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RESEARCH ARTICLE

# The Effect of Valuing Social Responsibility by Combining the Company's Life Cycle

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**How to cite this article:**

Bigmoradi, N., Khodamipour, A., & pourheidari, O. (2024). The Effect of Valuing Social Responsibility by Combining the Company's Life Cycle. Iranian Journal of Accounting, Auditing and Finance, 8(2), 85-100. doi: 10.22067/ijaaf.2024.44212.1380  
[https://ijaaf.um.ac.ir/article\\_44212.html](https://ijaaf.um.ac.ir/article_44212.html)

ARTICLE INFO

Abstract

Article History

Received: 2023-10-09


Accepted: 2023-11-28

Published online: 2024-04-26

This research examines the effect of valuing social responsibility by combining the company's life cycle. In other words, by examining the role of life cycle stages on the relationship between high social responsibility and company value, the related literature on corporate social responsibility will be expanded to the less researched area in Iran. The statistical population of the research is the companies listed on the Tehran Stock Exchange. A sample of 115 companies from 2006 to 2021 is 1725 company-year. Multiple panel regression methods and STATA version 17 statistical software were used to test the hypotheses. The results show that although social responsibility and company value generally have a positive relationship, this relationship is conditional on the company's life cycle stages. The effect of each dimension of social responsibility on the company's value is different in the life cycle stages. Social responsibility's social and governance aspects predict higher firm value in all life cycle periods, but this effect is more significant in the decline period. The environmental aspect of social responsibility generally positively impacts the firm's value, but this effect is insignificant at different life cycle stages.

**Keywords:**

Company Value, Company Value, Environment, Social Responsibility

 <https://doi.org/10.22067/ijaaf.2024.44212.1380>



NUMBER OF REFERENCES  
29



NUMBER OF FIGURES  
-



NUMBER OF TABLES  
9

Homepage: <https://ijaaf.um.ac.ir>  
 E-Issn: 2717-4131  
 P-Issn: 2588-6142

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## 1. Introduction

Determining the value of a company and identifying factors affecting it in capital markets have always been challenging topics for investors and financial analysts (Thu and Khuong, 2023). The company's value is significant for the shareholders, investors, managers, creditors, and other stakeholders in their evaluation of the future of the company and its impact on the estimation of risk and return on investment and stock price. Therefore, according to the company's value, investors determine their priority in investment. They always seek to identify the factors affecting the company's value to determine its value realistically (Oh et al., 2021). In 1992, the United Nations Environment Programme Finance Initiative (UNEP FI) proposed that companies should only make investment decisions after fully considering all factors related to the environment, social responsibility, and corporate governance (Ahmad et al., 2023). Hence, the tendency of the company to use social responsibility disclosure to increase the reputation and, in turn, increase the value of the company is observed by recent studies (Fatima and Elbanna, 2023; Curras-Perez et al., 2023; Novitasari et al., 2023; Zhao et al., 2022; Oh et al., 2021; Hendratama and Huang, 2021).

While businesses are challenged to act in the best interests of all stakeholders, the question of whether being green is cost-effective and whether corporate social responsibility (CSR) has financial value remains a matter of debate (e.g., Long et al., 2022; Jiang et al., 2023). The lack of conclusive results from previous studies on the relationship between social responsibility and corporate value may be attributed to omitting an essential factor: the company's life cycle. Companies tend to develop their access to resources and management strategies at different stages of the life cycle, which in turn shape CSR behavior. Therefore, companies at the life cycle stages may have additional capabilities and motivations to demonstrate CSR activities, and the market may, in turn, value these initiatives differently at different stages. However, existing research on corporate social responsibility and value still needs to address the life cycle factor. Accordingly, this research examines the role of life cycle stages on the relationship between high social responsibility and firm value. The existing literature on social responsibility generally focuses on Western countries, and there is little empirical evidence on social responsibility in Iran. Zhao and Xiao (2019) argue that the company's ability and motivation to participate in social responsibility activities differ at different life cycle stages. Therefore, this study extends the research of Zhao and Xiao (2019) to examine the relationship between social responsibility and corporate value by combining the life cycle to capture the impact of corporate valuation decisions at different life cycle stages. Bajic and Yurtoglu (2018) argue that examining the overall measure of social responsibility raises concerns that the actual driver of corporate value may be hidden in the comprehensive assessment. Therefore, besides the general evaluation, the current study considers different dimensions of social responsibility to understand the other impacts of each social responsibility aspect, especially the environmental, social, and governance dimensions. This paper provides insights and implications for managers, standard setters, and other policymakers.

More specifically, investors are concerned about where and how managers invest. Hence, managers should develop appropriate CSR strategies at all life cycle stages to avoid adverse choices while meeting the needs of stakeholders. In addition, standard setters and other policymakers, in deciding to set requirements and policies, should recognize the differences in company resources and capabilities in life cycle stages, thus creating more reasonable CSR policies that are more relevant to companies at each life cycle stage. With this understanding, CSR will be successfully adopted in company policy decision-making, formulation, and implementation. A company's CSR investment can help external users of financial statements distinguish between more reliable versus less reliable financial reports and transparent versus opaque financial reports. The literature review, theoretical foundations, hypothesis development, research plan, results, discussion, and conclusions are discussed in the following.

## 2. Theoretical Principles and Hypothesis Development

### 2.1 Firm value

Under the premise of information asymmetric theory in the capital market, companies can distinguish themselves from competitors by disclosing high-quality information to access stakeholder resource support, increasing the company's value (Hendratama and Huang, 2021). Investors always seek to identify the factors affecting the value of the company to determine the value of the company realistically (Oh et al., 2021). Companies with higher social responsibility activity not only have more information transparency about social responsibility and strengthen interaction with stakeholders but also engage less in earnings management. In addition, social responsibility performance can improve the company's value. Still, when companies use social responsibility activities to cover managers' opportunistic behavior and divert stakeholders' attention from profit distortion by managers, the company's value decreases (Ahmad et al., 2023). Other studies state that by demonstrating socially responsible behavior, companies may attract and retain superior human resources, increase sales, gain the trust and cooperation of stakeholders, and increase company value (Hendratama and Huang, 2021). Bartlett and Bubb (2023), Fatima and Elbanna (2023), Curras-Perez et al. (2023), and Novitasari et al. (2023) believe that a strong reputation for social responsibility helps maintain corporate value.

### 2.2 Social responsibility

CSR is a self-regulatory business model that enables a firm to be socially responsible to itself, its shareholders, and the general public (Widyawati, 2020). Companies become aware of their influence on all elements of society, including the economic, social, and environmental facets, by adopting CSR (Chia et al., 2020). Although the definitions of "corporate social responsibility" are varied, the company's responsibility, along with profitability, includes social and environmental obligations to various stakeholders, has been widely accepted (Alshurafat et al., 2023). Environmental, social, and corporate governance (ESG) is an extension and enrichment of the socially responsible investment (SRI) concept and is an essential measure of corporate sustainable development (Nekhili et al., 2021). Moving toward social responsibility is an essential factor that leads to the continuation of the organization's movement in the long term. Although the primary goal of organizations is to increase efficiency and gain profit, this is not a sufficient guarantee for the survival and continuity of the desired activity of the organization, and organizations in the age of information and globalization to achieve success must respond appropriately to social and moral expectations and combine these expectations with economic goals in the best way to enable the achievement of higher goals (Kasradze et al., 2023). All the studies in this field (e.g. Fatima and Elbanna, 2023; Curras-Perez et al., 2023; Song et al., 2019; Zhang et al. (2021) show that Social responsibility positively affects the firm's value. Corporate social responsibility has many aspects, and the spectrum covers many activities. Many previous studies have only focused on a single dimension of social responsibility (for example, Dickinson, 2011).

### 2.3 Life cycle

According to stakeholder theory and legitimacy theory, being green has value. However, stakeholders may have different social responsibility expectations at various stages of the firm's life cycle. Therefore, the company's social responsibility strategy should align with its life cycle stages (Hendratama and Huang, 2021). For firms in different life cycle phases, there are distinctions in the effect of CSR through establishing a good reputation to improve the relationship with the government

and banks, etc., and ultimately increasing the company's value (Khuong and Anh, 2023). according to stakeholder theory, firms participating in CSR activities can better align management with shareholder interests and obtain stakeholder trust and cooperation (Hendratama and Huang, 2021). Differences in capabilities, resources, and techniques that the company has at different life cycle stages affect the decisions made within the company. Generally, there are four typical stages of the company's life cycle: introduction, growth, maturity, and decline (Dickinson, 2011; Zhao and Xiao, 2019; Khuong and Anh, 2023).

Coelho et al. (2023) suggest that firms are not homogeneously related to the impact of CSR on financial constraints. Hence, investors can identify the firm's life cycle and consider it when deciding to minimize their investment risk. Curras-Perez et al. (2023) found that, in the emerging market, perceived environmental actions did not influence consumers' perceptions. Jiang et al. (2023) suggest that By the life cycle stage, the effect of environmental protection policy is mainly reflected in maturity and decline stage firms, and the impact on growth stage firms is not apparent. Zhao and Xiao (2019) investigated the relationship between the overall social responsibility score and financial constraints. They found that the average social responsibility score increases with the company's development but decreases during the decline stage. This paper extends the study of Zhao and Xiao (2019) and investigates the impact of valuing the corporate social responsibility decision at different life cycle stages.

#### 2.4 The relationship between social responsibility and firm value

Corporate social responsibility plays a crucial role in creating a green image of the company and a green competitive advantage, increasing the firm's value (Song et al., 2019). Zhang et al. (2021) argue that firm engagement in CSR allows companies to introduce and promote value and help maintain a good reputation in the market. Coelho et al. (2023) suggest that investing in social responsibility improves relations with the company's shareholders by demonstrating the company's healthy financial performance and efficient use of internal resources and reducing the possibility of incurring costs related to socially irresponsible behavior in the future. This, in turn, leads to an increase in the company's value. Based on stakeholder theory, researchers argue that the market perceives socially responsible companies positively (e.g., Khuong and Anh, 2023; Liu et al., 2023; Widyawati, 2020). Yoon et al. (2020) conclude that CSR helps firms have a strong connection with the customer, which increases firm market shares and customer willingness to pay, irrespective of the services and quality of the product. Among the few studies examining the relationship between different dimensions of social responsibility, Coelho et al. (2023) suggest that CSR directly impacts a company's financial performance, and this impact becomes more significant as the company's environmental, social, and governance (ESG) scores improve. Khuong and Anh (2023) confirm the positive effect of CSR on Firm Value. Besides, in most of the stages of the firm life cycle, Firm Value positively affects CSR practices, and this effect is highest in the growth stage. Widyawati (2020) and Coelho et al. (2023) argue that social responsibility's environmental, governance and social dimensions increase value. Caiazza et al. (2023) argue that social extent predicts higher firm value consistently. Xie et al. (2019) found that corporate governance plays the most crucial role instead of environmental and social issues. Overall, in line with stakeholder and legitimacy theories, previous studies show that being green has value because stakeholders generally have a positive attitude toward CSR initiatives. Now, according to the stated theoretical foundations and backgrounds, the first hypothesis of the research, along with its sub-hypotheses, are presented as follows:

**H1:** Social responsibility positively affects the firm's value.

**H1a:** The environmental aspect of social responsibility positively affects the firm's value.

**H1b:** The social aspect of social responsibility positively affects the firm's value.

*H1c*: The governance aspect of social responsibility positively affects the firm's value.

## 2.5 The relationship between social responsibility and company value in life cycle stages

Social responsibility can help companies gain reputational benefits, leading to competitive advantages such as social legitimacy, increased sales, and attracting and retaining quality human resources, which increases company value (Liu et al., 2023; Thu and Khuong, 2023). Differences in capabilities, resources, and strategies that the company has at different life cycle stages affect the decisions made within the company (Khuong and Anh, 2023). Corporate life-cycle theory suggests that, in addition to age, firms differ significantly in size, profitability, willingness to protect the environment, and business strategy throughout the life cycle from birth to death. The key constraints faced at different stages also differ (Liu et al., 2023). CSR-level firms make prudent decisions after comprehensively assessing their development position, institutional environment, and resource endowment (Jiang et al., 2023). The first stage is often characterized by uncertainty and high risks, so companies may focus on other aspects of social responsibility, such as aspects related to employee welfare and customer-related issues, to allow companies to have a positive social image to legitimize and create their existence (Oh et al., 2021). The second stage is the growth stage; this stage requires companies to have strategy and innovation to survive in the competition (Novitasari et al., 2023). The maturity stage occurs when the sales level stabilizes. Mature companies can afford to engage in social responsibility. Market growth and profitability stagnate due to external challenges and lack of innovation in the next stage (decline). Companies in this stage are likely to engage in social responsibility activities and use reputational capital to counter potential poor performance in the future (Widyawati, 2020; Khuong and Anh, 2023). Among the few studies that examine the relationship between social responsibility and corporate value in the life cycle stages, Hendratama and Huang (2021) argue that the social aspect of CSR in the introduction and maturity stages, the governance in the stages of growth and decline, and the environmental aspect only affect the firm's value in the next stage of the life cycle. Jiang et al. (2023) found that the effect of environmental protection policy is mainly reflected in the maturity and decline stage, and its effect is not evident in the growth stage. Thu and Khuong (2023) found that the introduction and growth stages positively relate to CSR disclosure, but companies in the decline and stagnation stages do not focus much on CSR disclosure.

Accordingly, this study expects that the market will evaluate CSR initiatives at different stages of the life cycle because companies' conditions, resources, and capabilities differ based on their life cycle. Now, according to the stated theoretical foundations and backgrounds, the second hypothesis of the research, along with its sub-hypotheses, are presented as follows:

*H2*: The relationship between social responsibility and corporate value differs in the life cycle stages.

*H2a*: The environmental dimension of corporate social responsibility positively affects the firm's value.

*H2b*: The social dimension of corporate social responsibility positively affects corporate value.

*H2c*: Corporate social responsibility's governance dimension positively affects the firm's value.

## 3. Research Methodology

### 3.1 The statistical population of the research

The statistical population of the research is the companies listed on the Tehran Stock Exchange. The research sample was selected from the manufacturing companies with an active and continuous presence in the stock market from 2006 to 2021, and their trading break is at most three months. Of



course, the companies whose required data are not available were excluded. Finally, 115 (1725 year-company) were considered a statistical sample.

**Table 1.** Statistical population

Characteristics of companies	No.
All companies listed on the stock exchange and Over the counter at the end of 2021	6120
Companies whose financial year end is not in March	1020
Banks, insurance and financial intermediaries, and investment institutions	1605
Companies that were canceled during the research period	90
Companies that have been listed after the desired year of the study	960
Other problems (change of fiscal year, incomplete information, suspension of transactions for more than 3 months)	720
Selected companies with no problems and are members of the statistical community.	1725

### 3.2 Data analysis method

At first, we prepared a checklist of things that indicate social responsibility according to Zhao and Xiao (2019) and Hendratama and Huang (2021) in three sections with the titles of social, environmental, and governance dimensions based on the conditions in Iran. This paper includes the environmental extent (environment), which consists of the use of resources, dissemination, and innovation of the product; the social dimension (social), which includes the workforce, human rights, society, and product responsibility; and the corporate governance dimension (governance) which consists of the company's commitment and effectiveness covering the principles of corporate governance, shareholder behavior, and strategy. According to previous studies, this paper uses Tobin's Q as the dependent variable to obtain the firm's value (e.g., Chung et al., 2018; Thu and Khuong, 2023).

According to Dickinson (2011) and Zhao and Xiao (2019), this research classifies companies into four life cycle stages (i.e., introduction, growth, maturity, and decline/decline), which we did not consider the introduction stage because the research community of accepted companies It is in the Tehran Stock Exchange and these companies have passed the introduction stage. This study also includes several control variables found in previous studies (e.g., Chung et al., 2018; Zhao and Xiao, 2019).

### 3.3 Research models

We use model one to test the first hypothesis.

(1)

$$\text{Firm Value} = \beta_0 + \beta_1\text{CSR} + \beta_2\text{Size} + \beta_3\text{Age} + \beta_4\text{Lev} + \beta_5\text{AssetGrowth} + \beta_6\text{ROA} + \text{FE} + \varepsilon$$

**Dependent variable:** is the firm's value. According to previous studies, this paper uses Tobin's Q to obtain the firm's value (e.g., Chung et al., 2018; Thu and Khuong, 2023). Tobin's Q is measured by the market value of equity minus the book value of equity plus total assets divided by total assets.

**Independent variable:** CSR. According to the study by Hendratama and Huang (2021), the corporate social responsibility score is the total strengths minus the total concerns in the following three categories: social, environmental, and governance.

**Control variables:**

*Size:* Company size is the natural logarithmic value of total assets (Chung et al., 2018).

*Age:* The firm's age is the number of years the company has been a stock exchange member (Hendratama and Huang, 2021; Zhao and Xiao, 2019).

*Lev:* The firm's leverage is the ratio of the total debt to the company's total assets (Zhao and Xiao, 2019).

*Asset Growth:* Asset growth is the percentage change in total assets compared to the previous year (Zhao and Xiao, 2019).

*ROA:* Profitability is the ratio of net income to the average total assets of the company (Hendratama and Huang, 2021).

We use model two to test the first sub-hypotheses.

(2)

$$\text{Firm Value} = \beta_0 + \beta_1 \text{Environment} + \beta_2 \text{Social} + \beta_3 \text{Governance} + \beta_4 \text{Size} + \beta_5 \text{Age} + \beta_6 \text{Lev} + \beta_7 \text{AssetGrowth} + \beta_8 \text{ROA} + \text{FE} + \varepsilon$$

The second model is set to investigate the effects of different aspects of CSR on company value. The dependent variable of the second equation is Firm Value. The independent variables include the checklist scores of the three dimensions of CSR, i.e., environmental, social, and corporate governance. Control variables remain constant.

We use model three to test the second hypothesis and its sub-hypotheses.

To test this hypothesis, we use the first model, and instead of firm value, we substitute firm value in life cycle stages.

(3)

$$\text{Firm Value} = \beta_0 + \beta_1 \text{Environment} + \beta_2 \text{Social} + \beta_3 \text{Governance} + \beta_4 \text{Size} + \beta_5 \text{Age} + \beta_6 \text{Lev} + \beta_7 \text{AssetGrowth} + \beta_8 \text{ROA} + \text{FE} + \varepsilon$$

### ***Life cycle***

To separate the different stages of the companies' life cycle, the model of Osta and Gheitasi (2012) was used. Based on the model, the variables (sales growth, capital expenditures, company life) were calculated separately for the sample companies. Then, the calculated variables were standardized and allocated according to the years of the respective companies in the sample. The sample companies are divided into three groups: growing companies with a score of 3, mature companies with a score of 2, and declining companies with a score of 1. The scores of all three criteria are added for the company, and the combined score of each company is obtained. Then, based on this score, companies are divided into three categories: growing, mature, and declining.

**Table 2.** Classification of companies

Life cycle	Sales growth	Change in capital expenditure	Life of the company
Growth	High	high	young
Maturity	Medium	Medium	Mature
Decline	down	down	Old

## **4. Findings**

### **4.1 Descriptive statistics**

The summary of the characteristics of the descriptive statistics related to the used variables is presented in Table 3.

**Table 3.** Descriptive statistics of quantitative research variables

Role	Variable	Symbol	Min	Max	Mean	Standard deviation
Dependent	The value of the company at the end of the year t	Q Tobin	0.556	201.863	3.108	6.317
	Unexpected cash flow at time t	UCFO	-2.911	2.954	-0.006	0.893
Independent	Environmental component	Environment Scores	0.000	8.000	5.445	3.182
	Social component	Social Scores	3.000	12.000	8.184	2.461
	component of governance	Governance Scores	5.000	8.000	6.803	0.989
	social responsibility	CSR Scores	8.000	28.000	20.432	5.619
Control	size of the company	Size	0.992	20.769	13.972	1.951
	Age of the company	Age	1.000	70.000	22.290	13.668
	lever	Lev	0.060	1.825	0.579	0.183
	Asset Growth	Asset Growth	-0.642	7.146	0.239	0.393
	profitability	ROA	-0.581	0.673	0.135	0.130

The descriptive statistics in Table 3 show that among the companies and during the years investigated, the minimum value was reported as 0.556 and the maximum as 201.863. In other words, there is an average firm value of 3.108 with a standard deviation of 6.317 around the mean. The company's social responsibility has the lowest and highest value, with 8 and 28, respectively. The mean of CSR is 20.432, and the dispersion around the mean is 5.619.

**Table 4.** The frequency distribution table of social responsibility variables

Variable (CSR_code)	Abundance	Frequency
Down	353	20.500
Top	1372	79.500
Total	1725	100.000

Table 4 shows that among the companies under study, 1372 companies (79.50%) and 353 companies did not show high social responsibility, equaling 20.50% of the sample.

**Table 5.** The frequency distribution table of the life cycle variable

Variable (Long life)	Abundance	Frequency	Valid frequency percentage
Decline	500	28.950	31.090
Maturity	653	37.810	40.610
Growth	455	26.350	28.300
Total	1608	93.110	100.000
Lost	117	6.780	
Total	1725	100.000	

Table 5 shows that among the companies under study research, the number of companies in the period of decline in terms of the life cycle was 500 (31.09 percent), and the companies in the maturity period were 653 (40.61 percent). The number of companies in the growth period was 455 (28.30 percent).

Considering the points of social responsibility, only in 2019, it is impossible to carry out a fixed panel effects test, and as a result, the F-Limer test to identify the appropriate test. Therefore, in the first hypothesis, the ordinary regression model was performed by controlling the effects of year and company, and its results are as follows:



**Table 6.** The regression results of the lowest ordinary square powers related to the first hypothesis

<b>Model: ordinary least squares regression</b>						
Dependent variable: company value						
<b>Variable</b>	<b>Symbol</b>	<b>Coefficient</b>	<b>The standard error</b>	<b>t statistic</b>	<b>p-value</b>	<b>Collinearity</b>
Width from the origin	C	1.001	0.024	42.325	<0.001	
Social responsibility	CSR Scores	0.067	0.006	11.386	<0.001	1.270
size of the company	Size	-0.037	0.022	-1.707	0.088	1.292
Life of the company	Age	-0.006	0.004	-1.633	0.103	1.042
lever	Lev	-0.996	0.007	-148.96	<0.001	1.578
Asset growth	Asset Growth	0.004	0.003	1.538	0.124	1.128
profitability	ROA	-0.014	0.010	-1.452	0.147	1.719
The coefficient of determination					0.753	
Watson camera statistics					1.893	
F statistic of the significance test of the model					815.680	
p-value of the significance test of the model					<0.001	

To check the first hypothesis, the p-value related to social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05 and even less than 0.001, so this effect is significant. In other words, the relationship between social responsibility and company value is significant, and the intensity of this relationship is 0.067, so the first hypothesis is confirmed. Also, the test statistic and the significance p-value of the whole model show that the whole model is significant, and the variables in the model explain 75.3% of the changes related to the company's value.

The regression results of the lowest ordinary square powers for the impact of social responsibility dimensions on the value of the company are as follows:

**Table 7.** The regression results of the least ordinary square powers related to the first sub-hypotheses

<b>Collinearity</b>	<b>p-value</b>	<b>t statistic</b>	<b>The standard error</b>	<b>Coefficient</b>	<b>Symbol</b>	<b>Variable</b>
	<0.001	44.278	0.022	0.976	C	Width from the origin
2.030	0.004	-2.849	0.004	-0.012	Environment Scores	Environmental dimension
2.200	<0.001	8.154	0.007	0.054	Social Scores	social dimension
1.248	<0.001	15.551	0.008	0.128	Governance Scores	governance dimension
1.332	<0.001	-4.345	0.021	-0.090	Size	size of the company
1.048	0.139	-1.479	0.004	-0.005	Age	Life of the company
1.617	<0.001	-160.899	0.006	-1.010	Lev	lever
1.125	0.115	1.575	0.002	0.004	Asset Growth	Asset growth
1.751	<0.001	-3.738	0.009	-0.035	ROA	profitability
The coefficient of determination					0.711	
Watson camera statistics					1.783	
F statistic of the significance test of the model					13.694	
p-value of the significance test of the model					<0.001	

The above table will be used to assess hypotheses H1a to H1c.

Considering that the significance level of the overall model is less than 0.001, it means that at least one of the variables in the model has a significant effect on the dependent variable of the company's value. In each of the hypotheses, H1a to H1c, the impact of social responsibility components on the company's value is determined.

According to the test statistic and the significant p-value of the whole model, it can be concluded that the variables in the model explain 71.1% of the changes related to the company's value.

The p-value related to the environmental component of social responsibility and company value

(p=0.004) is less than the error level of 0.05, so this effect is significant. The value of the effect coefficient is equal to -0.012. Therefore, hypothesis H1a is confirmed.

The p-value related to the social component of social responsibility and company value (p<0.001) is less than the error level of 0.05, so this effect is significant. The value of the impact factor is equal to 0.054. Therefore, hypothesis H1b is confirmed.

The P-value related to the governance component of social responsibility and corporate value (p<0.001) is less than the error level of 0.05, so this effect is significant; the impact factor value is equal to 0.128; so, hypothesis H1c is confirmed.

To carry out and examine the second hypothesis, the model of the first hypothesis is used separately for life cycle stages.

**Table 8.** The regression results of the least ordinary square powers related to the second hypothesis

Model: ordinary least squares regression						
Dependent variable: company value						
Collinearity	p-value	t statistic	The standard error	Coefficient	Symbol	Variable (Growth period)
	<0.001	26.623	0.039	1.039	C	Width from the origin
1.244	<0.001	6.909	0.010	0.068	CSR Scores	Social responsibility
1.410	0.063	-1.861	0.037	-0.069	Size	size of the company
1.058	0.443	-0.768	0.006	-0.005	Age	Life of the company
1.746	<0.001	-86.395	0.012	-1.003	Lev	lever
1.242	0.161	1.405	0.004	0.006	Asset	Asset growth
					Growth	
1.977	0.572	-0.565	0.016	-0.009	ROA	profitability
The coefficient of determination						0.719
Watson camera statistics						1.905
F statistic of the significance test of the model						90.413
p-value of the significance test of the model						<0.001
Collinearity	p-value	t statistic	The standard error	Coefficient	Symbol	Variable (Maturity period)
	<0.001	38.015	0.026	0.979	C	Width from the origin
1.319	<0.001	5.654	0.006	0.035	CSR Scores	Social responsibility
1.254	0.709	0.374	0.023	0.009	Size	size of the company
1.027	0.116	-1.574	0.004	-0.006	Age	Life of the company
1.505	<0.001	-145.073	0.007	-1.012	Lev	lever
1.246	0.597	-0.530	0.005	-0.003	Asset	Asset growth
					Growth	
1.886	0.641	-0.467	0.012	-0.005	ROA	profitability
The coefficient of determination						0.712
Watson camera statistics						1.804
F statistic of the significance test of the model						78.675
p-value of the significance test of the model						<0.001
Collinearity	p-value	t statistic	The standard error	Coefficient	Symbol	Variable (decline period)
	<0.001	16.964	0.058	0.991	C	Width from the origin
1.293	<0.001	7.101	0.015	0.106	CSR Scores	Social responsibility
1.297	0.107	-1.613	0.053	-0.086	Size	size of the company
1.066	0.940	0.075	0.010	0.001	Age	Life of the company
1.581	<0.001	-56.980	0.017	-0.950	Lev	lever
1.084	0.166	1.388	0.005	0.007	Asset	Asset growth
					Growth	
1.585	0.508	-0.662	0.025	-0.017	ROA	profitability
The coefficient of determination						0.734
Watson camera statistics						1.788
F statistic of the significance test of the model						823.546
p-value of the significance test of the model						<0.001

To investigate the second hypothesis, *in the growth period*, the p-value related to social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05 and even less than 0.001, so this effect is significant, and the intensity of this relationship is equal to 0.068. The second hypothesis of the research is confirmed. Also, the test statistic and p-value of the significance of the whole model show that the whole model is significant, and the variables in the model explain 71.9% of the changes related to the company's value.

*In the maturity period*, the p-value related to social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05 and even less than 0.001, so this effect is significant. The intensity of this relationship is equal to 0.035, and the second hypothesis of the research is confirmed. Also, the test statistic and the significance p-value of the whole model show that the whole model is significant, and the variables in the model explain 71.2% of the changes related to the company's value.

*In the decline period*, the p-value related to social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05 and even less than 0.001, so this effect is significant, and the intensity of this relationship is equal to 0.106. The second hypothesis of the research is confirmed. Also, the test statistic and the significance p-value of the whole model show that the whole model is significant, and the variables explain 73.4% of the changes related to the company's value.

The regression results of the least common square powers for the impact of social responsibility dimensions on the value of the company in the stages of the life cycle are as follows:

**Table 9.** The regression results of the least ordinary square powers related to the second sub-hypotheses

<b>Model: ordinary least squares regression</b>						
Dependent variable: company value						
<b>Variable (Growth period)</b>	<b>Symbol</b>	<b>Coefficient</b>	<b>The standard error</b>	<b>t statistic</b>	<b>p-value</b>	<b>Collinearity</b>
Width from the origin	C	1.013	0.036	28.208	<0.001	
Environmental dimension	Environment Scores	-0.011	0.007	-1.686	0.092	2.076
social dimension	Social Scores	0.058	0.011	5.223	<0.001	2.210
governance dimension	Governance Scores	0.124	0.013	9.434	<0.001	1.210
size of the company	Size	-0.119	0.035	-3.445	0.001	1.449
Life of the company	Age	-0.004	0.006	-0.741	0.459	1.058
lever	Lev	-1.017	0.011	-94.475	<0.001	1.787
Asset growth	Asset Growth	0.006	0.004	1.561	0.119	1.246
profitability	ROA	-0.026	0.015	-1.782	0.075	2.004
The coefficient of determination				0.623		
Watson camera statistics				1.834		
F statistic of the significance test of the model				12.990		
p-value of the significance test of the model				<0.001		
<b>Variable (Maturity period)</b>	<b>Symbol</b>	<b>Coefficient</b>	<b>The standard error</b>	<b>t statistic</b>	<b>p-value</b>	<b>Collinearity</b>
Width from the origin	C	0.955	0.024	39.162	<0.001	
Environmental dimension	Environment Scores	-0.007	0.004	-1.733	0.084	2.089
social dimension	Social Scores	0.026	0.007	3.862	<0.001	2.258
governance dimension	Governance Scores	0.084	0.009	9.448	<0.001	1.245
size of the company	Size	-0.017	0.022	-0.780	0.436	1.289
Life of the company	Age	-0.005	0.004	-1.554	0.121	1.039
lever	Lev	-1.023	0.007	-154.541	<0.001	1.555

Asset growth	Asset Growth	-0.003	0.005	-0.579	0.563	1.268
profitability	ROA	-0.022	0.011	-2.023	0.044	1.949
The coefficient of determination				0.567		
Watson camera statistics				1.690		
F statistic of the significance test of the model				10.112		
p-value of the significance test of the model				<0.001		
Variable (decline period)	Symbol	Coefficient	The standard error	t statistic	p-value	Collinearity
Width from the origin	C	0.972	0.054	18.074	<0.001	
Environmental dimension	Environment Scores	-0.013	0.010	-1.290	0.198	2.015
social dimension	Social Scores	0.079	0.016	4.869	<0.001	2.148
governance dimension	Governance Scores	0.180	0.021	8.698	<0.001	1.330
size of the company	Size	-0.173	0.050	-3.457	0.001	1.352
Life of the company	Age	0.003	0.009	0.281	0.779	1.071
lever	Lev	-0.964	0.016	-62.052	<0.001	1.622
Asset growth	Asset Growth	0.007	0.005	1.403	0.161	1.092
profitability	ROA	-0.045	0.023	-1.920	0.055	1.612
The coefficient of determination				0.536		
Watson camera statistics				1.857		
F statistic of the significance test of the model				10.065		
p-value of the significance test of the model				<0.001		

The above table is used to check hypotheses H2a to H2c.

Considering that the significance level of the overall model is less than 0.001 in all three life cycle states, it means that at least one of the model's variables significantly affects the dependent variable of the company's value. In each of the hypotheses, H2a to H2c, the impact of social responsibility components on the company's value in three life cycle periods is determined.

#### 4.2 The environmental component of social responsibility

**In the growth period,** the p-value related to the environmental component of social responsibility and company value ( $p=0.092$ ) is more significant than the error level of 0.05, so this effect is insignificant. Therefore, hypothesis H2a is not confirmed in the growth period.

**In the maturity period,** the p-value related to the environmental component of social responsibility and company value ( $p=0.084$ ) is higher than the error level of 0.05, so this effect is insignificant. Therefore, hypothesis H2a is not confirmed.

**In the decline period,** the p-value related to the environmental component of social responsibility and company value ( $p=0.198$ ) is more significant than the error level of 0.05, so this effect is insignificant. Therefore, hypothesis H2a is not confirmed in the decline period.

#### 4.3 The social component of social responsibility

**In the growth period,** the p-value related to the social component of social responsibility and company value ( $p<0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of the influence coefficient is equal to 0.124. Therefore, hypothesis H2b is confirmed during the growth period.

**In the maturity period,** the p-value related to the social component of social responsibility and company value ( $p<0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of the influence coefficient is equal to 0.084. Therefore, the hypothesis H2b is confirmed in the period of maturity.

**In the decline period,** the p-value related to the social component of social responsibility and company value ( $p<0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of

the influence coefficient is equal to 0.180. Therefore, the hypothesis H2b is confirmed in the period of decline.

#### 4.4 The governance component of social responsibility

**In the growth period,** the p-value related to the governance component of social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of the influence coefficient is equal to 0.058. Therefore, the H2c hypothesis is confirmed in the growth period.

**In the maturity period,** the p-value related to the governance component of social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of the influence coefficient is equal to 0.026. Therefore, the hypothesis H2c is confirmed in the period of maturity.

**In the period of decline,** the p-value related to the governance component of social responsibility and company value ( $p < 0.001$ ) is less than the error level of 0.05, so this effect is significant. The value of the influence coefficient is equal to 0.079. Therefore, the H2c hypothesis is confirmed in the period of decline.

### 5. Discussion and Conclusion

Determining the firm's value is one of the crucial factors in the investment process. Therefore, investors always seek to identify the factors affecting the value of the company to determine the value of the company realistically (Oh et al., 2021). Based on this, the company's tendency to use social responsibility disclosure to increase its reputation and, in turn, increase company value is seen by recent studies (Fatima and Elbanna, 2023; Curras-Perez et al., 2023; Novitasari et al., 2023; Zhao et al., 2022; Oh et al., 2021; Hendratama and Huang, 2021). According to stakeholder theory and legitimacy theory, being green has value. However, stakeholders may have different social responsibility expectations at the company's life cycle stages. Therefore, the company's social responsibility strategy should be under its life cycle stages (Hendratama and Huang, 2021). This research examines the valuation effect of CSR by incorporating the firm's life cycle and argues that the lack of conclusive results from previous studies on the relationship between CSR and firm value may be attributed to the omission of an essential factor, the firm's life cycle.

Like previous studies (e.g., Hendratama and Huang, 2021; Coelho et al., 2023; Zhao and Xiao, 2019), the first empirical findings show that CSR positively and significantly impacts company value. Therefore, the findings support the theories of stakeholders and legitimacy and show that social responsibility is value-added. This, in turn, leads to a positive market response through higher company value concerning different dimensions of CSR. This paper shows that all three dimensions of CSR, environmental, social, and governance, positively and significantly affect company value. When starting or investing in a business, companies and investors should pay special attention to environmental, social, and governance issues. Although this research finds a significant relationship between CSR and company value, this relationship differs in the life cycle stages. The findings show that CSR's social and governance dimensions positively affect the company's value in the growth stage. Companies in the early stages of their life cycle typically have a different reputation than companies in the mature or later stages. Therefore, they may engage in socially relevant activities to legitimize their existence and ensure continued success. In the maturity stage, CSR's social and governance dimension positively and significantly affects the company's value. In the recession/decline stages, the findings also show that CSR's social and governance aspects are evaluated more positively. In this stage, companies may engage in CSR activities to use reputational



capital to avoid the possibility of poor performance in the future. In general, social responsibility's social and governance dimension predicts higher company value in all life cycle periods, but this effect is more significant in the decline period. The environmental dimension of social responsibility generally positively affects firm value, but this effect is insignificant at different life cycle stages. Almost all studies conducted in this field confirm the initial research results that CSR has a positive effect on company value, such as Jiang et al. (2023), Hendratama and Huang (2021), Thu and Khuong (2023), Xie et al. (2019), Zhao et al., (2022), Oh et al., (2021), Widyawati, (2020) The difference in the impact of social responsibility dimensions in the stages of the life cycle is that, Xie et al. (2019), Hendratama and Huang (2021), Thu and Khuong (2023), similar to the present study, found that the dimension of corporate and social governance plays the most critical role in the stages of the life cycle, instead of environmental issues. However, Bajic and Yurtoglu (2018) and Liu et al. (2023) argue that only the social dimension consistently predicts higher firm value.

## 6. Practical implications

Research related to CSR in Iran is an area that has yet to be studied, and more attention has been devoted to the different dimensions of CSR and the life cycle in the area of priorities related to CSR for decision-making.

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