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# The Relationship between Corporate Social Responsibility Disclosure and Intellectual Capital Considering the Role of Block Holder Ownership Moderation

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## Abstract

The present study deals with the relationship between a corporate social responsibility disclosure and intellectual capital considering the role of block holder ownership moderation incorporates listed on Tehran Stock Exchange, and one of the points of the present study for which we are seeking an explanation is the social responsibility and intellectual capital status of corporates with block holder ownership. In terms of aim, this study is applied research and is correlational-descriptive in terms of methodology. The study population consists of all corporates accepted in Tehran Stock Exchange after sampling, 147; the period is 6 years (2011-2016). To measure corporate social responsibility, the method of Content Analysis has been used based on the information checklist and its coding, and measuring the intellectual capital has been done using Pulic Model (2000). Furthermore, to test the hypotheses of the present study, Multiple Regular Regression and OLS (Ordinary Least Squares) have been used with the help of the software Eviews. The study results show a significant relationship between corporate social responsibility disclosure and intellectual capital; also, block holder ownership significantly affects corporate social responsibility disclosure and intellectual capital.

**Keywords:** block holder ownership, corporate social responsibility disclosure, intellectual capital, pulic model, Tehran Stock Exchange

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## 1. Introduction

In the last two decades, corporate social responsibility has become the focal point of the economic units. Corporate social responsibility emphasizes important ethical, environmental, security, education, human rights, and the like. Although applying the corporate social responsibility costs the corporate some fundamental expenses, it will lead to the improvement of the corporate performance in the long run due to the improvement of the corporate fame, a decrease in the expenses, in the long run, an increase in the requests, an increase in the sales, and also an increase in the profit (Vergalli and Poddi, 2012). Corporate social responsibility consists of actions in which the corporate considers its cooperation with social activities and decreases the destructive effects of business on society and the environment (Setiawan, 2011). In other words, corporate social responsibility, in a general sense, is a method by which the firms harmonize the environmental, social, and economic approaches with their values, culture, strategies, decision-making structures, and operational methods in a clear and calculable way and, as a result, start better trends and processes in their corporates which leads to wealth production and improvement of the society (Amir Ghasemkhani et al., 2016). Programming the corporate social responsibility is done to bring sustainable value for the society, shareholders, and stakeholders and offers methods that corporates can apply in the business environment. Corporate social responsibility is an important dimension of management literature review and theoretical foundations; although applying the corporate social responsibility costs the corporate some fundamental expenses, it will, in the long run, lead to an improvement in the performance and financial/non-financial indexes because the corporate social responsibility will improve the consumers' perception, customers' long-run loyalty, corporate fame, more profit, more effective supervision of the corporate affairs, and more job satisfaction; all these factors will gain more intellectual capital (Memarzade Tehran and Vaziri Nezamdost, 2010). On the other hand, the corporates' effect on society is a universal concern, and the stakeholders' expectations from the economic units are increasing in the society (Hasas Yeganeh and Barzegar, 2014). Moreover, a revolution in information technology and the rapid progress of top technology have changed the universal economic growth pattern since 1990 (Chen et al., 2004).

Knowledge has (as the most important capital) taken the place of physical and financial capital in today's economy, a universal economy (Ghelichli and Moshabaki, 2006). A business environment, which is based on knowledge, requires an approach that contains the corporate's hidden new assets such as knowledge, human resources competence, innovation, communication with customers, organizational culture, systems, organizational structure, etc. In the same way, researchers and managers have grown interested in intellectual capital theory (Shaban, 2016). Also, in recent years, block holder ownership and its effect on corporate governance have become an essential issue in corporate governing literature due to their becoming common in most countries, especially among developing economies and the young Asian and European markets. With an increase in supervision, block holder ownership can cause positive changes in the corporate or, by creating information asymmetry, act vice versa. In this regard, a highlighted issue is that block holder shareholders and manager owners may use their controlling rights to gain personal profit and exploit the other shareholders.

These probabilities and uncertainty of the block holder ownership effect on the different corporate aspects cause various viewpoints concerning the behavior of block holder owners, and researchers have come to somehow contradictory conclusions. Therefore, one of the present study points for which we are seeking an explanation is the social responsibility and intellectual capital status of corporates with block holder ownership. Hence, according to the explanations offered by this study, we aim at answering the following questions: is there a significant relationship between corporate social responsibility disclosure and intellectual capital? And can block holder ownership affect the

relationship between corporate social responsibility disclosure and intellectual capital?

The structure of this paper is as follows: Section 2 presents the theory literature and hypotheses development. In Section 3, methodology including data gathering methods, variables, and the regression model are explained. In Section 4, empirical results are presented, and Section 5 is the conclusion and suggestions.

## 2. Literature Review and Hypotheses Development

Corporate social responsibility has been a remarkable concept in recent decades. This concept was first introduced more than 50 years ago, still with no clear standard definition. Nevertheless, its importance has progressively increased in universities and corporates in the past decades (Chaudhri 2014).

Various terms exist concerning corporate social responsibility: sustainability, business ethics, citizens' cooperation, and social responsiveness. However, the concept of corporate social responsibility has become the dominant paradigm of corporate management in recent years considering the growth of non-governmental organizations, movements protesting against the power of corporates, an increase in social awareness, capital market and corporations development, and financial and ethical scandals in large corporates; worldly-known large corporates have made social and environmental responsibility a part of their strategy (Babalola, 2012). Although corporate social responsibility has various definitions, all of them pinpoint the corporate's capability of protecting actions concerning the welfare of the workforce and the society (MellatParast and Adams, 2012). Corporate social responsibility is a comprehensive concept explaining the relation between business and society. It can serve as a tool for ethical guidance of the corporate, leading to its sustainable development (Safwat, 2015).

Nowadays, this concept is greatly pursued in developed countries and countries with an open economy by all effective institutes such as governments, corporates, urban society, international organizations, and scientific centers. Governments look at corporate social responsibility in terms of task allocation and stepping toward sustainable development as follows:

The corporates consider corporate social responsibility a kind of business strategy that adds to their credit in the highly competitive environment, leading to increased market share.

Urban society and non-governmental organizations ask for corporate social responsibility to become aware of the financial scandals and disasters.

International organizations believe that universal challenges cannot be overcome without the cooperation of the corporates because corporates are far more effective than governments in the modern world. Also, many statesmen are corporate managers somehow. Some contemporary researchers like Michelin et al. (2015) recommend others to perform a deeper study of CSR disclosures due to the incomplete and non-credible information provided by firms in the name of CSR reporting (Michelon et al., 2015). The disclosures mentioned come with a cost, and they need a considerable amount of time. However, if the disclosures accomplish the anticipated goals of being informational, management is usually not confident (Anwar and Malik, 2020). The concept of intellectual capital has been developed in the early 1980s in response to the need that was felt for business practitioners to comprehend the basis of organizational performance. The previous researches have also proposed many frameworks to explore intellectual capital and, also, to facilitate its operation at the enterprise level (Li et al., 2019).

Before detecting, managing, and measuring intellectual capital, we need to understand it. The

meaning of intellectual capital has always been vague; it has always had various definitions. Many people prefer using terms such as assets, performance stimulants, or resources instead of capital; they also prefer using hidden, knowledge-based, or non-financial instead of intellectual. Some professionals have quite different definitions, such as non-financial fixed assets with no physical existence (Marr and Moustaghfir, 2005). According to what was mentioned, different definitions have been proposed for intellectual capital, such as:

In Stewart's point of view, intellectual capital is a combination of knowledge, information, intellectual assets, competition, and organizational learning capable of being used in wealth production. Based on the facts, intellectual capital comprises all employees, organizational knowledge, and capabilities to create added value that could lead to permanent competitive profit.

-Bontis defines intellectual capital as a set of hidden assets (resources, capabilities, competition) gained from organizational performance and creating value (Bontis, 1998).

-Edvinson and Malone define intellectual capital as "information and knowledge used in working to create value (Edvinson and Malone, 1997).

-Bontis and Holland, in their 2002 article, define intellectual capital as follows: intellectual capital shows storage of knowledge that exists in an organization at a specific point in time. In this definition, the relationship between intellectual capital and organizational learning is highlighted.

-Intellectual capital is a term showing the combination of the market hidden asset, intellectual asset, human asset, and sub-structural asset that enable the organization to do its activities (Brooking, 1996).

Intellectual capital, in the viewpoint of Roos et al. (1997), is composed of all processes and assets not normally shown in balance sheet also composed of all hidden assets (such as brand logo, registration, and productivity right, and brand name), which are considered substantial in modern accounting methods. In better words, intellectual capital is the combination of the knowledge of the organization's members plus its application.

Intellectual capital creates and adds value to organizational performance (Bhatti and Zaheer, 2008). Therefore, intellectual Capital (IC) has become the main mechanism in a company's capacity in order to stand out over competitors: that is because of its variable, widespread, and dynamic nature (Andreeva and Garanina, 2016; Verbano and Crema, 2016; Mendoza, 2017; Villegas González et al., 2017).

Blockholder ownership demonstrates a certain concentration in the company's ownership structure, where the ownership of the shares is concentrated in certain parties: the parties who have shares more than 5 percent. The company's management would be affected by this condition because the majority of the shareholders already have comprehensive access to company information. Another influential factor is thought to be the disclosure of corporate governance, which is the term of the board's office. The length of the term of office is closely related to the increasing experience and knowledge level. The higher level of experience and knowledge the board possesses is expected to increase further its ability to manage the company. Therefore, transparency is an indicator of good company management, which, in this case, is the disclosure of corporate governance (Dewayantoa et al., 2020).

In China, shares ownership is almost equally shared by the government, institutions, and local people. At the same time, in most developing countries, due to the limited private section and capital market, corporate supervision is done by families. As a result, considering the essence and concentration of shareholders ownership, the countries' corporate governing laws are relatively

affected by these two factors (Davies, and Schlitzer, 2008).). Blockholders are considered to be large shareholders in a company, according to Edmans (2014). Edmans (2014) believes that blockholders have a crucial role in governance because their shares in the company give the incentive to bear the costs incurred for monitoring activities.

Gallardo-Vázquez et al. (2019) concluded that CSR improves organizations' IC and that the resulting competitiveness is a source of legitimacy.

Zhao et al. (2019) concluded a significant relationship between corporate social responsibility and competitive advantage.

Alfraih (2018) concluded that corporate governing mechanisms have an intensive effect on intellectual capital disclosure quantity in annual reports of Karachi Stock Exchange corporates. Also, the corporates with more board director members, outdoor executive managers, and block holder ownership touch higher levels of intellectual capital disclosure.

Yu et al. (2017) showed that corporates with private and governmental ownership have a significant negative effect on the relationship between competitive advantage and corporate social responsibility.

Tantalo et al. (2012) showed that paying attention to 3 factors of social responsibility brings competitive advantage: environmental concerns, ethics, creating value for the customer.

Tsa et al. (2010) concluded that activities related to social responsibility bring competitive advantage and can manage the customers' mentality regarding the organization.

Ismail (2010) concluded that block holder ownership, governmental ownership, and audit committee could greatly affect the voluntary disclosure of intellectual capital in Egypt Stock Exchange corporates.

Oliviera et al. (2006) concluded that block holder ownership significantly negatively relates with intellectual capital voluntary reports in Portugal Stock Exchange corporates.

Considering the theoretical foundations and researches mentioned above, the study hypotheses are:

**Hypothesis 1:** There exists a significant relationship between corporate social responsibility disclosure and intellectual capital.

**Hypothesis 2:** Block holder ownership significantly affects the relation between corporate social responsibility disclosure and intellectual capital.

### 3. Research Methodology

In terms of aim, this study is applied research and is correlational-descriptive in terms of methodology. To collect data and information, a library has been used. The theoretical foundations are taken from books, magazines, specialized Persian and Latin sites. The financial data needed is collected via the software Rahavard-e Novin and the website CODAL. The research population is composed of corporates accepted in Tehran Stock Exchange among all industries from 2011 to 2016. The statistical sampling was done based on systematic sampling in which the selected corporates belong to Tehran Stock Exchange considering the limitations mentioned below:

1. The end of the corporate financial year is every year's last day (December 31st) with no change.
2. The corporate should not be a financial corporate (such as investing corporates, holding, leasing, banks, and insurance institutes).
3. The corporate financial information must be accessible.
4. The corporate has to be listed on Tehran Stock Exchange throughout the research.
5. The corporate should not experience a business interval for more than 3 months.

Considering the above conditions, 147 corporates were selected as the population of the research. Therefore, using Multiple Regular Regression with the help of OLS, the research hypotheses were

investigated. Also, to test the research hypotheses, the software Eviews was used. Eviews software is used for analyzing common statistical and economic data such as (panel data analysis) and (time series estimation). It has been prepared from computational formulas and data communication technology with common simple exercises as a software package.

### 3.1. Research Variables and Measurement Method

According to the basic concepts presented in this study, variables are divided into 4 groups: independent, dependent, moderator, and controlling. They are as follows.

#### 3.1.1. Independent Variable

##### 3.1.1.1. Corporate Social Responsibility Disclosure

The independent variable of this study is the corporates' social and environmental information disclosure level. In order to measure it, the Content Analysis method was used. Content Analysis is a method of text coding to different groups considering pre-determined criteria; this method is extremely used in social and environmental information disclosure research. This method provides the researchers with a systematic approach to analyze huge non-structural data. In Content Analysis, the researcher has to use a coding checklist for evaluating the social and environmental information disclosure level (Aribi and Gao, 2010).

To measure the corporates' social and environmental information level disclosure, after extensive investigation of the literature review, the preliminary checklist of 43 kinds of information was written from the research done by Aribi and Gao (2010) and Gao et al. (2005). Having some cases omitted, the final checklist, containing 39 kinds of social and environmental information, was provided, which is expected to be disclosed, whether voluntarily or forcefully, in corporates' annual reports. Having the checklist written, the coding laws were determined: all of the disclosure subsections were clearly and practically defined in order to determine exactly each item properly belongs to which section and subsection. Thus, the totality of all of the disclosed items in the subsections of any disclosure section shows the corporate social and environmental information disclosure level. For instance, disclosure of 6 items in the environmental section, 4 items in the services and products section, 10 items in the human resources section, and 2 items in the energy section is considered: 22 social and environmental disclosure items on the whole for one year.

#### 3.1.2. Dependent Variable

##### 3.1.2.1. Intellectual Capital

According to Roos et al. (1997), (intellectual capital consists of all processes and assets not normally shown in the balance sheet. All hidden assets (such as brand logo, productivity and registration right, brand names) are paid attention to in modern accounting methods. In this study, Pulic Model (Pulic, 2000) was used to measure this variable as follows:

Pulic model contains 5 stages as the following:

Stage 1: Determining the Added Value

With the help of the information of the annual reports, added value is calculated as follows:

$$VA_{i,t} = OP_{i,t} + EC_{i,t} + D_{i,t} + A_{i,t} \quad (\text{Equation 1})$$

Where the variables are as follows:

$VA_{i,t}$ : the added value of the corporate  $i$  in the year  $t$ .

$OP_{i,t}$ : operational profit of the corporate  $i$  in the year  $t$ .

$EC_{i,t}$ : the cost of employees (the information in the portable notes and financial sheets) of the corporate  $i$  in the year  $t$ .

$D_{i,t}$ : the corporate depreciation of the corporate  $i$  in the year  $t$ .

$A_{i,t}$ : the depreciation of the hidden assets of the corporate  $i$  in the year  $t$ .

Stage 2: Determining the Physical Capital Efficiency.

Such efficiency can be calculated using the following equation:

$$CEE_{i,t} = VA_{i,t} / CE_{i,t} \quad (\text{Equation 2})$$

$CE_{i,t}$ : the (used) physical capital of the corporate  $i$  in the year  $t$ , which equals the book value of all corporate assets minus the hidden assets.

$CEE_{i,t}$ : the physical capital efficiency of the corporate  $i$  in the year  $t$ .

Stage 3: Determining the Human Capital Efficiency

In this model, all employees' costs are considered human capital. The following equation calculates the human capital efficiency:

$$HCE_{i,t} = VA_{i,t} / HC_{i,t} \quad (\text{Equation 3})$$

$HC_{i,t}$ : the human capital of the corporate  $i$  in the year  $t$ , which equals all corporate wages and salary costs.

$HCE_{i,t}$ : human capital efficiency of the corporate  $i$  in the year  $t$ .

Stage 4: Determining the Structural Capital Efficiency

Structural capital efficiency is calculated by the equation below:

$$SC_{i,t} = VA_{i,t} - HC_{i,t} \quad (\text{Equation 4})$$

$$SCE_{i,t} = SC_{i,t} / VA_{i,t} \quad (\text{Equation 5})$$

$SC_{i,t}$ : the structural capital of the corporate  $i$  in the year  $t$ .

$SCE_{i,t}$ : the structural capital efficiency of the corporate  $i$  in the year  $t$ .

Now, the intellectual capital efficiency could be calculated by the equation below:

$$ICE_{i,t} = HCE_{i,t} + SCE_{i,t} \quad (\text{Equation 6})$$

$ICE_{i,t}$ : the intellectual capital efficiency of the corporate in the year  $t$ .

Stage 5: Determining VAIC

The last stage is calculating VAIC as follows:

$$VAIC_{i,t} = ICE_{i,t} + CEE_{i,t} = HCE_{i,t} + SCE_{i,t} + CEE_{i,t} \quad (\text{Equation 7})$$

$VAIC_{i,t}$ : Value-added intellectual capital

### 3.1.3. Moderator Variable

#### 3.1.3.1. Block Holder Ownership

In this study, to measure block holder ownership, the following instrument is used:

The percentage of the shares kept by block holder shareholders (the first 3 people own the highest percentage of ownership, more than 5 percent).

Then, according to the variable median index mentioned in the descriptive statistics table, the group above the median is considered code 1; the group below the median is considered code 0.

#### 3.1.4. Controlling variables

SIZE = There are various criteria for measuring the corporate size variable, which are (The total assets, Sales amount, number of employees) The asset's natural logarithm is used as the corporate size (Chen et al., 2019).

LEV = LEV shows the amount of assets provided through debts and the cost of equity capital. In this study, the amount of debts compared with assets is used for measuring it (Chen et al., 2019).

ROA = Return of Assets gives us an idea about efficient management in relation to using the assets for producing benefit (productive assets); ROA is shown in percentage form. To measure ROA

$\frac{\text{Net Profit}}{\text{Total Asset}}$  is used (Kiyoungh et al., 2019).

GROWTH = Sales growth index (income growth) tests the decrease or increase of the organization's income. This index is one of the most important instruments in every organization for observation, a key instrument in strategic decision making. In several periods, this index is observed for gaining a clear criterion of the corporate growth trend. This index helps you calculate the corporate income ups and downs on a monthly or seasonally basis. At the highest level, the income growth index is used by the sales manager and executive managers for evaluating the organization sales output, and  $\frac{\text{Sales New Year} - \text{Sales Old Year}}{\text{Sales Old Year}}$  is used for measuring it (Chen et al., 2019).

$\omega$  = Is the rest of the model.

## 4. Results

In this section, the descriptive and deductive statistics are dealt with in connection with the study data analysis.

### 4.1. Descriptive Statistics

In this section, the data analysis has been done using central indexes such as mean and scatter indexes such as standard deviation and max and min.

**Table 1.** Variables Descriptive Statistics

Variables	Min	Max	Median	Mean	Standard Deviation
<b>Continuous Variables</b>					
IC	-4.004	305.043	8/573	22/583	49.831
CSR	0.154	0.667	0.410	0.420	0.112
SIZE	4.959	7.878	6.042	6.140	0.629
LEV	0.170	1.131	0.619	0.613	0.211
ROA	-0.213	0.455	0.101	0.114	0.138
GROWTH	-0.491	1.249	0.167	0.195	0.348
Synthetic Variable					
BHO	Num. of 0	405	Num. of 1		404

The most important central index is the mean that states the balance point and distribution center and is a good index for showing the data concentration. The standard deviation is one of the most important scatter parameters, and a criterion for the amount of observation scatter from the mean. For example, considering the results of the table mentioned above, the corporate intellectual capital variable mean equals 22.583 that shows that most of the data is concentrated at this point, and its standard deviation equals 49.831. In other words, the amount of standard deviation shows that the scattering of the intellectual capital amounts at the mean equals 49.831.

### 4.2. Deductive Statistics

Testing the first hypothesis

$$IC_{it+1} = \alpha_0 + \alpha_1 CSR_{it} + \alpha_2 SIZE_{it} + \alpha_3 LEV_{it} + \alpha_4 ROA_{it} + \alpha_5 GROWTH_{it} + \omega_{it}$$

Regression model (1)

That in this model:

$\alpha$ : It shows constant in the model,  $IC_{it+1}$ : It shows corporates intellectual capital,  $CSR_{it}$ : It shows corporates corporate social responsibility disclosure,  $SIZE_{it}$ : It shows corporates size,  $LEV_{it}$ : It shows corporates leverage,  $ROA_{it}$ : It shows corporates return of assets,  $GROWTH_{it}$ : It shows corporates sales growth index,  $\omega_{it}$ : It shows rest of the model.



In the following sections, the above hypothesis is tested.

#### 4.3. Investigation of the classic regression hypotheses

To estimate the regression model parameters, the classic regression hypotheses test is of great importance. Some of those important hypotheses are the hypotheses related to the investigation of normal distribution of model errors with zero means, lack of self-correlation, lack of linearity, and homology variance of model errors. The normal distribution of model errors with zero means shows that the error distribution is somehow similar to normal distribution; considering the number of observations, one can accept the normality of error distribution. In order to detect the lack of self-correlation between residuals because estimating the model is not time series and considering the role of time using the controlling variables, this hypothesis is not true. On the other hand, about investigating linearity, considering the results of tables 2, 3, and 4, because VIF is less than 5 for all independent variables, this hypothesis is accepted. Finally, to investigate the existence of homology variance between residuals, considering that fortified White's variance is used in estimating research models, this hypothesis is accepted.

#### 4.4. The Results of Estimating the Research First Model

Because all classic regression hypotheses are proved, results can be trustworthy. The results of estimating the research model are shown in Table 2. According to Table 2 results, F-statistic is 30.315, and its significance is less than 0.05. Therefore, the totality of the regression model is accepted; it means that there is a significant relationship between dependent and independent variables, and at least one independent variable has a significant relationship with the dependent variable. The summary of regression model (1) results is shown in Table 2:

**Table 2.** The Results of Estimating the Research First Model

Variables	Coefficient	Standard Deviation	T-statistic	Significance	VIF
$\beta_0$	-63.345	5.585	-11.343	0.000	
CSR	-8.917	3.556	-2.508	0.012	1.135
SIZE	12.948	1.062	12.188	0.000	1.481
LEV	-4.465	3.104	-1.438	0.151	2.060
ROA	48.128	4.747	10.138	0.000	1.755
GROWTH	0.133	1.433	0.093	0.926	1.442
F-Statistic		F-Significance	R <sup>2</sup> model	Adjusted R <sup>2</sup>	Num. of Observations
30.315		0.000	0.452	0.445	738

The social responsibility variable coefficient has a negative amount of -8.917, and its T-statistic is -2.508. Because the absolute value of the T-statistic is bigger than 2 and so its significance level is less than 0.05, one can accept that there is a negative and significant relationship between social responsibility and the intellectual capital of the corporate. In other words, there is a negative and significant relationship between social responsibility and corporate intellectual capital; as a result, the first hypothesis of the research is accepted. The corporate size variable coefficient equals 12.948. Because the significance level is less than 0.05, the zero hypotheses (that the coefficient is zero) are not confirmed. In other words, this coefficient is significant at the error level of 5 and has an effect different from zero on the intellectual capital variable; one can say that the corporate size affects the intellectual capital. Also, the leverage ratio variable coefficient equals -4.465. Because the significance level is more than 0.05, the zero hypothesis (that the coefficient is zero) is confirmed. In other words, this coefficient is not significant at the error level of 5 and does not have an effect different from zero on the intellectual capital variable; one can say that the financial leverage does

not affect the intellectual capital. ROA variable coefficient equals 48.128. Because the significance level is less than 0.05, the zero hypotheses (that the coefficient is zero) are not confirmed. In other words, this coefficient is significant at the error level of 5 percent and has an effect on the intellectual capital variable different from zero; one can say that ROA affects intellectual capital. The sales growth variable coefficient equals 0.133. Because the significance level is more than 0.05, the zero hypotheses (that the coefficient is zero) are also confirmed; in other words, this coefficient is not significant at the error level of 5 percent and does not affect the intellectual capital variable differently from zero. One can say the sales growth does not affect the intellectual capital. Also, the model adjusted  $R^2$  shows that about 44 percent of the dependent variable changes are stated by controlling and independent variables.

Testing the second hypothesis

$$IC_{it+1} = \alpha_0 + \alpha_1 CSR_{it} + \alpha_2 BHO_{it} + \alpha_3 CSR_{it} * BHO_{it} + \alpha_4 SIZE_{it} + \alpha_5 LEV_{it} + \alpha_6 ROA_{it} + \alpha_7 GROWTH_{it} + \omega_{it}$$

Regression model (2)

That in this model:

$\alpha$ : It shows constant in the model,  $IC_{it+1}$ : It shows corporates intellectual capital,  $CSR_{it}$ : It shows corporates corporate social responsibility disclosure,  $BHO_{it}$ : It shows block holder ownership,  $SIZE_{it}$ : It shows corporates size,  $LEV_{it}$ : It shows corporates leverage,  $ROA_{it}$ : It shows corporates return of assets,  $GROWTH_{it}$ : It shows corporates sales growth index,  $\omega_{it}$ : It shows rest of the model.

#### 4.5. The results of estimating the research second model with low block holder ownership

Because all the classic regression hypotheses are proved, the results can be trusted. The results of estimating the research model are stated in Table 3. According to Table 3 results, F-statistic is 13.755, and its significance is less than 0.05. As a result, the totality of the regression model is accepted. There is a significant relationship between dependent and independent variables, and at least one independent variable has a significant relationship with the dependent variable.

**Table 3.** Results of estimating the research second model in companies with low block holder ownership

Variables	Coefficient	Standard Deviation	T-statistic	Significance	VIF
$\beta_0$	-72.421	8.889	-8.147	0.000	
CSR	-16.422	6.810	-2.411	0.016	1.530
SIZE	14.899	1.627	9.160	0.000	1.542
LEV	-9.372	5.662	-1.655	0.099	1.351
ROA	81.249	12.563	6.467	0.000	1.453
GROWTH	4.118	3.366	1.223	0.222	1.424
F-Statistic		F-Significance	$R^2$ model	Adjusted $R^2$	Num. of Observations
	13.755	0.000	0.476	0.463	385

The social responsibility variable coefficient is negative and equals -16.422, and the T-statistic related to it equals -2.411. Because the absolute value of the T-statistic is more than 2, and consequently its significance level is less than 0.05, one can accept that there is a negative and significant relationship between this variable and the corporate intellectual capital in companies with low block holder ownership. The corporate size variable coefficient equals 14.899. Because the significance level is less than 0.05, the zero hypotheses (that the coefficient is zero) are not confirmed. In other words, this coefficient is significant at the error level of 5 and has an effect on the intellectual capital variable different from zero; one can say the corporate size affects the intellectual capital. Moreover, the leverage ratio variable coefficient equals -9.372. Because the significance level is more than 0.05, the zero hypothesis (that the coefficient is zero) is confirmed. In other words, this

coefficient is not significant at the error level of 5 and does not have an effect on the intellectual capital variable different from zero; one can say that the financial leverage does not affect the intellectual capital. ROA variable coefficient equals 81.249. Considering that the significance level is less than 0.05, the null hypothesis (that the coefficient is zero) is not confirmed; in other words, this coefficient is significant at the error level of 5 percent and affects intellectual capital differently from zero. Therefore, one can say that ROA affects intellectual capital. The sales growth variable coefficient equals 4.118. Bearing in mind that the significance level is more than 0.05, the zero hypotheses (that the coefficient is zero) are confirmed; in other words, this coefficient is not significant at the error level of 5 percent and does not have an effect on intellectual capital variable different from zero. Therefore, one can say the sales growth does not affect the intellectual capital. Also, the model adjusted  $R^2$  shows that about 46 percent of dependent variable changes are stated by controlling and independent variables.

#### 4.6. The results of estimating the research second model with high block holder ownership

Because all the classic regression hypotheses are proved, the results can be trusted. The results of estimating the research model are presented in Table 4. According to Table 4 results, it can be observed that F-statistic is 18.827, and its significance is less than 0.05. As a result, the totality of the regression model is accepted. Furthermore, there is a significant relationship between dependent and independent variables; at least one independent variable has a significant relationship with the dependent variable.

**Table 4.** Results of estimating the research second model in companies with high block holder ownership

Variables	Coefficient	Standard Deviation	T-statistic	Significance	VIF
$\beta_0$	-33.135	5.508	-6.016	0.000	
CSR	-8.157	5.353	-1.524	0.128	1.615
SIZE	6.920	1.088	6.362	0.000	1.702
LEV	1.190	3.816	0.312	0.755	3.319
ROA	43.456	5.404	8.042	0.000	2.620
GROWTH	3.089	1.884	1.639	0.102	1.707
F-Statistic		F-Significance	$R^2$ model	Adjusted $R^2$	Num. of Observations
18.827		0.000	0.335	0.318	392

The social responsibility variable coefficient is negative and equals -8.157, and the T-statistic related to it is -1.524. Because the absolute value of the T-statistic is less than 2 and its significance level is more than 0.05, one cannot accept a negative and significant relationship between this variable and the corporate intellectual capital in the companies with high block holder ownership. The corporate size variable coefficient equals 6.920. Because the significance level is less than 0.05, the zero hypotheses (that the coefficient is zero) are not confirmed. In other words, this coefficient is significant at the error level of 5 percent has an effect on the intellectual capital variable different from zero; one can say that the corporate size affects the intellectual capital. Moreover, the leverage ratio variable coefficient is 1.190. because the significance level is more than 0.05, the zero hypotheses (that the coefficient is zero) is confirmed; in other words, this coefficient is not significant at the error level of 5 percent and does not have an effect on intellectual capital variable different from zero; one can say the financial leverage does not affect the intellectual capital. ROA variable coefficient is 43.456. Because the significance level is less than 0.05, the zero hypotheses (that the coefficient is zero) are not confirmed; in other words, this coefficient is significant at the error level of 5 percent and has an effect on the intellectual capital variable different from zero. Therefore, one can say that ROA affects intellectual capital. The sales growth variable coefficient is 3.089. Because

the significance level is more than 0.05, the zero hypothesis (that the coefficient is zero) is confirmed; in other words, this coefficient is not significant at the error level of 5 percent and does not affect the intellectual capital variable differently from zero. Therefore, one can say that sales growth does not affect intellectual capital. Also, the model adjusted  $R^2$  shows that about 31 percent of the dependent variable changes are stated by controlling and independent variables.

To investigate the moderation role, Clogg et al.'s Coefficients Compare Test (1995) is used. The results of this test are shown in Table 5:

**Table 5.** Results of moderation role in the research second model

High block holder ownership	Low block holder ownership	Description
-8.157	-16.422	Social Responsibility Coefficient Variable
5.353	6.810	Standard Deviation Coefficient
8.265		Coefficients of Difference
0.496		Standard Deviation
16.667		T-statistic
0.000		Significance

Based on Table 5 results, it can be observed that T-statistic is positive. Therefore, in companies with high block holder ownership, social responsibility is more effective on intellectual capital. And because the significance of the T-statistic is less than 0.05, one can accept the existence of the moderation role of block holder ownership variable. As a result, the second hypothesis is accepted at the level of block holder ownership. In the end, a summary of the results of the hypotheses investigation is shown in Table 6:

**Table 6.** Summary of the results of the hypotheses investigation

Results	Hypothesis
Accepted	There exists a significant relationship between corporate social responsibility disclosure and intellectual capital.
Accepted	Block holder ownership has a significant effect on the relation between corporate social responsibility disclosure and intellectual capital

## 5. Conclusion

The first hypothesis stated a significant relationship between intellectual capital and corporate social responsibility disclosure. As observed in regression analysis, the significance level of the corporate social responsibility coefficient is less than 5 percent in the first model. Hence, the corporate social responsibility coefficient is significant. It means that corporate social responsibility can affect intellectual capital. Therefore, there is a significant relationship between intellectual capital and corporate social responsibility, and the research first hypothesis is accepted. In elaborating the results of this hypothesis, one can point to the fact that the corporates' social responsibility programming is done to bring sustainable value for the society, all stakeholders, and shareholders, and this programming offers methods that the corporates can use in business. Corporate social responsibility is an important dimension of management fundamental theories and literature review. Although applying the social responsibility puts the burden of some fundamental expenses on the shoulders of the corporate, it will, in the long run, lead to an improvement in performance and financial/non-financial indexes of the corporate because the corporate social responsibility causes the improvement of consumers' perception, the customers' long run loyalty, the corporate fame, more profitability, a higher brand name, safer and healthier workforce, more effective supervision of the corporate affairs,

and more job satisfaction; all these will increase the intellectual capital gain. However, Iranian corporates do not understand the importance of social responsibility; therefore, there is a negative and significant relation between intellectual capital and corporate social responsibility disclosure. The results of this hypothesis are in agreement with the research results of Gallardo-Vázquez et al. (2019), Zhao et al. (2019), Yu et al. (2017), Tantalo et al. (2012), and Tsa et al. (2010).

The second hypothesis stated that block holder ownership significantly affects the relation between intellectual capital and corporate social responsibility disclosure. As observed in regression analysis, the significance level of the block holder ownership coefficient is less than 5 percent in the second model; therefore, the block holder ownership coefficient is significant; it means that block holder ownership can affect the relationship between intellectual capital and the corporate social responsibility disclosure. Hence, block holder ownership significantly affects the relation between intellectual capital and corporate social responsibility disclosure, and the research second hypothesis is accepted. According to this hypothesis elaboration, one can point to the fact that the relationship between intellectual capital and the corporate social responsibility disclosure is strengthened in which many block holder shareholders build the shares structure. This hypothesis results are in agreement with the results of researches done by Alfraih (2018), Ismail (2010), and Oliviera et al. (2006). Therefore, based on the results gained by testing the research hypotheses, the following topics are suggested to future researchers: Making the social responsibility operate in the corporates in order to gain intellectual capital needs development of a new culture because the corporate culture directs the business, therefore, the exchange corporates managers had better pay attention to this fact. And the managers of the exchange corporates in which many block holder shareholders build the shares structure should know that such shares structure does not bring intellectual capital for the corporate. Hence, a proper distribution has to be done in the shareholder's construction. Also, the shareholders who intend to buy the shares of corporates in which many block holder investors build the shares structure are advised not to do so because buying such corporates' shares does not properly gain intellectual capital.

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