

The Relationship between Social Responsibility and Brand Value of Chinese Food and Beverage Enterprises in the Context of High-Quality Development

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Abstract: This article constructs a corporate social responsibility indicator system and conducts regression analysis on the relationship between food and beverage enterprises fulfilling social responsibility and enhancing brand value. Research has found that food and beverage companies have a significant positive impact on brand value enhancement when fulfilling social responsibilities to shareholders, suppliers, and governments; The fulfillment of social responsibility towards employees, creditors, and consumers does not have a significant impact on brand value enhancement; The overall completion of social responsibility by food and beverage enterprises has a significant positive impact on enhancing brand value. Among them, the feedback of employees, creditors, and consumers on the fulfillment of corporate social responsibility is not easy to fully measure, and they belong to anonymous beneficiaries, whose impact on brand value also shows a hidden nature. The social responsibilities undertaken by different types of enterprises vary greatly. Therefore, this article introduces the moderating variable of enterprise type to conduct heterogeneity analysis and verify that enterprise type plays a positive promoting role in the relationship between food and beverage enterprises fulfilling social responsibility and enhancing brand value.

Keywords: Corporate Social Responsibility; Anonymous Beneficiaries; Brand Value; Panel Regression; Heterogeneity.

1. Introduction

A brand is the core embodiment of a country's competitiveness and international status, and it is also the lifeblood and soul of an enterprise. Enterprises attach value to brand responsibility, shape brand image, and enhance market competitiveness. As a food and beverage industry that provides essential goods for the livelihoods of 1.4 billion Chinese people, since 2009, it has been the industry with the most enterprises selected on the China 500 Most Valuable Brands List. With the prosperous development of the food and beverage industry, consumers are paying more attention to fulfilling social responsibilities in the industry, and their impact on the brand value of related enterprises is also increasing day by day.

Wang Yanting (2013) believes that actively fulfilling social responsibility can maximize and comprehensively promote the creation and accumulation of brand value for enterprises. Yi Fengpeng (2013) believes that according to the theory of resource dependence, fulfilling social responsibility can encourage stakeholders to invest resources in the brand value of a company. Liu Dongsheng et al. (2018) studied the relationship between corporate social responsibility and brand value. The results indicate that there is a significant positive correlation between corporate social responsibility and brand value, indicating that actively fulfilling corporate social responsibility can bring higher brand value. The study also indicates that the R&D investment of enterprises has a moderating effect on the relationship between corporate social responsibility and brand value, significantly affecting the strength of the relationship between the two. Sun Xiaoli (2019) analyzed the relationship between consumer purchase intention and brand value in food enterprises, and found that actively fulfilling stakeholder responsibilities can have a positive impact on brand value, with consumer responsibility

behavior having the most significant impact.

Some domestic scholars believe that there is no positive correlation between fulfilling corporate social responsibility and corporate brand value. Li Yuanyuan et al. (2019) empirically tested the impact and mechanism of fulfilling corporate social responsibility on brand value enhancement based on the resource-based view. Research has found that fulfilling corporate social responsibility has a negative impact on brand value enhancement, while technological innovation has a positive impact on brand value enhancement. Moreover, improving the level of technological innovation can weaken the negative effects of fulfilling corporate social responsibility on brand value. Dan Mengmeng (2019) conducted an empirical study on the relationship between the nature of property rights and the progress of marketization. The results showed that the impact of corporate social responsibility on financial performance is not linear, and after a certain range, it turns into a negative impact. Zhang Yang (2021) empirically tested the non-linear relationship between fulfilling social responsibility and innovation investment on brand value using ranking data released by the World Brand Laboratory.

At present, domestic scholars have the following shortcomings in their research on the relationship between corporate social responsibility and brand value: (1) ignoring industry differences and staying at the level of general research on all industries, with little research on segmented industries and enterprises within industrial clusters. (2) The construction of an indicator system for quantifying corporate social responsibility performance in empirical testing has strong subjectivity and lacks authoritative and unified evaluation standards. This article will conduct a study on the relationship between corporate social responsibility and brand value in the food and beverage industry, and conduct research from the perspective of stakeholders.

2. Model Selection and Data Sources

2.1. Research Assumptions

Under the stakeholder theory, modern enterprises, as social citizens, derive their brand value not only from maximizing operating profits, but also from positive interactions with various stakeholders. In fact, there are significant differences in the performance of enterprises in fulfilling corporate social responsibility to various stakeholders. Therefore, fulfilling social responsibilities towards various stakeholders may have varying degrees or even different directions of impact on enhancing the brand value of the enterprise. Based on this, this article proposes the following hypothesis: H1: The better the performance of food and beverage enterprises in fulfilling their social responsibilities to shareholders, the higher the brand value of the enterprise; H2: The better the performance of food and beverage enterprises in fulfilling their social responsibilities to creditors, the higher the brand value of the enterprise; H3: The better the performance of food and beverage enterprises in fulfilling their social responsibilities to employees, the higher the brand value of the enterprise; H4: The better the performance of food and beverage enterprises in fulfilling their social responsibilities to consumers, the higher the brand value of the enterprise; H5: The better the performance of food and beverage enterprises in fulfilling their social responsibility towards suppliers, the higher the brand value of the enterprise; H6: The better the performance of food and beverage enterprises in fulfilling government social responsibilities, the higher the brand value of the enterprise; H7: The better the overall completion of social responsibility by food and beverage enterprises, the higher the brand value of the enterprise.

2.2. Indicator Design

2.2.1. Corporate Social Responsibility Indicator System

According to the stakeholder theory, this paper selects corresponding quantifiable indicators to evaluate corporate social responsibility, and evaluates the six aspects of shareholders, creditors, consumers, suppliers, employees, and the government respectively. Considering the information disclosure of the enterprise annual report, various financial websites and databases, as well as the authoritative, reliable and easy collection of the selected indicators, this paper studies the corporate social responsibility performance based on the contribution rate of enterprises to shareholders, creditors, consumers, suppliers, employees and the government established by Wang Huaiming (2007). The specific contents are as follows:

$$(1) \text{ Shareholders' ICR} = \frac{\text{cash paid for dividend and profit distribution or interest repayment reduce financial expenses}}{\text{main business income}}$$

$$(2) \text{ Staff ICR} = \frac{\text{cash paid to and for staff}}{\text{main business income}}$$

$$(3) \text{ Creditors' ICR} = \frac{\text{financial expenses}}{\text{main business income}}$$

$$(4) \text{ Suppliers' ICR} = \frac{\text{cash paid for goods and services}}{\text{main business income}}$$

$$(5) \text{ Consumers' ICR} = \frac{\text{main business cost}}{\text{main business income}}$$

$$(6) \text{ Government' ICR} = \frac{\text{taxes paid reduce tax refunded}}{\text{main business income}}$$

In the above indicator interpretation, ICR means income contribution rate.

$$(7) \text{ Comprehensive social responsibility} = 26.39\% * \text{Shareholder} + 11.75\% * \text{Creditor} + 26.52\% * \text{Staff} + 9.08\% * \text{Supplier} + 21.83\% * \text{Consumer} + 4.43\% * \text{Government}.$$

For the contribution rate of comprehensive social responsibility income, based on the modified Carroll CSR pyramid model, this paper determines the weight of economic, legal, ethical and charitable responsibilities according to the ratio of 3.5:2.54:2.22:1.3, and uses the research results of domestic scholar Xu Guanghua (2007) for reference to divide the weight of external and internal stakeholders into 0.4 and 0.6, as shown in Figure 1 and Table 1.

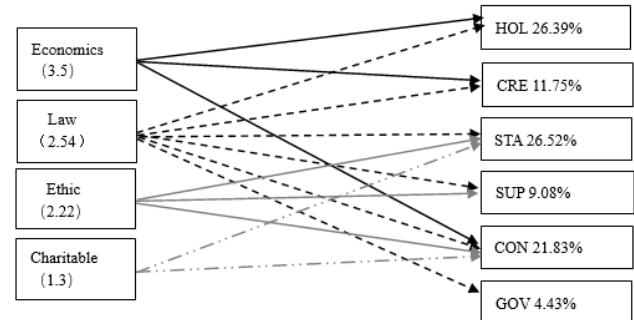


Figure 1. Weight Distribution of Six Elements of Social Responsibility

Table 1. Weight Calculation of Six Elements of Corporate Social Responsibility

stakeholder	Proportional distribution calculation	Weight distribution calculation
shareholder	$3.5*0.6+2.54/6=2.523$	$2.523/9.56=26.39\%$
creditor	$3.5*0.2+2.54/6=1.123$	$1.123/9.56=11.75\%$
staff	$2.22*0.6+2.54/6+1.3*0.6=2.535$	$2.535/9.56=26.52\%$
supplier	$2.22*0.2+2.54/6=0.867$	$0.867/9.56=9.08\%$
consumer	$3.5*0.2+2.22*0.2+2.54/6+1.3*0.4=2.087$	$2.087/9.56=21.83\%$
government	$2.54/6=0.423$	$0.423/9.56=4.43\%$

2.2.2. Enterprise Brand Value Indicators

Brand value is an invisible capital that is very difficult to define clearly. There are many ways to evaluate it, which can be broadly summarized into four types: cost price method, market value method, income calculation method, and economic applicability method. This article will use the data released by the World Brand Laboratory, which has published relatively complete data, as the observation value of brand value indicators. Specifically, the brand value rating data of food and beverage listed companies on the "China 500 Most Valuable Brands Ranking" from 2011 to 2022 will be used.

2.3. Variable Design

This article uses the enterprise brand value (BV) published by the World Brand Laboratory as the dependent variable; Adopting government income contribution rate (GOV), employee income contribution rate (STA), shareholder income contribution rate (HOL), creditor income contribution rate (CRE), supplier income contribution rate (SUP), and consumer income contribution rate (CON) that can reflect the company's social responsibility towards various stakeholders, And the comprehensive social responsibility contribution rate (COCSR), which can reflect the overall effectiveness of corporate social responsibility performance, is used as the explanatory variable; Select enterprise size (SIZE), asset liability ratio (LEV), equity concentration (HHI), company age (CAGE), year (YEAR), and industry (IND) as control variables; Select enterprise type (SOE) as the moderating variable.

2.4. Model Design

Based on the above theoretical analysis and the

determination of variable indicators, this paper will verify the above assumptions by establishing panel regression.

To study the impact of each type of corporate social responsibility on brand value, the model (1) - (6) is as follows:

$$BV_{it}=\alpha_0 + \beta_1HOL_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (1)$$

$$BV_{it}=\alpha_0 + \beta_1STA_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (2)$$

$$BV_{it}=\alpha_0 + \beta_1CRE_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (3)$$

$$BV_{it}=\alpha_0 + \beta_1SUP_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (4)$$

$$BV_{it}=\alpha_0 + \beta_1CON_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (5)$$

$$BV_{it}=\alpha_0 + \beta_1GOV_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (6)$$

To study the impact of comprehensive social responsibility on corporate brand value, the model (7) is as follows:

$$BV_{it}=\alpha_0 + \beta_1COCSR_{it} + \beta_2SIZE_{it} + \beta_3LEV_{it} + \beta_4HHI_{it} + \beta_5CAGE_{it} + YEAR + IND + \varepsilon_{it} \quad (7)$$

In this model, i represents an individual enterprise, t represents the financial year, $\beta_1 \sim \beta_5$ represents the regression coefficient, ε_{it} is the residual term, α_0 is a constant term.

2.5. Samples and Data Sources

The object of this empirical study is the food and beverage listed companies with the most brands and high brand value on the China 500 Most Valuable Brand Ranking. The products of these enterprises are directly related to the physical health and safety of the people. Consumers pay more attention to these enterprises than other enterprises, and the public has a strong desire to assume social responsibility for these enterprises. It is necessary to conduct empirical analysis on whether the relationship between these enterprises fulfilling social responsibility and enhancing their brand value is as hypothesized before.

The sample companies in this article are listed food and beverage companies with complete information disclosure on the "China 500 Most Valuable Brands" ranking. Excluding incomplete data, Hong Kong stock market, US stock market, and new stock companies, this article finally selected 19 food and beverage companies listed on the Shanghai and Shenzhen A-shares for 12 consecutive years from 2011 to 2022 as the research objects. The enterprise brand value data comes from the data published on the World Brand Laboratory website. The quantifiable data of the sample enterprises are all from the information disclosed by listed companies from 2010 to 2022 in the enterprise annual report and the Guotai An CSMR database, as well as the data publicly released on Juchao Information Network, Sina Finance Network, Shenzhen Stock Exchange, Shanghai Stock Exchange, and enterprise websites. The contribution rates of each stakeholder are manually calculated and organized to obtain the data.

3. Empirical Analysis

3.1. Descriptive Statistics

Descriptive analysis was conducted on the sample data, and the results are shown in Table 2. The minimum value of the dependent variable BV is 17.4, the maximum value is 3267.39, and the mean is 402.6138. Overall, the range of changes in brand value is large, showing a clear right skewed distribution, with the maximum value being one hundred times the

minimum value. This indicates that there are significant differences in brand value among different sample companies and years. The range of changes in the comprehensive social responsibility contribution rate (COCSR) is not large, with the minimum value of shareholder contribution rate (HOL) being -0.00945 and the maximum value being 0.353803, with an average of 0.068444. The earnings per share of each sample company vary greatly, and there are significant differences in earnings among different companies. The mean contribution rate of suppliers (SUP) is 0.532439, indicating that the sample companies have performed well overall in fulfilling their social responsibilities towards suppliers. The average contribution rate of government income (GOV) is 0.2019997, indicating that the sample companies have performed well overall in fulfilling their social responsibilities to the government. The mean of the moderating variable (SOE) is 0.6754, indicating that more than half of the sample enterprises are state-owned enterprises. Control variable analysis indicates that all sample enterprises have the ability to continue operating.

Table 2. Summary of Descriptive Analysis Results for Each Variable

Variable	Obs	Mean	Sd	Min	Max
BV	228	402.6138	550.5316	17.4	3267.39
COCSR	228	0.216386	0.05651	0.112945	0.321533
HOL	228	0.068444	0.070096	-0.00945	0.353803
STA	228	0.1191747	0.0563242	0.020524	0.435581
CRE	228	-0.000405	0.0133501	-0.033801	0.040621
SUP	228	0.532439	0.2613449	0.064637	1.094614
CON	228	0.501475	0.232859	0.070951	0.929928
GOV	228	0.2019997	0.1339	0.005087	0.555024
SOE	228	0.675439	0.469241	0	1
SIZE	228	23.2249	1.067515	21.2070	26.2652
LEV	228	0.38762	0.136601	0.130919	0.706292
HHI	228	39.85204	15.76189	8.79	73.41
CAGE	228	19.02632	4.3815	8	28

3.2. Correlation Analysis

After qualitative analysis of the correlation between variables, this study measured the Pearson correlation coefficients between each variable. The specific results are shown in Table 3.

From the Pearson correlation coefficient results calculated at the 5% significance level in Table 3, it can be seen that BV is significantly correlated with 10 items including COCSR, GOV, HOL, CRE, SUP, CON, SIZE, LEV, HHI, and CAGE, but not with STA and SOE.

3.3. Regressive Analysis

Before further empirical analysis, this article conducted VIF multicollinearity tests on each variable. The closer the VIF value is to 1, the lighter the collinearity, and vice versa, the more severe it is. In academia, a VIF less than 10 is commonly used as the criterion to determine the absence of multicollinearity. In this article, a VIF less than 5 is used as the test criterion. The test results indicate that the VIF values between each variable are all less than 5, indicating that there is no significant multicollinearity between the variables and the next step of regression analysis can be carried out.

3.3.1. Regression Analysis of Stakeholder Social Responsibility on Brand Value

This article conducts a regression analysis on the impact of stakeholders fulfilling social responsibility on brand value, incorporating control variables such as company size (SIZE), debt to asset ratio (LEV), equity concentration (HHI), and company age (CAGE). Through the Hausman test, a random

effects model (RE) is selected. According to different stakeholder, models 1-6 were used for regression, and the results are shown in Table 4.

Table 3. Correlation Analysis of Various Variables

correlation coefficient	BV	COCSR	GOV	HOL	STA	CRE	SUP	CON	SOE	SIZE	LEV	HHI	CAGE
BV	1.0000												
COCSR	-0.2040	1.0000											
GOV	0.3195	-0.8339	1.0000										
HOL	0.3914	-0.4992	0.6884	1.0000									
STA	0.1045	-0.0208	0.2062	-0.2046	1.0000								
CRE	-0.4060	0.4188	-0.5096	-0.5130	0.0813	1.0000							
SUP	-0.2931	0.9182	0.8965	-0.5764	-0.2595	0.4653	1.0000						
CON	-0.2878	0.9552	-0.9206	-0.6541	-0.1429	0.4876	0.9302	1.0000					
SOE	0.1113	-0.3245	0.3697	0.3304	0.0879	-0.3665	-0.3362	-0.3300	1.0000				
SIZE	0.7134	-0.1914	0.2507	0.4977	-0.2488	-0.4160	-0.1898	-0.2486	0.3260	1.0000			
LEV	-0.2388	0.3812	-0.5456	-0.5492	-0.1919	0.4862	0.5474	0.4732	-0.4672	-0.1576	1.0000		
HHI	0.1445	-0.2757	0.4087	0.1694	0.2173	-0.1355	-0.3882	-0.2943	0.3947	0.0806	-0.3960	1.0000	
CAGE	0.3181	-0.0997	0.0409	0.0059	0.3038	-0.0878	-0.1671	-0.1263	-0.1180	0.2176	0.0425	0.0175	1.0000

Table 4. Regression Analysis of Stakeholder Social Responsibility on Brand Value

Regression variables	BV	BV	BV	BV	BV	BV
HOL	1402.515** (2.54)	—	—	—	—	—
STA	—	-300.1523 (-0.55)	—	—	—	—
CRE	—	—	2614.602 (0.94)	—	—	—
SUP	—	—	—	446.5741* (1.95)	—	—
CON	—	—	—	—	141.8837 (0.48)	—
GOV	—	—	—	—	—	1071.594** (2.06)
SIZE	321.4084*** (5.70)	364.7421*** (4.58)	352.3501*** (6.29)	386.8552*** (4.93)	358.0024*** (6.23)	326.7871*** (5.78)
LEV	-294.2587 (-1.08)	-424.5995 (-1.41)	-555.4166* (-1.90)	-481.3119 (-1.63)	-447.8872* (-1.66)	-362.93 (-1.34)
HHI	-1.707266 (-0.62)	-3.0097 (-0.90)	-1.9565 (-0.70)	-3.27515 (-0.99)	-1.607619 (-0.57)	-2.3336 (-0.84)
CAGE	21.58111 (0.78)	36.0676 (0.42)	17.7192 (0.63)	37.2157 (0.44)	17.8696 (0.63)	17.1891 (0.62)
-cons	-7234.428*** (-4.60)	-8406.893*** (-3.27)	-7698.481*** (-4.84)	-9187.898*** (-3.61)	-7987.638*** (-4.76)	-195.817*** (-4.59)
Hausman	Prob>Chi2 =0.6519	Prob>Chi2 =0.0412	Prob>Chi2 =0.9001	Prob>Chi2 =0.5890	Prob>Chi2 =0.9030	Prob>Chi2 =0.9981

Note: t statistics in parentheses *p<0.1, **p<0.05, ***p<0.001.

For shareholders, the T-value is 2.54 and significant at the 0.05 level, with a regression coefficient of 1402.515. It can be seen that food and beverage companies have a significant positive effect on enhancing brand value by fulfilling their social responsibilities to shareholders. As shareholders, timely payment of dividends by the company can protect the legitimate rights and interests of shareholders, ensure the stability of the capital chain, and lay the foundation for the healthy development of the company.

H1	The better the performance of food and beverage enterprises in fulfilling their social responsibilities to shareholders, the higher the brand value of the enterprise.	support
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For employees, at various significance levels, food and beverage companies did not significantly improve brand value by fulfilling their responsibilities to employees. The performance of food and beverage companies in fulfilling their responsibilities to their employees is more related to their personal feelings, such as employee training, safety training, and condolence behavior. These aspects are difficult to measure using existing financial indicators, and the feedback from beneficiaries who fulfill their responsibilities is not clear enough, resulting in the phenomenon of anonymous beneficiaries. In addition, the food and beverage industry has relatively low requirements for employee quality, and the overall salary level is not high.

H2	The better the performance of food and beverage companies in fulfilling their employees' social responsibilities, the higher the brand value of the enterprise.	reject
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For creditors, at various levels of significance, food and beverage companies have not significantly improved brand value in fulfilling their responsibilities to creditors. Food and beverage enterprises should have timely repaid principal and interest to banks, financial institutions, and other creditors to ensure the safety of creditor funds. However, given the situation in China, there are often non-performing loans between state-owned banks and state-owned enterprises, which even eventually become bad debts. Enterprises often fulfill their social responsibilities to bondholders due to unclear beneficiaries, resulting in anonymous beneficiaries and relatively lax performance.

H3	The better the performance of food and beverage enterprises in fulfilling their social responsibilities to creditors, the higher the brand value of the enterprise.	reject
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For suppliers, the T-value is 1.95 and significant at the 0.05 level, with a regression coefficient of 446.574. It can be seen that food and beverage enterprises have a significant positive effect on enhancing brand value by fulfilling social responsibility towards suppliers. Food and beverage enterprises settle payments with suppliers in a timely manner and provide fair competition opportunities, which will be beneficial for obtaining sufficient and stable sources of goods, as well as relatively low ordering costs, storage costs, and out of stock costs, thereby bringing about an increase in brand value.

H4	The better the performance of food and beverage enterprises in fulfilling their social responsibilities towards suppliers, the higher the brand value of the enterprise.	support
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For consumers, at various levels of significance, food and beverage companies have not significantly improved brand value in fulfilling their responsibilities to consumers. Food and beverage companies should fully fulfill their social responsibilities of providing consumers with safe, reliable, high-quality and affordable products, as well as timely, effective, enthusiastic and sincere services, in order to enhance their purchasing desire, satisfaction, and loyalty. However, these aspects all involve personal feelings of consumers, which are difficult to measure. The feedback from beneficiaries in fulfilling their responsibilities is not clear enough, resulting in the phenomenon of anonymous beneficiaries.

H5	The better the performance of food and beverage enterprises in fulfilling their social responsibilities to consumers, the higher the brand value of the enterprise.	reject
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For the government, the T-value is 2.06, which is significant at the 0.05 level, with a regression coefficient of 1071.594. It can be seen that food and beverage enterprises have a significant positive effect on enhancing brand value by

fulfilling their social responsibilities towards the government. Food and beverage enterprises can become law-abiding citizens, pay taxes in accordance with the law, respond to government calls, fulfill their responsibilities to the government, and enhance the brand value of the enterprise.

H6	The better the performance of food and beverage enterprises in fulfilling government social responsibility, the higher the brand value of the enterprise.	support
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In controlling variables, the size of the enterprise has a positive driving effect on all stakeholders. In production and operation, larger companies are more likely to carry out production line operations, reduce costs, save resources, and form economies of scale. For consumers, larger companies are more likely to gain their trust and favor. The effect of asset liability ratio on certain stakeholders is also quite obvious. The lower the asset liability ratio, the less debt repayment pressure a company will face. It will have sufficient funds to fulfill social responsibilities, expand brand influence, and enhance brand value. The impact of two variables, equity concentration and company age, on stakeholders is not significant.

3.3.2. Regression Analysis of Comprehensive Social Responsibility Fulfillment on Brand Value

According to Model 7, regression analysis was conducted on the impact of comprehensive social responsibility fulfillment on brand value, and the results are shown in Table 5.

Table 5. Regression analysis of comprehensive social responsibility fulfillment on brand value

model	RE
dep	BV
COCSR	1852.402** (2.22)
SIZE	397.4034*** (5.05)
LEV	-292.5626 (-0.99)
HHI	-3.619526 (-1.10)
CAGE	36.86174 (0.44)
-cons	-9672.811*** (-3.77)
Hausman	Prob>Chi2=0.8514

Note: t statistics in parentheses *p < 0.1, **p < 0.05, ***p < 0.001.

For COCSR, the T-value is 2.22 and significant at the 0.05 level, with a regression coefficient of 1852.402. It can be seen that the overall completion of social responsibility by food and beverage enterprises has a significant positive effect on enhancing brand value.

H7	The better the overall completion of social responsibility by food and beverage enterprises, the higher the brand value of the enterprise.	support
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3.4. Heterogeneity Analysis

This article introduces the type of enterprise (SOE) as a moderating variable to investigate whether the different types of state-owned and non-state-owned enterprises will have a promoting effect on the impact of corporate social responsibility on brand value.

In China, compared to non-state-owned enterprises, state-owned enterprises may not aim to maximize profits, but rather serve society, ensure employment, and stabilize prices. State owned enterprises focus on macro social effects, while non-state-owned enterprises focus on micro effects. In addition, the nature of state-owned enterprises also requires them to

have more standardized management and information disclosure, rather than being easily influenced by the controlling shareholder's own beliefs. Therefore, by introducing the moderating variable enterprise type SOE and setting the interaction term CROSS-SOE for each social responsibility contribution rate, the two are introduced into the model for regression analysis. If CROSS-SOE shows significance in the regression results, it indicates the existence of heterogeneity. If CROSS-SOE does not show significance, it indicates that there is no difference in the impact of social responsibility contribution rates on brand value between the samples of the two enterprise types. Organize the regression results of 7 panels as shown in Table 6.

Table 6. Heterogeneity Analysis

Regression variables	BV (RE)	BV (RE)	BV (FE)	BV (RE)	BV (RE)	BV (RE)	BV (RE)
COCSR	156.4285 (0.17)	—	—	—	—	—	—
HOL	—	935.721 (1.11)	—	—	—	—	—
STA	—	—	99.7058 (0.19)	—	—	—	—
CRE	—	—	—	-580.995 (-0.16)	—	—	—
SUP	—	—	—	—	-53.5942 (-0.23)	—	—
CON	—	—	—	—	—	-83.31 (-0.26)	—
GOV	—	—	—	—	—	—	1521.04** (2.65)
CROSS-SOE	1908.398* (1.78)	412.8131 (0.46)	-3370.25** (-2.99)	7283.205* (1.84)	395.138* (1.68)	475.447 (1.60)	-804.023* (-1.67)
SOE	-751.762** (-2.79)	-305.816*** (-3.75)	45.9384 (0.30)	-308.723** (-4.55)	-549.138** (-3.23)	-582.742** (-3.06)	-178.979* (-1.85)
SIZE	454.147*** (7.82)	396.84*** (6.84)	471.393** (6.14)	418.612** (7.39)	444.135** (7.80)	451.21** (7.61)	415.942** (7.16)
LEV	-656.66** (-2.47)	-476.01* (-1.78)	-689.901** (-2.43)	-786.709** (-2.78)	-781.776** (-2.85)	-676.011** (-2.56)	-562.934** (-2.14)
HHI	-3.1112 (-1.12)	-3.9236 (-1.45)	-4.927 (-1.42)	-4.7396* (-1.73)	-2.535 (-0.92)	-2.941 (-1.05)	-4.046 (-1.48)
CAGE	19.3427 (0.69)	27.1137 (0.97)	-8.258 (-0.10)	18.301 (0.66)	18.227 (0.69)	17.337 (0.62)	16.243 (0.59)
-cons	-9980.24** (-6.14)	-8846.25** (-5.55)	-9517.98** (-3.97)	-8951.92** (-5.65)	-9597.54** (-6.16)	-9766.22** (-5.85)	-9135.32** (-5.75)
Hausman	Prob>Chi2=0.3028	Prob>Chi2=0.2476	Prob>Chi2=0.0004	Prob>Chi2=0.3092	Prob>Chi2=0.1582	Prob>Chi2=0.3334	Prob>Chi2=0.7080

Note: t statistics in parentheses *p<0.1, **p<0.05, ***p<0.001.

From the analysis results in Table 6, it can be seen that among the sample enterprises, there is no significant difference in the impact of shareholder income contribution rate and consumer income contribution rate on brand value between state-owned enterprises and non-state-owned enterprises. However, there are significant differences in the impact of comprehensive social responsibility income contribution rate, creditor income contribution rate, supplier income contribution rate, government income contribution rate, etc. on brand value between state-owned enterprises and non-state-owned enterprises, There is heterogeneity in the impact of corporate social responsibility on brand value, indicating that non-state-owned enterprises should also attach equal importance to fulfilling corporate social responsibility, which will promote the enhancement of brand value.

4. Conclusion

The social responsibility of food and beverage companies towards shareholders has a significant positive impact on enhancing brand value. As the largest provider of company

capital, shareholders hope to receive dividends on a regular basis, earn huge profits, and receive investment returns. Meeting the requirements of shareholders can promote the business development of the company, enhance its brand value and comprehensive strength.

The social responsibility of food and beverage enterprises towards suppliers has a significant positive impact on enhancing brand value. Food and beverage enterprises settle payments with suppliers in a timely manner and provide fair competition opportunities, which will be beneficial for obtaining sufficient and stable sources of goods, as well as relatively low ordering costs, storage costs, and out of stock costs, thereby bringing about an increase in brand value.

The social responsibility of food and beverage enterprises towards the government has a significant positive impact on enhancing brand value. The responsibility of a company lies in creating a good corporate image that pays taxes in accordance with the law. When a company is recognized by the government, it is easy to receive supportive assistance such as preferential tax rates and tax reductions, which

promotes the healthy development of the enterprise and also motivates its behavior.

The fulfillment of social responsibility by food and beverage companies towards employees, creditors, and consumers did not show a significant impact on brand value. However, as an important human capital of the enterprise, employees should be given attention by the company. The company's responsibility to employees can earn their trust and ensure smooth daily production and operation; Creditors are the external driving force behind a company's capital pool, providing security for the company's funds. The enterprise fulfills its responsibilities to creditors, timely repays principal, pays interest, and maintains a cooperative and win-win business relationship with creditors, which is conducive to stabilizing funds; Consumers are the core of all business activities of enterprises. Providing safe, reliable, high-quality, and cost-effective products, as well as timely, effective, and enthusiastic services, can enhance consumer purchasing desire, satisfaction, and loyalty, thereby enhancing the brand value of enterprises. But because these aspects all involve the issue of unclear and difficult to measure feedback from beneficiaries of corporate responsibility, we will refer to it as the anonymous beneficiary phenomenon, which results in a hidden impact on brand value.

For different types of enterprises, this article conducted heterogeneity analysis, and the results showed that there are significant differences between state-owned and non-state-owned enterprises in assuming social responsibility and comprehensive social responsibility for various stakeholders. Moreover, when state-owned and non-state-owned enterprises assume social responsibility for various stakeholders and have an impact on the brand value of the enterprise, there are mostly significant differences. So, in food and beverage enterprises, whether state-owned or non-state-owned, they should actively fulfill their social responsibilities, promote the healthy development of the company, and enhance brand value.

Overall, food and beverage companies taking on social responsibility will enhance their brand value. The higher the completion of a company's social responsibility, the more significant the improvement in brand value. This indicates that food and beverage enterprises, whether viewed from the perspective of fulfilling social responsibilities to various stakeholders or from the perspective of overall social responsibility completion, exhibit a positive impact on

enhancing the brand value of the enterprise. Active fulfillment of social responsibility by food and beverage enterprises is an effective measure to enhance competitiveness and enhance brand value.

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