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Disclosure and firm ranking based on the the Vigeo model of social responsibility and its relationship with financial performance criteria

Milad Biabani
Department of Accounting, Faculty of Economic and Accounting, Central Tehran Branch, Islamic Azad University, Tehran, Iran. miladbiabani@gmail.com

Ahmad Yaghoobnezhad
Department of Accounting, Faculty of Economic and Accounting, Central Tehran Branch, Islamic Azad University, Tehran, Iran. yaghoobacc@gmail.com (Corresponding Author)

Zahra Lashgari
Department of Accounting, Faculty of Economic and Accounting, Central Tehran Branch, Islamic Azad University, Tehran, Iran. Z_Lashgari@iauctb.ac.ir

Farzaneh Heidarpoor
Department of Accounting, Faculty of Economic and Accounting, Central Tehran Branch, Islamic Azad University, Tehran, Iran .far.heidarpoor@iauctb.ac.ir

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ABSTRACT

The excessive attention of various institutions on the world of business to social responsibility has made it a necessary element for the success of companies. Due to the lack of firm ranking in this field, as well as experimental research and studies on its relationship with financial performance criteria, it is not yet fully defined in the literature and the results are different, therefore, in this paper, an attempt has been made to explain the disclosure and ranking of companies based on the Vigeo model of social responsibility and its relationship with the financial performance criteria of 118 companies during the years 2008 to 2018. To measure the social responsibility indicators of the Vigeo model, content analysis method and indicators such as return on assets, return on equity, return on invested capital, return on sales and Tobin's Q were used as criteria for the company's financial performance. The results indicate that the highest disclosure of indicators in the corporate governance dimension and the lowest in the human rights dimension and in general, the level of disclosure of indicators in sample companies is very low. Also, our findings show that the responsibility of companies based on Vigeo's social responsibility is positively related to the variable of return on assets, return on sales and return on invested capital and negatively on the return on equity and Tobin's Q. Among the performance criteria, return on assets were the highest and Tobin's Q had the lowest correlation with the corporate social responsibility of the Vigeo model.

Keywords: Disclosure of social responsibility, Social Responsibility Ranking, Social responsibility of Vigeo model, Financial performance.

1. Introduction

An important element of management strategy is how stakeholders view the company's impact. Understanding stakeholders can be critical to a company's performance and even survival. Many companies are trying to improve their image by reducing the harmful effects and public advertising. However, stakeholders are often unaware of a wide range of corporate activities and do not have the expertise to analyze social responsibility data (Lyon and Maxwell, 2007). Social and environmental ranking companies seek to clarify corporate reports. These ranking companies can examine past performance and corporate social responsibility activities. They can also consider a company's future prospects, such as analyzing its environmental management programs and its investments to increase future environmental performance. Just as credit ratings "strengthen transparency and efficiency in debt markets by reducing the asymmetry of information between borrowers and lenders", social rankings are designed to provide accurate information to social investors that clarify the transparency of corporate behavior with social responsibility (Margolis et al., 2007). Poor social and environmental rankings can damage a company's performance and reputation. Investors and other stakeholders who trust them to identify the target companies may lose their financial resources if the social responsibility rankings do not provide adequate transparency. Conversely, if rankings make the company's performance transparent, they can help stakeholders. Today, various domestic and foreign institutions are engaged in this process, which is done with different quantitative and qualitative methods and indicators, and according to the goals of the rating agencies. The most important of these institutions and journals are Forbes, Fortune, Business Week, and Indicator Week abroad, and organizations such as the Tehran Stock Exchange and the Industrial Management Organization in Iran. Because without adequate information, it is difficult for users to properly identify investment opportunities and threats, providing a list of companies listed on the stock exchange based on social responsibility contributes to the diversity and adequacy of information to market efficiency. In developed countries, this role is played by rating agencies, but in Iran there are no such institutions, and the only common and valid rating is the rating of the Stock Exchange Center and the Industrial Management Organization. The study uses indicators from the Vigeo Institute, a European producer of financial analysis since 2002, to rank social responsibility. The word "Vigeo" is derived from the Latin root meaning "consciousness." Vigeo is an independent company run by more than 50 shareholders from three types of business ownership, financial institutions and nonprofits, and measures companies in terms of social responsibility and performance development. The ranking method is supported by International Social Responsibility Criteria(ISRC). The Vigeo model uses six general dimensions and seventeen sub-dimensions to assess a corporate social responsibility.

Despite its growing popularity, social responsibility rankings are rarely evaluated and criticized for their lack of transparency. Disclosure of information makes it possible to create two aspects of trust and conscious transaction. Buying and selling stocks requires a variety of sufficient information on previous research. In the Tehran Stock Exchange, there is not enough legal obligation to disclose social responsibility information, and operational mechanisms do not have enough power and motivation to enforce the legal obligation, albeit limited. Obviously, the better and more informed the information, and the more realistic and legal analysts use this information, the more the capital market will move towards more efficient. Since users do not properly identify investment opportunities and risks without adequate information, providing a list of companies helps to diversify and adequate information for market performance. Therefore, the present study tries to show these non-financial characteristics with the performance of companies by providing a ranking of social responsibility and connection. In other words, this research seeks a scientific answer to these questions: What is the level of disclosure and ranking of social responsibility of Iranian companies? What is the relationship between the social performance indicators of the companies listed on the Tehran Stock Exchange based on the social responsibility indicators of the Vigeo model?

2. Research background

Broadly, the term corporate social responsibility (CSR) refers to business practices that address an organization’s various economic, legal, ethical, and philanthropic responsibilities as they pertain to a wide range of stakeholders. Shareholders, through the general assemblies, exercise their role in demanding ethical attitudes and behaviors at the corporate level, thereby exercising strong influence on the formulation of strategies by the board of directors. They require transparency, efficiency and efficacy on the part of managers, in order to obtain economic benefits and, thus ensure the continuity of the company over the long term, whilst demanding that socially responsible policies be integrated into the companies themselves (Byrne, 2011).

In recent years, interest in corporate social responsibility has increased significantly and it has become an important topic in research. This category has not only attracted the attention of academic researchers, but has also become a targeted route and a useful tool for many organizations. The second area in corporate social responsibility literature that remains unresolved is the relationship between corporate social responsibility and financial performance. Despite the ongoing study of the relationship between corporate social responsibility and financial performance, little attention has been paid to identifying the causal mechanisms of this relationship. In fact, it is important to analyze and understand why corporate social responsibility affects financial performance. It is necessary to have a deep understanding and analysis and interpretation of the relationship between corporate social responsibility and financial performance, and the lack of literature to understand the relationship between corporate social responsibility and financial performance is a missing link in the current research. This gap plays an important role. The relationship between corporate social responsibility and financial performance is the most important area in current research in the field of voluntary disclosure (Orlitzky, 2005).

While corporate social responsibility is growing, a major debate is over the legitimacy and value of corporate social responsibility activities. There are distinct attitudes as to why companies play a role in society and different opinions about the company's motivation and purpose with the corporate social responsibility approach. In many studies on the relationship between corporate social responsibility and financial performance, the direct relationship between the two variables is noteworthy, in this section, some of the research done in this field is mentioned:

Nikkar and Yousefi (2019) to investigate the effect of quantitative indicators of corporate social responsibility on fluctuations in financial and economic performance in accepted companies, 105 companies were analyzed for a period of time between 2009 and 2016. The research regression model was evaluated, and tested using the data bar method of constant effects. The results showed that the ratio of the number of employees to total assets and the ratio of taxes to total assets as indicators of social responsibility of the company, reduce the fluctuations of financial and economic performance of the company. On the other hand, the results confirm that the ratio of fixed assets to total assets of the company, the ratio of research costs, development and advertising to sales and the ability of corporate governance as indicators of corporate social responsibility, has a significant effect on financial and economic performance fluctuations.

Ashrafi, Rahnama Rudpashti and Bani Mahd(2018) examined theories of social responsibility. The research method of this article, the library method and the research findings showed that the theories of corporate social responsibility are diverse. These theories can be classified into four groups: instrumental theories, political theories, integrated and complementary theories, and moral theories. In fact, these theories focus on the four dimensions of profitability, political performance, social demands, and moral values. These findings suggest that by merging these four groups of theories, a new theory of corporate social responsibility can be developed.

Ashrafi, Bani Mahd and Nikoomaram (2018) social responsibility provides a framework for ethical monitoring on the business enterprises activities whereby business enterprises must responsible to society and environment. This study based on financial variables and using the data envelopment analysis technique, ranks automotive companies in terms of social responsibility. Data and theoretical frameworks of the research are based on library studies and data analysis is also based on the data envelopment analysis model. Results of this research indicate that big companies in the automotive industry are less socially responsible than other companies. This suggests that big companies in the automotive industry do not have a proper social behavior toward the stakeholders, and pay less attention to social and environmental issues.

Given to the outcomes of this study is suggested that regulators and policymakers in automotive industry could develop executive instructions to match social goals with businesses performance and coordinate the firm activities and responsibilities with society policies.

Heidari Kurd Zanganeh et al. (2017) examined the relationship between social responsibility and financial performance in companies listed on the Tehran Stock Exchange from 2010 to 2014. 125 companies were analyzed using regression models using combined data method. In this study, to measure the financial performance and profitability of companies, the indicators of return on assets, return on equity and Tobin's Q were used. The findings show that companies that have better social responsibility in terms of organizational transparency, socio-economic stability, humanitarian responsibility and good corporate governance are more profitable. The results also showed that companies' profitability in terms of asset returns leads to an increase in their level of social responsibility.

Ahmadi Niasani et al. (2015) examined the relationship between social responsibility indicators and financial performance components in companies listed on the Tehran Stock Exchange. During the period from 2007 to 2013, 72 companies used three indicators of social impact of activities, social obligations and social interests to measure social responsibility and used the rate of return on assets and the rate of return on equity as components of financial performance. The results showed that there is a positive and significant relationship between each of the indicators of social responsibility with the components of financial performance of companies.

Tito et al. (2019) examined the effect of voluntary disclosure of social responsibility on financial performance by comparing the top banks in Mozambique and South Africa. In this study, content analysis was performed to evaluate the dimensions of corporate social responsibility and to measure financial performance from asset returns and capital returns. The results showed a positive and significant relationship between social responsibility disclosure and financial performance. South African banks also disclose more information about social responsibility than Mozambique banks.

Yoon and Chung (2018) comparing the internal and external effects of corporate social responsibility on corporate financial performance. The results showed that external social responsibility increases the market value of the firm but is negatively related to operational profitability. Internal social responsibility increases the operational profitability of the company but does not affect the market value of the company. Wang and Sarkis (2017) examined the effect of disclosure of social responsibility on corporate financial performance and used the variables of asset rate of return and the ratio of Q-Tobin as representative of corporate financial performance variables. Their results showed that the variable of social responsibility exposure had a positive effect on both performance measurement criteria of companies.

Han et al. (2016) examined the relationship between corporate social responsibility and financial performance. They used the variables of stock equity return rate, market value to stock ratio and stock return rate as representatives of corporate financial performance variables. Their findings showed that of the social responsibility indicators, only the corporate governance index has a significant positive effect on the financial performance of companies and the environmental and social indicators of social responsibility do not affect the financial performance of companies. Mercedes (2015) examined the relationship between social responsibility and financial performance by considering the creation of an appropriate corporate governance system in Spanish companies. The results of his analysis of the Madrid Stock Exchange proved that the classification and application of all social policies promotes financial resources and, conversely, the increase in financial performance leads to higher social benefits.

Granholm and Wikstorm (2013) examined the effect of firm size on the relationship between corporate social responsibility and corporate financial performance. The main purpose of determining whether the effect of corporate social responsibility on financial performance differs between small and large Stockholm Stock Exchange companies? This study was conducted on stock exchange companies during 2006-2009, including 286 small, medium and large stock exchange companies to investigate the role of corporate size adjustment in the relationship between corporate social responsibility and financial performance using regression analysis. The results showed that the firm size affects the social responsibility of companies and financial performance.

Chen and Xiao (2012) used stakeholder theory to examine the relationship between the social responsibility of Chinese companies and their financial performance. In this study, 2007 data on corporate social responsibility and 2008 data on corporate financial performance were used and the causal relationship between them was studied. Corporate social responsibility data were collected from 141 companies based on the questionnaire method and factor analysis and multivariate regression were used to test the hypotheses. The results showed that corporate social activity can improve the current financial performance of companies and have a significant impact on their financial performance in the coming years.

Extensive research on social responsibility and corporate ranking has been conducted in developed countries; But for the following reasons, a separate study on the relationship between social responsibility ranking and financial performance in Iranian companies is needed:

In addition to financial criteria, companies should use non-financial criteria derived from financial statements to rank companies, so that a more comprehensive and accurate ranking can be performed. This research makes it possible to better understand how the company's characteristics, such as structural, functional and market characteristics, affect the performance of companies. The results of these analyzes can be useful for companies that have recently been listed on the Tehran Stock Exchange, or intend to enter the stock market in the future. By matching their structural, functional, and market characteristics with those listed on other stock exchanges, they can look for a pattern for the relative balance of social information disclosure. Also, the distinguishing feature and innovation of the present research compared to the previous research are:

First, most studies in the field of social responsibility have either examined the quantity and nature of social responsibility or have been limited to the disclosure of environmental information, which is only one aspect of the disclosure of social responsibility. Second, the studies conducted in relation to ranking in Iran are mostly based on financial criteria and in social responsibility, KLD criteria have been used, and so far no great effort has been made to rank the Vigeo Index (Business Behavior, Corporate Governance, Community Involvement, Environment, Human Resources, Human Rights). Finally, a variety of performance criteria have been used that can enhance the explanatory power of this variable in research.

3. Theoretical Frameworks and Compilation of Hypotheses

Social and environmental ranking agencies seek to clarify the environmental impact of companies. They can look at the environmental performance of companies and consider the future prospects of a company. As credit ratings ", by reducing the asymmetry of information between borrowers and lenders, they strengthen transparency and efficiency in debt markets.", social rankings are designed to provide accurate information to social investors that makes the behavior of companies transparent to social responsibility. The announcement of social ranking can be analyzed using the theoretical frameworks of asymmetry and incompleteness of information, which is a strong growing trend in the social responsibility information market. Considering previous models of information asymmetry, such as Foster and Viswanathan(1996) and Wang(1998) the market could be a way for less informed investors, especially individuals (seemingly) to provide non-financial information. This argument seems to be very important for social responsibility, given the severe asymmetry of information between institutional and individual investors. Thus, ranking is a form of surplus information dissemination that reduces information asymmetry (Cellire, 2015). The business unit's willingness to commit to social responsibility in all its dimensions has a significant effect on financial performance, in fact, the tendency toward social responsibility encourages the business unit, to improve the environment, use less energy and materials, waste management, etc. (Sandhu and Kapoor, 2010). As a result, businesses can voluntarily maximize their long-term returns by reducing their negative impact on society. Today, the idea is growing among business units that their long-term success can be achieved by managing the company's operations while ensuring environmental support and advancing the company's social responsibilities. Therefore, the implementation of the company's social responsibility leads to the improvement of the company's success in the long run and ultimately leads to economic growth and increase the company's competitiveness and improve its financial performance (Samy et al., 2010). Social responsibility is one of the major developments that has affected businesses in the last decade and has been different in different operating environments. As a result, the relationship between social performance and financial performance of the company depends on various institutional factors such as public and private regulations or market development rate (Wang et al., 2016). In general, diverse and broad financial criteria are used in research on the relationship between social responsibility and corporate financial performance, including accounting-based and market-based criteria. Accounting-based financial variables for measuring financial performance include equity returns, asset returns, and sales returns. Market-based criteria of financial values include stock market returns, market value-to-value ratios, Tobin's Q and price-to-earnings ratios per share. Tyagi (2012) stated that accounting-based criteria include return on assets and return on equity, the most common indicators of financial performance in experimental research are the relationship between corporate social responsibility and corporate financial performance. Therefore, more research should be done with appropriate methodology and considering specific stakeholders to examine this relationship in different industries with specific control variables including size, ownership structure, leverage using financial criteria based on accounting and market. It should be noted that financial performance can be measured by performance criteria based on market information or accounting information. Many previous studies, including Zhang (2016) presented evidence that improved social performance had a negative effect on the open rate of ten assets, while it has had a positive effect on the rate of return on property rights and the ratio of Tobin.Q. Companies with good social performance also have good financial performance. Choi et al. (2010) showed that the level of disclosure of corporate social responsibility has a positive and significant effect on asset return rate. Many researchers consider the industry factor in the process of examining this relationship, and some researchers have even done their research in a specific industry. In many studies, researchers believe that a number of variables affect how social performance and financial performance affect companies, and that the use of appropriate control variables is essential to achieving reliable results. Based on the theoretical foundations and results of experimental research related to answer the questions of the research, the following hypothesis are developed:

Hypothesis 1: There is a relationship between the social responsibility rank of companies based on the Vigeo model and the rate of return on assets.

Hypothesis 2: There is a relationship between the social responsibility rank of companies based on the Vigeo model and the rate of return on equity.

Hypothesis 3: There is a relationship between the social responsibility rank of companies based on the Vigeo model and the rate of return on sales.

Hypothesis 4: There is a relationship between the social responsibility rank of companies based on the Vigeo model and the rate of return on invested capital.

Hypothesis 5: There is a relationship between the social responsibility rank of companies based on the Vigeo model and the ratio of the book value of debts and the market value of the firm to the book value of assets.

4. Methodology

This research is empirical and in the field of positive accounting research. The collection of information related to this research has been obtained from the financial records of the companies and also by referring to the library, scientific journals and scientific database related to this field. To determine the level of disclosure of social responsibility in companies, a checklist was conducted and designed based on the most common international guidelines and standards. Experts' opinions were used to validate it and determine whether the projected checklist was in line with the current situation and reality of the Iranian capital market corporate environment. To test research hypotheses, multivariate regression and related tests are used. The statistical population of the study is the companies listed on the Tehran Stock Exchange between 2008 and 2018. In this research, a systematic elimination method has been used for sampling. In this way, first all the companies accepted in the Tehran Stock Exchange were selected and finally the companies that have the following conditions were selected:

The financial year of the companies has ended at the end of March during the whole period of the research time period and they have been accepted in the Tehran Stock Exchange before 2008. Also, companies do not change in the financial year during the research period and are not part of financial and investment companies such as banks and insurance companies. Finally, according to the above, 118 companies in the research course were selected. In order to test the hypotheses, Malin et al.'s regression models (2014) were followed:

1) $ROA_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \alpha_2 Control_{i,t} + e_{i,t}$

2) $ROE_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \alpha_2 Control_{i,t} + e_{i,t}$

3) $ROS_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \alpha_2 Control_{i,t} + e_{i,t}$

4) ROICi,t = α0 + α1 CSRi,t + α2 Controli,t + ei,t

5) Tobin Qi,t = α0 + α1 CSRi,t + α2 Controli,t + ei,t

The dependent variables of the research are as follows: Return on assets (ROA) is a measure of profit per dollar of assets. It can be defined several ways, but the most common is:

$$\frac{Net\ income}{Total\ assets}$$

Return on Equity (ROE) is a measure of how the stockholders fared during the year. Because benefiting shareholders is our goal, ROE is, in an accounting sense, the true bottom-line measure of performance. ROE is usually measured as:

$$\frac{Net\ income}{Total\ equity}$$

Return on sales (ROS) is a ratio used to evaluate a company's operational efficiency. This measure provides insight into how much profit is being produced per dollar of sales.

$$\frac{Operating\ Profit}{Net\ Sales}$$

Return on invested capital (ROIC) is the return the company earns on each dollar invested in the business:

$$\frac{NOPLAT}{Invested\ Capital}$$

Tobin's Q ratio equals the market value of a company divided by its assets' replacement cost. Thus, equilibrium is when market value equals replacement cost.

$$\frac{Total\ Market\ Value\ of\ Firm}{Total\ Asset\ Value\ of\ Firm}$$

(CSR) Corporate Social Responsibility: An independent variable that uses the Vigeo index to assess and rank the company's social responsibility. This index is summarized in 6 main dimensions and sub-categories.

Business Behavior: Considering the rights and interests of customers, Product security, providing customer information, integration in the selection of suppliers and contractors, effective prevention of corruption and respect for competitive practices.

Corporate governance: Effectiveness and honesty, ensuring the independence and productivity of the board of directors, effectiveness and efficiency and control of audit mechanisms, including social responsibility, respect for shareholders' rights, especially minority shareholders, transparency and logical reason for rewarding managers.

Community Involvement: Effectiveness, managerial commitment to community participation, contributing to the economic and social development in which the company is operating, positive commitment to managing social impact on products or services, and open participation and participation in the public interest.

Environmental: conservation, prevention of environmental degradation, economic plan, conservation of biodiversity, minimization of environmental impacts of energy use, management of greenhouse gas emissions, waste management, environmental management.

Human Resources: continuous improvement of professional relations, labor relations and working conditions, encouraging employee participation, quality of reward systems, improvement of health and safety conditions, respect and management of working hours.

Human Rights: Respect for freedom of association, the right to choose cheaply, non-discrimination and equality, the elimination of illegal labor practices such as child labor or coercion, the prevention of inhuman or degrading treatment such as sexual assault, the protection of personal and private data.

The content analysis method is used to measure and if there is any component, the number one and otherwise zero. In order to calculate the total of social responsibility, first each dimension will be divided by the total number of dimensions. Then the companies are ranked based on the obtained scores.

Control variables also include:

firm size: the natural logarithm of the firm’s total assets.

Financial leverage: total debt to total assets is calculated.

Earnings per share: the dividends of ordinary shares divided by the number of ordinary shares.

Liquidity: Equivalent to the ratio of current assets over current liabilities.

Capital increase: the value of fixed assets on the book value of total assets.

Profitability: earnings after tax on net sales.

5. Results

Before analyzing the data in order to determine the level of disclosure of social responsibility in companies, a checklist was developed and based on it, a questionnaire was designed to be used by experts. The questionnaire was also collected under the web, via email and also in the form of face-to-face distribution, and the collected data were analyzed with 150 questionnaires. The overall Cronbach's alpha coefficient in this study was 98.5%, which shows that this study is highly reliable. Due to the high alpha of the whole, there was no need to remove any variables in the study. Also, from the amount of alpha obtained, it can be concluded that the measuring instrument has overlap and alignment and has a high stability. Table 1 Cronbach's alpha shows each of the corporate social responsibility indicators based on the research questionnaire.

According to the indicators, to measure the level of disclosure of social responsibility, 1298 samples), 118 companies and 11 years (by the zero method and one report of the board of directors from 2008 to 2018 have been analyzed, and the scores of the companies in the dimensions, the components of the social responsibility of the companies were extracted.

Table 1. Cronbach's alpha of corporate social responsibility indicators

Index		Cronbach's alpha (Percentage)	
BB: Business Behavior	BB$_1$: Customers	89,6	78,1
	BB$_2$: Suppliers and contractors		76
	BB$_3$: Business integrity		86,6
CG: Corporate Governance	CG$_1$: Board of directors	86	85,3
	CG$_2$: Audit and internal controls		70,9
	CG$_3$: Shareholders		60,5
	CG$_4$: Executive remuneration		65,9
CIN: Community Involvement	CIN$_1$: Impact on local communities	94,9	87,6
	CIN$_2$: Responsible societal behavior		93,5
ENV: Environment	ENV$_1$: Integration of environmental issues into the company's strategy	97,2	94,2
	ENV$_2$: Collaboration and continuity of topics to produce and publish products		94,4
	ENV$_3$: Environmental Consumption and Available Services / Products		91,1
HR: Human Resources	HR$_1$: Continuous progress in industrial relations	93,9	87,4
	HR$_2$: Career Progress		85,7
	HR$_3$: Quality of working conditions		88,7
HRTS: Human Rights	HRTS$_1$: Respect for human rights	93,9	95,3
	HRTS$_2$: Respect for human rights in the workplace		91,2

Table 2. Frequency of corporate social responsibility indicators

Index		Business Behavior	Corporate Governance	Community Involvement	Environment	Human Resources	Human Rights
Frequency	Disclosed	147	176	5	33	128	0
	Not disclosed	1151	1122	1293	1265	1170	1298
Frequency Percentage	Disclosed	11,3	13,6	0,4	2,5	9,9	0
	Not disclosed	88,7	86,4	99,6	97,5	90,1	100

Table 2 shows the frequency of disclosure of corporate social responsibility indicators. The data show that there is the highest disclosure of indicators in the corporate governance dimension and the lowest disclosure of indicators in the human rights dimension, and in general, the level of disclosure of the dimensions shows that the index measured in listed companies is very low. The first step in any statistical analysis and data analysis is to calculate descriptive indicators. Therefore, to enter the data analysis stage, first, the descriptive statistics of the data, which include central indicators, scatter and deviation from symmetry, and also Jarque-Bera test, which examines the normal distribution, are calculated and the results are listed in Table 3.

Table 3 presents descriptive statistics of the research data show, for example, that the mean rank of social responsibility is 0.415 In other words, on mean, companies have disclosed 41.5% of the dimensions and reports of social responsibility. The skewness rate of this variable is 0.006, which means that this variable has a left-handed skewness and deviates from the symmetry center to this extent.

The results of the George Bra test show that, given that the significance level of all variables is less than 0.05, as a result, the null hypothesis that variables are normal is rejected, in other words, data distribution is not normal. In this study, in relation to the normality of model variables, the central limit theorem has been used and based on this, at least one sample of 30 is required to say that the distribution of $\overline{X}$ statistics is normal(Adel Azar and Mo'meni, 2011).

Therefore, given that the number of samples in the present study includes 118 companies for 11 years, the research variables will have an approximation of the normal distribution. Also, in relation to the preliminary statistical tests, the output of the Chow test showed that for research models, the regression method of combining cross-sectional data (panel data) should be used. On the other hand, the Hausman's test was used to select among the random and constant effects methods for estimating the regression model in the panel data method. The results indicated that the panel data method should be used with constant effects.

Table 3. Descriptive statistics

Variable	Mean	Median	Max	Min	Skewness	Jarque-Bera	Sig
CSR Rank	0.415	0.411	0.764	0.117	-0.006	8.251	0.0160
ROA	0.128	0.082	5.982	-0.792	9.172	909536	0.016
ROE	0.465	0.298	18.230	-11.438	4.988	202929	0.000
ROIC	0.162	0.098	7.581	-0.980	8.608	798376	0.000
ROS	0.139	0.146	6.909	-9.144	-7.048	883994	0.000
Tobin's Q	7.337	1.370	902.49	0.183	15.31	4225814	0.000
Size	13.436	13.400	18.900	9.816	0.536	112.19	0.000
Lev	0.592	0.631	0.872	0.034	-0.766	125.5526	0.000
Liq	1.234	1.126	7.071	0.083	2.644	10508.98	0.000
Prof	0.104	0.111	3.560	-6.583	-5.109	159323.6	0.000
Capital In	0.244	0.204	0.874	0.000	1.095	310.2	0.000
EPS	768.47	481	9549	-3891	2.0194	6531	0.000

In this study, Arch test was used to evaluate the presence or absence of variance heterogeneity. Finally, due to the existence of variance mismatch, EGLS method was used to test the research patterns. On the other hand, before testing the research hypotheses, in order to ensure the results of the research and the falsity of the relationships in regression and the significance of the variables, a test was performed and the unit root was calculated using Levin, Lin, Chu methods. According to the table 4 the probability of statistic obtained from the variables is less than 0.05, which indicates the absence of a single root in the time series in the model and the incompatibility of all research variables.

As mentioned, performance criteria using five criteria (return on assets, return on equity, return on invested capital, return on sales and Tobin's Q) are noteworthy. The table below shows the relationship between these criteria and the rank of responsibility based on the social responsibility of the Vigeo model in the listed companies on the Tehran Stock Exchange. After explaining the model and choosing the most appropriate method, the estimation results for the selected companies are as follows.

Table 4. Stability test of research variables

Variable	Statistic	Prob
CSR Rank	-29,27	0,000
ROA	-22,66	0,000
ROE	-26,07	0,000
ROIC	-23,61	0,000
ROS	-14,54	0,000
Tobin's Q	-49,57	0,000
Size	-3,50	0,000
Lev	-15,25	0,000
Liq	-16,50	0,000
Prof	-23,72	0,000
Capital In	-10,70	0,000
EPS	-14,82	0,000

Table 5. Hypothesis test results

	t-Statistics (Sig)				
Variables	**ROA**	**ROE**	**ROS**	**ROIC**	**Tobin.Q**
Constant	3.920(0.0001)	3.699(0.0002)	-2.039(0.0114)	4.091(0.0000)	4.147(0.0000)
CSR Rank	2.264(0.0221)	-2.442(0.0341)	5.561(0.0000)	4.110(0.0000)	-6.585(0.0000)
Size	-5.743(0.0000)	-3.181(0.0015)	2.082(0.0091)	-5.866(0.0000)	-4.026(0.0001)
Lev	2.007(0.449)	-2.610(0.0216)	2.503(.0047)	1.825(0.0681)	-2.104(0.0303)
Liq	3.881(0.0001)	-4.163(0.0000)	-3.228(0.0003)	4.305(0.0000)	-2.497(0.0154)
EPS	5.588(0.0000)	7.866(0.0000)	4.980(0.0000)	6.264(0.0000)	-2.540(0.0039)
Capital In	2.256(0.0242)	-2.330(0.0403)	3.303(0.0001)	2.546(0.0110)	-2.485(0.0041)
Prof	10.875(0.0000)	4.829(0.0000)	4.668(0.0000)	10.759(0.0000)	2.737(0.0012)
R^2	0.1504	0.1319	0,1567	0,1575	0,1139
Adjusted R^2	0.1457	0.1266	0,1554	0,1529	0,1085
Durbin–Watson	1.927	1.995	1,924	1,898	2,098
F-Statistics	32.194	6.0006	5,734	34,021	2,567
F-Statistics Sig	0.0000	0.0000	0,0000	0,0000	0,0125

Table 5 shows the test results of the research hypotheses using the fixed effects method. In relation to the variables of return on assets, return on equity, return on invested capital, return on sales and Tobin's Q the results of F-Statistics indicate that the regression model is generally significant and according to Durbin

–Watson statistics in between 1.5 and 2.5, there is no problem of self-correlation. The results of the adjusted coefficient also shows that 14.5% of the changes in the rate of return on assets, 15.5% of the rate of return on equity, 14.5% of the rate of return on sales, 15.2% of return on invested capital, 10.8% of Tobin's Q by the explanatory variable can be expressed. In terms of adjusted coefficient of determination, return on assets have the highest and Tobin's Q have the lowest determinability. In general, it can be stated that the highest relationship between corporate responsibility rating based on social responsibility of Vigeo model and financial performance criteria is related to return on assets. Also, Table 5 shows:

Model 1 shows the results of the corporate responsibility rating based on social responsibility of Vigeo model and ROA. CSR rank presents a significant and
positive coefficient (t-Statistics = 2.246; Sig=0.0221).

Model 2 shows the results of the corporate responsibility rating based on social responsibility of Vigeo model and ROE. CSR rank presents a significant and
negative coefficient (t-Statistics = -2.442; Sig=0.0341).

Model 3 shows the results of the corporate responsibility rating based on social responsibility of Vigeo model and ROS. CSR rank presents a significant and
positive coefficient (t-Statistics = 5.561; Sig= 0.0000).

Model 4 shows the results of the corporate responsibility rating based on social responsibility of Vigeo model and ROIC. CSR rank presents a significant and positive coefficient (t-Statistics = 4.110; Sig= 0.0000).

Model 5 shows the results of the corporate responsibility rating based on social responsibility of Vigeo model and Tobin's Q. CSR rank presents a significant and negative coefficient (t-Statistics = -6.585; Sig = 0.0000).

Generally, because the level of significance of the independent variable of corporate responsibility based on the social responsibility of the Vigeo model in all models is less than 5%(return on assets (Sig = 0.0221), return on equity (Sig = 0.0341), return on invested capital (Sig = 0.000), return on sales (Sig= 0.000), and Tobin's Q (Sig = 0.000), there is no reason not to accept the hypothesis, therefore, it can be said that there is a relationship between the ranking of corporate responsibility based on the social responsibility of the Vigeo model and the financial performance criteria of the companies listed on the Tehran Stock Exchange.

In addition, due to the significant level of less than 0.05 control variables such as firm size, financial leverage, liquidity, earnings per share, capital increase, profitability in all patterns, it can be said that the significant relationship of these variables with all dependent variables of the research is confirmed. At the same time, the coefficient of variability of corporate responsibility based on social responsibility of Vigeo model is positive with the variable of return on assets, sales return and return on invested capital, in general, it shows that in regression models based on financial performance criteria, these variables are directly related.

6. Discussion and Conclusion

Carrying out the social responsibility is an important way for companies to achieve long-term survival and sustainable joint development of the company, community and the environment. This is in line with the reasonable expectations of the whole society and can increase the competition and reputation of companies. In addition, social responsibility activities could help companies achieve the political resources necessary for sustainable development and financial success. Given the response of stakeholders and the level of political support, corporate social responsibility must be actively pursued. Also, if companies have a higher level of social responsibility, this will help users' attitudes and decisions. For this purpose, in this study, the relationship between corporate responsibility rank based on social responsibility of Vigeo model and financial performance criteria was discussed and the data of 118 companies in the time domain from 2008 to 2018 were used. The results showed that there was a positive relationship between the responsibility of companies based on social responsibility of Vigeo model with the variable of return on assets, return on sales and return on invested capital, which shows that there is a direct relationship with these financial performance criteria. In this regard, it can be said that although the relationship between the social responsibility of Iranian companies and these criteria for evaluating the performance of companies is small and there is a long way to go to achieve the desired result, however according to the theory of stakeholders, the managers of Iranian companies are trying to provide their company image and increase their credibility, and this has led to an improvement in the company's profitability ; In other words, managers have used social activities as a strategy to increase economic benefits. The relationship between corporate responsibility rankings based on Vigeo's social responsibility with model the return on equity and Tobin's Q is negative, indicating that there is an inverse relationship with these financial performance criteria. In fact, the more companies take social responsibility, the lower the rate of return on equity and changes in the debt-to-market ratio of the company. The findings of this hypothesis shows that increasing the company's net profit compared to equity and changing the ratio of debt and market value of the company less affects the company's social activities in order to develop its performance in social responsibility. Based on the results, it seems that by increasing the disclosure of corporate social responsibility and ranking them accordingly, the performance and content of corporate and annual activity reports can be improved.

Proving the existence of these relations can have a great impact on paying attention to the managers of listed companies and improving the level of disclosure and corporate social responsibility reporting and considering it in the economic and commercial environment of Iran in transition. In addition to comprehensiveness and including various dimensions and indicators, Vigeo's social responsibility ranking also considers the environment reporting and information needs and the structure governing the Iranian capital market. In the absence of rating agencies in Iran, Vigeo's social responsibility ranking model in this study can be a practical basis for assessing and ranking corporate social responsibility in the capital market. In this regard, considering the position of corporate social responsibility, it is suggested to the Stock Exchange and Securities Organization as the supervisory body of the country's capital market, implement, evaluate, and periodically monitor the proposed social responsibility indicators using the information and reports of companies. Also, rating agencies and regulatory bodies at the national level can use the dimensions of the research disclosure provided to rank Iranian companies in terms of reliability indicators. In this study, the lack of information sources and official databases and approved by the relevant institutions to determine the level of companies in terms of social responsibility activities and disclosure of reliability information, also, the way of collecting the independent and main variable of research, like social responsibility, by relying on content analysis, may not correctly and completely reflect the expectations of all stakeholders in the business environment, therefore, generalization of the results and findings of this study faces this limitation.

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