibility, accountability, transparency and fairness. Third, the value range for each sub-index is fully consistent with the rules, documents and theoretical foundations. And fourth,

* But the main stakeholders in capital market are shareholders, especially micro-shareholders. So from this viewpoint there are differences between the methods of corporate governance assessment in money market and the banking system with respect to the elements, and indices of assessment.

it is possible to simply calculate the value of any sub-index based on the published information of banks.

In the first part of this paper, theoretical description of corporate governance and its diverse aspects from the literature and international institutions' viewpoint are introduced. The second part includes a review about the most important studies in Iran and abroad. In the third part, based on the fourfold principles of corporate governance and related documents, the relevant model for corporate governance assessment and measurement of its indices is introduced. The value domain with reference to the existing obligations and regulations are presented in the index tables to calculate values for sub-indexes from the bank's information. The last part consists of concluding remarks and suggestions for future.

2 Theoretical Basis

Many stakeholders, investors, regulating institutions and other professional groups have strong concerns about corporate governance practices and especially compliance with corporate governance principles. (Hassas Yeganeh & Salimi, 2011) With good corporate governance and a better regulatory safeguard, investors gain more benefits and pay higher profits to reach higher stock prices. (La Porta et al., 2002)

OECD defines "Corporate Governance" as "The set of relations between management, the board of directors, shareholders and other stakeholders in each company which determines the structure that formulation of company goals and tools for achieving those goals and monitoring the operations are based upon. Also some banking units see the corporate governance as the method of commercial affairs management that includes determining the risk profile of any bank and defining the preferred actions of it with respect to its risk situation and protecting shareholders and other stakeholders interests" (Basel III, 14. Principles for corporate governance, 2010).

Sloan (2001) introduces corporate governance as mechanisms for alleviating problems that appear after separation of ownership and management in business units. Managers – according to representation theory – may pursue their personal interests and prioritize those interests to shareholders rights. This conflict between the interests of managers and stakeholders is a hurdle on the way to company's value maximization and creates the representation costs*.

Corporate governance outlines may be assumed as an attempt to reach equilibrium between the interests of managers and shareholders, and create a

* The representation costs are the difference between the maximum achievable value in the company and the actual value achieved.

control mechanism to increase shareholders value and satisfy stakeholders. Corporate governance is also a way of balancing the firm's economic and social goals, taking into account the efficient use of resources, accountability of officials, organizational behavior in the social environment, fair distribution of responsibilities, maintaining board autonomy, and facilitating sustainable performance.

"Corporate Social Responsibility & Sustainability" (CSRS) – as one of the main sources of corporate governance – have introduced four principles for good corporate governance:

- Transparency
- Accountability
- Responsibility
- Fairness

Goider (1961) believes transparency as suitable accounting standards that reports the financial statements in time and for the current period of business. From OECD standpoint, corporate governance framework must enforce accurate and timely disclosure of all important matters such as financial position, ownerships and governance of the company. Generally speaking, sound disclosure of information for an institute must qualify these features:

- It must include all important information about financial and operational goals and achievements, main owners of shares and voting right, chief executive and the board of directors' bonus policy, information about the board of directors and the process of choosing them, their membership in other companies, and their transactions with dependent persons, predictable risk factors, etc.
- Information disclosure in accordance with qualified accounting, financial and nonfinancial standards.

Goider (1961) presented the subject of organizational stakeholders and being accountable to them. He stated that organizations are responsible to all their stakeholders and must answer their demands. Stakeholders' theory gradually developed from 1970s and Friedman was one of its first commentators. He presented the general theory of corporates and suggested the responsibility and accountability of companies to a wide range of stakeholders. (Hassas Yeganeh, 2015)

The main pillar of stakeholders' theory states that companies have grown to such big sizes and their impacts on the society are so deep that they must be accountable to a wider range of stakeholders other than shareholders. So, stakeholders are not merely affected by the firms but affecting them as well. (Hill et al., 1992)

Many authors define stakeholders as all people that have legal rights – in the most extensive meaning – in the firms. (Farrar & Hannigan, 1998) Companies in the sustainable development framework are responsible and committed for their impacts on the environment and society. (Hassas Yeganeh & Barzegar, 2013) Companies' social responsibilities refer to their voluntary and ultra-legally participation to sustainable development achievements; it is a way to lower the informational disclosure gap between their preferred reporting framework and the framework that responds to sustainable development approach of stakeholders' expectations. (Molina, 2010)

The title of "Corporate Social Responsibility" (CSR) has been introduced in the literature of management from the middle of 20th century and transformed to one of the important concerns in many of the politic, economic and scientific circles in the developing countries. (Faghani et al., 2016) Some scholars define "social responsibility" as the activities to improve special social goals beyond mere financial targets.

Fairness principle compliance not only is implied in three other principles of corporate governance, but also means that the firm behaves the same in its interactions with all of shareholders; whether they are big or small. (Faghani et al., 2016) timely and complete disclosure of information is the best example of fairness compliance so that all actual and potential investors decide on shared information.

3 Study Background

There are various elements to measure and rank corporate governance in the work of scholars. The structure of board of directors (public, private or institutional ownership), the structure of governance, bonus programs for executive mangers, etc. are amongst measures that are used in the most models of corporate governance. (Yeganeh. 2011)

There are various rankings based on corporate governance that are published by international organizations - such as Glass Lewis & Co, Institutional Shareholder Services, Governance Metrics International, Corporate Library, Standards & Poor's, Moody's Investment Service. These rankings are always used by institutional shareholders for assessing returns of shares. Bond holders use these rankings to determine the rate of lending.

Study of the components of corporate governance models in many countries and international ranking institutions shows that some indices like the effects of ownership, transparency, shareholders' rights and board of director's effectiveness are seen in most of them (Yeganeh, 2011). The following table shows the elements used in various studies to assess and rank corporate governance.

Table 1
The Elements Used for Corporate Governance Assessment in Some of the Studies

Author(s)	country	Elements for assessing corporate governance
Black et al. (2006)	South Korea	Shareholders rights, board of directors, external managers, auditing committee, internal auditors, disclosure for shareholders, ownership diversity.
Attiya & Robina (2006)	Pakistan	Board of directors, ownership and shareholding, transparency, disclosure and auditing.
Bauer et al. (2004)	England	Applying the ranking model of "Deminor Corporate Governance Rating"
Drobetz et al. (2004)	Germany	Governance commitments, shareholders rights, transparency, managerial and supervisory subjects in board of directors, auditing.
Gompers et al. (2003)	USA	24 different factors such as existence of prime shares, reforms in articles of association, the law for selling controlling shares, categorized board, bonus schemes, managers' contracts, the law for buying controlling shares, accumulative voting, managers roles, limitations on managers debts, limitations on special assemblies, and unequal voting rights
De Jong et al. (2005)	Netherlands	Organizational structure, voting right, board of directors' features, mail external shareholders, debt and finance specifications.
Black (2001)	Russia	Disclosure and transparency measures, dilution of the shares through new share issue, valuation of internal transfers, dilution of the shares through integration and restructuring, limitations for external ownership, management approach to shareholders

Source: Research Findings.

The Indicators that used for corporate governance depend on the economic, social and cultural grounds in any country (Namazi et al., 2013). For example, indices covering most of corporate governance mechanisms are developed by Baur et al. for Europe and Great Britain (2004), by Drobetz et al. (2004) for Germany, by Silveria (2004) for Brazil, by Black (2001) for Russia, by Black et al. (2006) for South Korea, and by Gompers et al. (2003) for USA (Namazi et al., 2013).

In Iran, Hassas Yeganeh, in his study "A Model for Ranking Corporate Governance in Iran", has developed a conceptual model for ranking stock market firms based on four elements: ownership, shareholders' rights, transparency and effectiveness. He uses Chi (2005) approach to calculate the index of corporate governance. Furthermore he defines some measures for each element and some indices for each measure and calculate their significant coefficients with reference to statistical methods and professionals' viewpoint (Hassas Yeganeh & Salimi, 2011).

Tehran Stock Exchange for the first time in 2014 – after studying the ranking of firms based on corporate governance and comparative studies about ranking methods in some stock exchange centers like London, New York, Philippine, Malaysia, India, Pakistan and Turkey, calculated the index of corporate governance and for the first time ranked the firms that are admitted to the stock market. The elements used in this study are: shareholders equity, board of directors and its committees, auditing and accountability, and information disclosure.

Dadgar and Naderi (2012) in their paper i.e. "Calculating Corporate Governance Quality Index for Firms Accepted in the Tehran Stock Exchange" form their index based on three elements: accounting standards, income smoothing, and simultaneous stock price. Their index includes corporate quality index from dual aspects of transparency and accounting disclosure.

The distinctive feature of this paper is that it offers a ranking model in full accordance with corporate governance principles. For example, inclusion of ownership elements in previous studies is interpreted as an independent explanatory element for corporate governance and not a measuring element. It is explained in Basel guidelines that banks with all different ownerships (public, private, institutional or family owned) are obliged to observe corporate governance principles. So the type of ownership cannot be an element for measuring corporate governance index.

Conversion of four principles to some Basel-accepted elements and measures (Basel corporate governance principles for banks, 2015) is another initiative in this paper. A set of elements, measures and indices for assessing the level of corporate governance compliance in banks is introduced and one or more of fourfold principles are implied in each of them.

4 Methodology of the Study

The summarized qualitative content analysis has been used for indexation, and as an assessment model for corporate governance observance in nongovernmental banking system. Also it is used for calculating the corporate governance index. Kripendorf (2004) says that six questions must be answered in any qualitative content analysis:

- Which data must be analyzed?
- How is the data defined?
- Which population the data are derived from?
- What is the relationship between the context and the analyzed data?
- What are the analyzed data?

– What is the result of the analyses?

Qualitative content analysis is a convenient tool for analyzing data because it has special features. One of its features is the unambiguity and applicability to confront the complexities of the subject. In other words there is some type of unambiguous explanation that also exists in theory-based studies with deductive hypotheses. Qualitative content analysis is very methodical and everything is analyzed case by case and phase to phase. The combination of these two features (unambiguity and theory-based study) along with a comprehensive approach to data analysis, provides conditions to confront with complex problems. Based on aforementioned properties, the following steps have been taken for this study:

1) Study theoretical basis of corporate governance with regard to library research, with the aim of achieving common principles that can be used to evaluate and compare different banks. At this stage, all related literature including books, internal and external articles, databases, international journals (ex. OECD topics), Basel articles, sustainability committee, corporate social responsibility, etc. have been studied.
2) Study all existing documents relating to or containing regulations, standards or obligations of corporate governance principles in banking system. Some of these documents are commonly used articles for nongovernmental banks, Basel texts on the implementation of corporate governance, corporate governance guidelines for Islamic financial services, the directive of the Stock Exchange for corporate leadership, the method of obligations for nongovernmental credit institutions, the method for professional qualification of managers in financial institutions, etc.
3) Find a benchmark as well as elements to evaluate the level of corporate governance observance and create a model for it. Finally, introduce specific indicators whose value can be used to calculate the firm's corporate governance index.

5 Results Interpretation

5.1 The Measure and Elements to Evaluate Corporate Governance

Since in the theoretical basis, the level of corporate governance principles' observance in a bank is considered as the base, therefore, we want to discover general dimensions to assess the observance of principles. Three measures – which include principles of corporate governance– are presented as evaluation measures:

A-The Measure of Board of Directors' Effectiveness (A_1)

The board of directors is the main body to adopt and set strategic goals, strategic framework and organizational culture. Therefore, the board is the ultimate responsible for business strategy and financial soundness of the bank, internal structure and executive approach, risk management, and law compliance (Basel Committee, 2015).

Assessing the corporate governance to determine whether the board is committed to the principle of "professional ethics is the priority" and how much emphasis is placed on the establishment and maintenance of corporate governance principles and risk culture.

One of the main goals of this assessment method is to determine the level of ability of the board of directors in the financial institution to deal with the risks in that business. The identified violations include: mis-selling of financial products to retail and commercial customers, violation of national and international laws, manipulation of financial markets – for instance, manipulation of prices.

According to representation theory, the board's ability to act as an effective regulatory mechanism depends on the independence of the board of directors, the number of its members, and the relationship between the role of the chairman of the board and the executive director (Dechow et al., 1996). From this perspective it is argued that a larger board is likely to be more alert and sensitive to the representation issues, because the number of people having managerial roles in large boards is more than smaller boards.

Furthermore there is a common belief that more independent boards will exercise more effective regulation for the managers (Beasley, 1996; Peasnell, Pope & Young 2000; Chen & Jaggi 2000). Beasley (1996) finds that presence of some independent and non-executive members in the board of directors will reduce the probability of fraud in financial statements. Klein, A. (2002) gathers evidences about independency of board members and manipulation of profits. These evidences show that corporates which their members of board are independent from executive managers, report less unusual commitment cases.

Peasnell et al. (2000) in their study and sampling from British corporations concludes that when the relative number of nonexecutive and independent board members increases, the likelihood of committed cases – which will increase profits – will be smaller. Also in another study by Chtourou et al. (2001), they show that an independent board of directors limits the profit management. Chang & Sun (2009) find a negative relationship between the independency of board of directors and unusual committed cases (Ajinkya et al., 2005).

The existence of independent and nonexecutive members in the board of director’s helps to control the representation problem and through better information disclosure decreases the informational asymmetry between the management and shareholders (Lim et al., 2007). Furthermore it has been claimed that introduction of non-charged members will increase the efficiency of the board of directors (Ajinkya et al., 2005).

Basel committee generally requires its member banks to create a special structure at the board of directors' level that be able to protect the legal rights of depositors, shareholders and other stakeholders and ensure an effective relationship between the board of directors and the regulatory authorities (Basel, 2015).

An effective structure should also be able to accurately assess the risk of transaction with the relevant persons and prevent waste and misuse of the resources; i.e. ensuring compliance of existing obligations in inter-group transactions (Basel, 2015).

In a large number of articles in this area, there are limited elements for the effects of board structure on the firm's performance. But based on the study of all the documents in the methodology section, we use a wide range of elements used to evaluate the effectiveness of the board structure. In the Annex 1, 49 measurable indices are introduced to evaluate the element of board's structure. For each of these indices we may consider a certain value based on information issued by the bank or the conduct of an interview.*

B-Transparency and Disclosure Measure

In general, there is no comprehensive definition for transparency. Vishwanath and Kaufmann (1999), Kaufmann (2002) emphasize on the stakeholders to define this term. They define transparency as timely and reliable current of economic, social and political information which is available for everyone (Badavar Nahandi et al., 2014).

The governance must be sufficiently transparent for shareholders, depositors, other stakeholders and market actors. Transparency is the necessary condition for effective and sound corporate governance. With inadequate transparency, market players cannot effectively and fully monitor the performance of the board and senior executives and cannot see them as responsible bankers. The philosophy of transparency in corporate governance discussions is to provide the necessary information for parties to assess the effectiveness of the board's performance and the performance of senior executives (Basel, 2015).

According to Basel guidelines, banks must comply with the section of transparency and disclosure principles that is explained by OECD. Therefore,

* For more information, please contact the corresponding author

disclosure must include at least minimum requirements related to objectives, governance structure, policies related to the content of corporate governance, remuneration criteria for exercising corporate governance, main shareholders, voting right and exchange with individuals (Basel, 2015).

Furthermore, banks should disclose the main points about the resources at risk, and their risk management strategies – without disclosure of confidential information. When a bank involves in complex or ambiguous activities, it is required to disclose enough information about the goal, the strategy, the structure and risk controls associated with those activities (Basel, 2015).

The general aspects that used by scholars to measure transparency and disclosure of information include the disclosure of financial and nonfinancial information. However, there is a wide range of information applications and dimensions, groups and elements to determine and measure the level of information disclosure and information transparency in different studies (Anvari Rostami et al., 2014).

The level of information disclosure in economic and accounting literature is summarized in the following three groups:

- Mandatory information disclosure that is required in accordance with regulatory bodies and relevant laws

Scholars like Patton, J. Zelenka, I. (1997) and Wallace, R. S. O. Naser, K. (1995) and Chen, C. J. P., Jaggi, B. (2000) have limited the domain of information transparency and disclosure to mandatory information (Anvari Rostami et al., 2014).

- Voluntary information disclosure

Some other scholars like Hossain, M. , Tan, L. M. Adams, M. (1994), Raffournier, B. (1995), Firth, M. (1984), Ho & Wong, KR. (2001), Ferguson, M. J. et al. (2002) and many others emphasize that only voluntary information disclosure can explain the level of information transparency in a company (Anvari Rostami et al., 2014).

- The combination of mandatory and voluntary information disclosure

In another group of studies, both mandatory and voluntary information disclosures are included based on a broader approach to the concept of disclosure indices for measuring informational transparency measurement. Amongst these scholars are Cooke, T. E. (1992), Cooke, T. E. (1989), Giner, B. (1997), Wallace, R. S. O. Naser, K. (1995) and Jaggi, B. Low, P. Y. (2000) (Anvari Rostami et al., 2014).

Disclosure of financial performance information is the most basic disclosure that is seen in nearly all studies of information transparency. The last group of information relates to the board of directors, corporate goals and strategies, ownership structure, corporate strategic information and social responsibility. A few studies consider the existing risks and the risk management practices, foreign exchange information and exchange currencies, and mergers and acquisition information (Anvari Rostami et al., 2014).

As there are some general problems with disclosure methods and there is no explicit reference to relevant indicators in Basel's guidelines, the "Standards of Minimum Transparency Public Disclosure of the Information by Credit Institutions" issued by "Money and Credit Council" is used with the goal of further transparency in the performance of the credit institutions.

Four measures in this article are considered as key measures for determining the level of transparency and disclosure of information. These four measures are explained and evaluated by 82 indices.*

C-Responsibility Measure

Carrol (1991) introduces the following fourfold principles with the title of "responsibility pyramid of corporates". We use these principles to determine responsibility measures in corporate governance framework:

- ***Economic Responsibilities***: Everything a firm must do to maximize its profit and create added value for its stakeholders.
- ***Legal Responsibilities***: Everything a firm is obliged to do according to laws and regulations.
- ***Ethical Responsibilities***: Things that is better to being done along the improvement path to achieve goals.
- ***Philanthropic Responsibilities***: Include actions that are aligned with social mission and the firm wants to perform them.

Apart from the four principles in Carrol's model, in this paper, the religious responsibilities of Iranian banks – as an important aspect of the responsibility in usury-free banking system – are used to assess the level of responsibility of each bank.

The critical point about the religious responsibilities of banks is that a proper framework for corporate governance, in addition to the four principles, ensures that religious laws have been complied. Many of the corporate governance elements have the same importance for all banks and money market institutions (both Islamic and non-Islamic); so we may say that responsibility of the board, the disclosure of information (especially on risk management) and the responsibilities of the bank with regards to all stakeholders are also recommended in the usury-free banking system, and it is impossible to read them a different way than usury-free banking.

* For more information, please contact the corresponding author

The trusteeship responsibility of usury-free banks vis-à-vis their customers includes their first commitment to comply with the principles of religion in all periods. This unique feature of usury-free banking is the cause of introducing some precautionary obligations – in addition to the customary elements of corporate governance – that aim to ensure compliance with religion. In this article, these obligations are named as "religious responsibilities" and considered as a distinct measure.

In 2006, "Islamic Financial Services Board" (IFBS) with cooperation of OECD and "Basel Committee on Banking Supervision" published the "Corporate Governance Guidelines for Islamic Service Providers" on the basis that it is impossible to introduce a single model for all countries. In this paper we use these principles to explain the indices of religious banking responsibilities. To assess the level of responsibility measure, five elements are introduced and the indices for scoring this element are presented.[*]

5.2 Conceptual Model for Corporate Governance Assessment

Since the main goal of this paper is to explain an appropriate framework for assessing the compliance with four corporate governance principles in each nongovernmental domestic bank, some gradable measures are introduced at three levels to create the ability to calculate corporate governance indices. In fact, based on corporate governance principles as the theoretical basis and after reviewing the content of existing documents, at first three-fold measures are introduced. Then 17 elements are identified and 153 indices[†] for those elements are developed that have the ability to score. The following diagram is the conceptual model for this assessment:

6 Summary and Conclusion

Nowadays corporate governance is perceived as an effective tool to force corporate managers for lowering representation costs which benefits the corporate stakeholders (Keasey et al., 2005). Corporate governance mechanisms are designed to persuade managers for efficient application of the resources and accountability to the shareholders (Black et al., 2006). So this concept needs to be rigorously explained and some solutions be considered for complying with it in financial and economic systems. According to the existing literature, any economic organization that can better comply with four principles of responsibility, accountability, transparency and fairness, has been more successful in complying with corporate governance obligations. The key issue in this article is how and with which measures, elements and

[*] For more information, please contact the corresponding author
[†] For more information, please contact the corresponding author

indices we can assess the level of compliance with corporate governance obligations in a bank and then measure the corporate governance index.

In the first step, after studying the related documents, three measures including the structure of the board, transparency and disclosure of information, and responsibility as the first level of assessment-capable measures are introduced which can explain compliance with the principles of corporate governance. Since these three measures are general and non-measurable, 17 elements are introduced at the second level which in turn requires a further level of measurable indices. Therefore, in the third level we introduce 153 indices for elements that can be scored according to full compliance or noncompliance. The set of measures, elements and indices which are subordinate to corporate governance principles, constitute the assessment model for corporate governance in a bank which is also used to rank banks with respect to compliance with corporate governance principles.

For future studies, it is recommended that, using the information published by each bank and the indices values in this model, the corporate governance index of each bank as well as its ranking of the bank is computed compared to other banks. Furthermore this model can identify the strengths and weaknesses of corporate governance and the necessary advancements in these aspects. This would be critical for stakeholders of each bank. Also in the annex tables* for the introduction of indices, each sub-index is defined based on the requirements of the banking performance – including domestic or foreign regulations, the articles of associations, the central bank procedures or the previous studies and theoretical foundations – whose value may be calculated based on the information published by the bank.

References

Ajinkya, B, Bhojraj, S, and Sengupta, P. (2005). The Association Between Outside Directors, Institutional Investors and the Properties of Management Earning Forecast. *Journal of Accounting Research*, 43(3), 343-376.

Anvari Rostami. N., Hajian, A. (2014). Comparative of Indicators of Information Transparency and Disclosure Levels in Developing & Developed Countries. *Journal of Empirical Research in Accounting*. 14, 143-165.

Attiya Y. Javed & Robina Iqbal, (2006). "Corporate Governance and Firm Performance: Evidence from Karachi Stock Exchange," The Pakistan Development Review, *Pakistan Institute of Development Economics*. 45(4), 947-964.

Badavar Nahandi, Y., Ghaderi, S., Beheshti Nahandi, R. (2013). The Effects of Information Transparency on Investment Inefficiency in Accepted Companies in

* For more information, please contact the corresponding author

"Security and Exchange of Tehran" Organization. *The Journal of Economic Researches and Policies*, 68, 65-68.

Bauer. N, Guenster. R & Otten. (2004). Empirical Evidence on Corporate Governance in Europe: The Effect on Stock returns, Firm Value and Performance. *Journal of Asset Management*, 5, 91–10.

Beasley, M. S. (1996). An Empirical Analysis of the Relation between the Board of Director Composition and Financial Statement Fraud. *The Accounting Review*, 71, 443-465.

Black, B., Jang, H., & Kim, W. (2006). Does Corporate Governance Predict Firms' Market Values? Evidence from Korea. *Journal of Law, Economics, and Organization*, 22, 366-413.

Black, Bernard, (2001). The Corporate Governance Behavior and Market Value of Russian Firms. *Emerging Market Review*, 2, 89-108.

Chang, J., & Sun, H. (2009). The Relation between Earnings Informativeness, Earnings Management and Corporate Governance in the Pre and Post-Sox Periods. *The International Journal of Accounting*, 44(1), 1-32

Chen, C. J. P., Jaggi, B. (2000). Association between Independent Nonexecutive Directors, Family Control and Financial Disclosures in Hong Kong. *Journal of Accounting and Public Policy*, 19, 285–310.

Chtourou, S. M., Bedard, J., & Courteau, L. (2001). Corporate Governance and Earnings Management, *Working Paper Series*, http://ssrn.com/abstract=275053.

Cooke, T. E. (1989). Voluntary Corporate Disclosure by Swedish Companies. *Journal of International Financial Management and Accounting*, 2, 171-195.

Cooke, T. E. (1992). The Impact of Size, Stock Market Listing and Industry Type on Disclosure in the Annual Reports of Japanese Listed Corporations. *Accounting and Business Research*, 22(87), 229–237.

De Jong, A., Douglas, V., Dejong, G., Mertense Charles, E. & Wasley. (2005). The Role of Self-Regulation in Corporate Governance: Evidence and Implications from the Netherlands. *Journal of Corporate Finance,* 11, 473-503.

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1996). *Causes and Consequences of Earnings* [Working paper]. International Monetary Fund.

Drobetz, W., Schillhofer, A. & Zimmermann, H. (2004). Corporate Governance and Expected Stock Returns: Evidence from Germany. *European Financial Management*, 10, 267-293.

Faghani Makerani, Kh., Heidari Rostami, K., & Amin, V. (2016).The Relationship between Social Responsibility and the Risk of Shares Price Decrease in the Firms Accepted in Security and Exchange of Tehran Organization. *Quarterly Journal of Investment Knowledge*, 19, 269-284.

Farrar, J. H., & Hannigan, B. M. (1998). *Farrar's Company Law*, London: Butterworths. [Working paper]. International Monetary Fund.

Ferguson, M. J., Lam, K. C. K. & Lee, G. M. (2002). Voluntary Disclosure by State-Owned Enterprises Listed on the Stock Exchange of Hong Kong. *Journal of International Financial Management and Accounting*, 13(2), 125-152.

Firth, M. (1984). The Extent of Voluntary Disclosure in Corporate Annual Reports and Its Association with Security Risk Measures. *Applied Economics*, 16(2), 269-277.

Giner, B. (1997). The Influence of Company Characteristics and Accounting Regulation on Information Disclosed By Spanish Firms. *The European Accounting Review*, 16(1), 45–68.

Goider, G. (1961). *The responsible company*. Oxford, Blackwell.

Gompers, P. Ishii, J. Metrick, A. (2003). Corporate Governance and Equity Prices. *The Quarterly Journal of Economics*, 118, 107–156.

Harjoto, M. A., & Jo, H. (2011). Corporate Governance and CSR Nexus. *Journal of Business Ethics,* 100(1), 45–67.

Hassas Yeganeh, Y. (2015). *The Collection of Papers about Corporate Governance*. Elmi-Farhangi publications Company.

Hassas Yeganeh, Y., & Barzegar, Gh. (2013). Introduction of an Element and Indices for Social Aspect of Corporates' Responsibility, and Its Existing Condition in Iran. *Quarterly Journal of Socio - Cultural Development Studies*, 1, 209-234.

Hassas Yeganeh, Y., & Salimi, M. (2011). A Model for Corporate Governance Ranking in Iran. *The Journal of Empirical Studies in Financial Accounting*, 30, 1-35.

Hill, C. W. L., & Jones, T. M. (1992). Stakeholder–Agency Theory. *Journal of Management Studies*, 29(2), 131-154.

Ho, S. M. S., & Wong, K. R. (2001). A Study of the Relationship between Corporate Governance Structures and the Extent of Voluntary Disclosure. *J. Int. Account. Auditing & Taxation*, 10, 139-156.

Hossain, M., Tan, L. M., & Adams, M. (1994). Voluntary Disclosure in an Emerging Capital Market: Some Empirical Evidence from Companies Listed on the Kuala Lumpur Stock Exchange. *The International Journal of Accounting*, 29(3), 334–351.

Jaggi, B., & Low, P. Y. (2000). Impact of Culture, Market Forces and Legal System on Financial Disclosures. *The International Journal of Accounting*, 35(4), 495–419.

Keasey, K., Thompson, S., & Wright, M. (2005). *Corporate Governance*. John Wiley & Sons Inc.

Klein, A. (2002). Audit Committee, Board of Director Characteristics, and Earnings Management. *Journal of Accounting and Economics*, 33, 375-401.

Krippendorff, K. (2004). Content Analysis: An Introduction to Its Methodology (2nd ed.). *Thousand Oaks, CA: Sage*.

La Porta, R., Lopez de-Silanes, F., Shleifer, A., Vishny, R. (2002). Investor Protection and Corporate Valuation. *Journal of Finance*, 3, 1147-1170.

Lim, S; Matolcsy, Z, and Chow, D. (2007). The Association between Board Composition and Different Types of Voluntary Disclosure. *European Accounting Review*. 16(3), 555-583.

Molina, M. (2010). The Corporate Role in a Changing Society: A Model of Sensemaking and of Firm Characterization. *PHD Thesis*, Business School, Universitat Ramon Llull.

Namazi, M., Raessi, Z., & Hosseini, M. (2013). The Relationship between Corporate Governance Index and Returns of Shareholders for the Firms Accepted in Security and Exchange of Tehran Organization. *Journal of Securities Exchange*, 22, 25-51.

Nasiri Aghdam, A. & Mortazavifar, Z. (2017). Institutional Economics' Implications for Improvements in Business Environment. *The Economic Research*, 64, 33-55.

Patton, J., & Zelenka, I. (1997). An Empirical Analysis of the Determinants of the Extent of Disclosure in Annual Reports of Joint Stock Companies in the Czech Republic. *European Accounting Review*, 6(4), 606–626.

Peasnell, K. V., Pope, P. F., & Young, S. (2000). Accrual Management to Meet Earnings Targets: U.K. Evidence Pre and Post-Cadbury. *The British Accounting Review*, Vol. 32, 415-445.

Raffournier, B. (1995). The Determinants of Voluntary Financial Disclosure by Swiss Listed Companies. *Eur. Account. Rev.*, 4(2), 261-280.

Sloan, R. G. (2001). Financial Accounting and Corporate Governance: A Discussion. *JAE Rochester Conference*.

Silveria, A. (2004). *Governanca Corporativa E Estrutura De Propriedade: Determinantes E Relacao Com O Desempenho Das Empresas No Brasil* [Doctoral Dissertation]. Universidade de Sao Paulo, Brazil.

Wallace, R. S. O., & Naser, K. (1995). Firm-Specific Determinants of Comprehensiveness of Mandatory Disclosure in the Corporate Annual Reports of Firms Listed on the Stock Exchange of Hong Kong. *Journal of Accounting and Public Policy*, 14(4), 311–368.