IMPACT OF CORPORATE SOCIAL RESPONSIBILITY ON COST STICKINESS: EMPIRICAL EVIDENCE FROM LISTED COMPANIES VIETNAM

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Abstract: ***The research objective is to evaluate the impact of corporate social responsibility (CSR) on the stickiness of selling, general & administrative expenses (SG&A) costs of listed companies on the Vietnamese stock market. Data from 197 listed companies on the Vietnamese stock market during the period 2020-2023 were used. After comparing Pooled OLS, FEM, REM models and performing the necessary defect tests (multicollinearity, homogeneity of variances and serial correlation), the authors used the FGLS model to overcome the problem of heteroscedasticity and autocorrelation to test the hypothesis. The results show that CSR has an impact on the stickiness of SG&A costs.***

• Keywords: *corporate social responsibility, cost stickiness, selling and administrative expenses, listed companies, Vietnam.*

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1. Introduction

The development of enterprises plays an important role in the economy; however, if not aligned with sustainable development, it can lead to serious consequences such as environmental pollution and climate change. Howard R. Bowen (1953) emphasized that "the duty of businessmen is not to negatively impact societal interests," which also reflects the social responsibility of businesses. Nowadays, CSR goes beyond shareholder interests, encompassing responsibilities toward employees, customers, suppliers, and the environment, thereby contributing to sustainable growth (Chen & Wang, 2023). CSR has become a key strategic factor for large companies globally, with organizations like the United Nations and OECD emphasizing and issuing many policies and guidelines. This has created positive pressure, encouraging companies to increase investments in environmental protection and social activities, thereby enhancing reputation and competitiveness in the global economy.

Currently, in Vietnam, there is no specific legal framework directly regulating the CSR activities of enterprises. Instead, related regulations mainly fall within separate legal documents such as the Law on Environmental Protection 2020, the Labor Law 2019, etc. Additionally, government policies like Decision No. 882/QD-TTg on the "National Action Plan for Green Growth" (2022) and Decision No. 681/QD-TTg on the "Roadmap for Implementing Vietnam's Sustainable Development Goals until 2023" (2019) demonstrate increasing interest from the state in CSR activities. Domestic enterprises have also made positive shifts towards sustainable development strategies. For example, in the Top 50 Sustainable Enterprises Award (CAS, 2023), 20 FDI enterprises, 24 listed companies, and 6 unlisted companies were honored, reflecting a serious orientation of both businesses and the government toward CSR implementation. However, implementing these activities entails significant investment and financial costs. Cost management plays a crucial role because it is a key factor in enhancing competitiveness and long-term strategies (Kaplan & Cooper, 1998). Therefore, understanding cost behavior related to CSR activities is essential to support managers in making effective decisions (Yook & Kim, 2018). From a behavioral cost perspective, a key issue is whether managers adjust resource allocation appropriately according to business activity levels, a phenomenon known as "The cost stickiness" (Habib & Hasan, 2019). An expression of this is asymmetric behavior in costs where the increase when business activity rises is larger than the decrease when activity declines (Ballas et al., 2019). Consequently, this study focuses on the impact of CSR on cost stickiness, based on empirical evidence from listed companies on the Vietnam stock market.

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In this study, the data from 197 listed companies on the stock market of Vietnam from 2020 to 2023 were collected to examine the impact of CSR on cost stickiness. This study contributes to the theoretical framework of cost behavior and provides empirical evidence on the impact of CSR activities at Vietnamese listed companies. The following contents of this study include: (2) Theoretical framework and research hypotheses, (3) Methodology, (4) Research results, and (5) Conclusion.

2. Theoretical framework and research hypotheses

In this section, the authors will present some concepts and develop research hypotheses. One of the important concepts of interest is corporate social responsibility and cost stickiness. These concepts are defined as follows:

2.1. Corporate social responsibility

From the 1960s to the early 1970s, social activist groups promoted the idea of corporate responsibility, leading to the establishment of government agencies such as the Equal Employment Opportunity Commission, the Environmental Protection Agency, the Consumer Product Safety Commission, and the Occupational Safety and Health Administration with aim to protect the interests of consumers, workers, and the environment. Corporate managers during this period faced the challenge of balancing the needs of owners with those of a broader range of stakeholders (Carroll, 1991).

In the 1980s, the focus was shifted to improving the definition and study of CSR, which was classified into several concepts and topics such as social responsiveness, social performance, business ethics, and stakeholder theory. CSR is defined as corporations voluntarily considering the interests of stakeholders beyond shareholders, such as employees, customers, suppliers, and local communities (Jones, 1980). In the early 1990s, the definition of CSR continued to expand, becoming the foundation for other related concepts. Carroll's (1991) CSR pyramid identifies four main aspects including economic responsibility, legal responsibility, ethical responsibility and philanthropic responsibility.

In addition, the World Business Council for Sustainable Development (WBCSD) defines CSR as the ethical behavior of a company towards society. CSR includes management's responsibility to the stakeholders holding a legitimate interest in the business, as well as the long-term obligation through management, participation, and ethical contribution to economic growth, while improving the quality of life of employees, their families, and society at large (Moir, 2001).

Later, Hopkins states in a study that "CSR involves treating a company's stakeholders in an ethical or responsible manner. 'Ethical or responsible' refers to treating stakeholders in a way that is considered acceptable in civilized societies. The CSR includes economic and environmental responsibility. Stakeholders exist both within a firm and outside. The broader goal of CSR is to create higher and higher standards of living, while preserving the profitability of the corporation, for its stakeholders both within and outside the corporation." (Hopkins 2007, p. 15). After carrying out CSR activities, in order to provide information to stakeholders, the company will carry out the disclosure of CSR activities.

Corporate Social Responsibility Disclosure (CSRD) refers to companies sharing accurate information about their environmental and social activities, enabling stakeholders to assess the company's CSR efforts (Feneir, 2021). Over the past decade, many governments in the European Union and the United States have issued regulations requiring companies to disclose non-financial information related to CSR activities, aiming to enhance transparency and corporate social responsibility (Najah & Jarboui, 2013). International organizations such as ISO 26000, GRI, and SASB have developed standards and guidance tools for CSR reporting, contributing to the establishment of global benchmarks in this field. In Vietnam, Circular No. 96/2020/TT-BTC issued by the Ministry of Finance, effective from January 2021, has expanded the scope and deadline for reporting for publicly listed companies, promoting transparency and timely disclosure of corporate social responsibility information.

2.2. Cost stickiness

Cost "stickiness" is an asymmetry in cost behavior phenomenon of a firm when the sales change, attracting the attention of many researchers (Anderson et al., 2003).

Instead of responding symmetrically, increasing or decreasing correspondingly with fluctuations in revenue, cost tend to exhibit a "stable" behavior: increasing faster when revenue rises, but decreasing more slowly when revenue falls (Weiss, 2010). This phenomenon occurs because firms often face adjustment costs when they want to change the size of their activities, especially during production downturn. These costs can include the cost of laying

off employees, the cost of liquidating assets, or the cost of canceling contracts (Anderson et al., 2003). These costs often cause the managers to delay cutting costs, hoping that the sales will recover soon. In a growing economy, it is necessary for costs to increase with sales to meet market demand and seize opportunities. However, in a recession, the cost "stickiness" can cause major problems, reduce profits, increase financial risks, and even threaten the existence of companies. Therefore, identifying, measuring, and effectively managing cost "stickiness" is critical for managers, helping them make informed business decisions and respond flexibly to market fluctuations.

2.3. Hypothesis development

As stated in agency theory, managers (agents) may have an incentive for "empire-building" causing the "stickiness" of SG&A expenses (Chen et al., 2012). Ethical managers may enhance the cost stickiness to benefit the companies. However, although the CSR implementation increases the company value (Lukiman & Wirianata, 2024) and brings many benefits such as reducing financial risks, improving reputation (Broadstock et al., 2020), it can also be an opportunity for the managers to take private benefits at the expense of shareholders (Brammer & Pavelin, 2006). Therefore, it is argued that the managers always try to obtain cost stickiness when investing in CSR activities.

Furthermore, as stated in the stakeholder theory, companies must balance the interests of stakeholders who provide important resources (Chatterji, 2014). Engaging in Corporate Social Responsibility initiatives is a key way for companies to meet the demands of their stakeholders, which requires the managers to consider the associated costs (environmental investments, employee training, community activities, CSR reporting, and environmentally friendly technology, etc). Therefore, the managers must ensure the cost stickiness when implementing CSR, including CSR operating costs to fulfill commitments to the stakeholders. Based on agency theory and stakeholder theory, it can be seen that the CSRD reduces conflicting goals between parties and increases transparency in corporate activities. From the above analysis, the following research hypothesis is proposed:

H: Corporate social responsibility positively impacts the cost stickiness.

3. Methodology

3.1. Research sample

In this study, data of 197 companies listed on HOSE and HNX (period 2020-2023) were collected from financial statements and annual reports posted on https://finance.vietstock.vn. Companies were excluded due to insufficient information on revenue, expenses or ownership, including banks, securities companies, finance, insurance, and financial institutions. The number of observations was 788, using the convenience sampling method to conduct the study.

3.2. Research model

To test the research hypothesis, multiple regression was used to estimate the impact of corporate social responsibility on cost stickiness, including dependent variables (stickiness of selling, general & administrative expenses), independent variable (corporate social responsibility), and control variables (company size, financial leverage, asset intensity, and employee intensity). The research model is proposed as follows:

$$LNSGA_{it} = \beta_0 + \beta_1 LNSALE_{it} + \beta_2 LNSALE_{it}*DEC_{it} + \beta_3 LNSALE*DEC_{it}*CSR_{it} + \beta_4 CSR_{it} + \beta_5 SIZE_{it} + \beta_6 AI_{it} + \beta_7 LEV_{it} + \beta_8 EI_{it} + \varepsilon_{it} \quad (1)$$

Where: i and t respectively are company i and year t; LNSGA and LNSALE respectively are the logarithms of total SG&A expenses and sales/revenue from the sale of goods, rendering of service of company i in year t. LNSGAit, LNSALEit, LNSALEit*DECit are the values representing the dependent variable and the cost stickiness; CSR is the independent variable representing corporate social responsibility; SIZE, LEV, AI and EI are control variables representing the level of correlation between company size, financial leverage, asset intensity and employee intensity; β0 is the intercept coefficient; $\sum_{(n=1)}$^8 β are the coefficients of variation and ε is the residual.

3.3. Measurement of variables

3.3.1. Measurement of cost stickiness

Scale of Anderson et al. (2003) was used to measure the stickiness of total SG&A expenses as follows:

$$LN\frac{SGAi,t}{SGAi,t-1} = \beta_0 + \beta_1 LN\frac{SALEi,t}{SALEi,t-1} + \beta_2 * LN\frac{SALEi,t}{SALEi,t-1} *DEC + \varepsilon_{i,t} \quad (2)$$

Where, $SGA_{i,t}$ and $SGA_{i,t-1}$ are total SG&A expenses of company i in the current year t and the previous year t-1, respectively; $SALE_{i,t}$ and $SALE_{i,t-1}$ are the sales/revenue from the sale of goods, rendering of service of company i in the current year t and the previous year t-1, respectively. DEC is a dummy variable and equals 1 when the sales decrease, and

it equals 0 if the sales increase. Since the dummy variable DEC equal 0 when the sales increase, the coefficient β_1 represents the cost stickiness, the models present the percentage increase in costs due to a 1% increase in sales. Furthermore, since DEC equal 1 when the sales decrease, $\beta_1 + \beta_2$ represents the percentage decrease in costs due to a 1% decrease in sales. If costs are sticky, the percentage increase in costs when the sales increase must be greater than the percentage decrease in costs when the sales decrease, or in other words, $\beta_1 > 0$ and $\beta_2 < 0$.

3.3.2. Measurement of independent variables and control variables

- CSR: The independent variable is measured by using the content analysis method on CSR in the Annual Reports of listed companies based on the GRI 2016 standards. The process of analyzing the content by the authors is based on determining whether a company refers to the content in any of the GRI 2016 standards, assigning a score of 1 if it does, and conversely assigning a score of 0 if it does not. After determining the score for each criterion of each business in each year, CSR in the year is calculated using the unweighted average method (Nekhili et al., 2017) as follows:

$$CSR_{it} = \frac{\sum_{i=0}^{n=77} X_t}{n}$$

Where: CSRit is total CSR index of company i in year t, with 0 < CSRit < 1. The CSR level score (Xt) in each observation is calculated based on the total score that the companyi in year t achieved out of the total criteria (maximum n = 77 scores).

- SIZE: Firm size, measured by the logarithm of total assets at the end of the fiscal year (Ballas et al., 2019).

- LEV: Financial leverage, measured by the ratio of total debt to total assets (Chen & Wang, 2023).

- AI: Asset intensity, measured by the logarithm of total assets divided by the sales (Habib & Hasan, 2019).

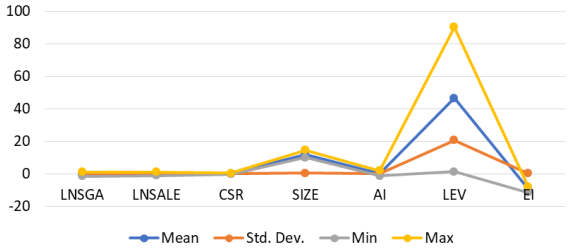
- EI: Employee intensity, measured by the logarithm of total employees divided by the sales (Habib & Hasan, 2019).

4. Research results.

4.1. Descriptive statistics

According to the Figure 1, the average LNSGA is 0.0239, reflecting large fluctuations among companies (standard deviation = 0.17). Sales and service revenue (LNSALE) growth is low, averaging 0.0078, but fluctuates strongly from -0.88 to 1.26. CSR has a low average (0.1241) and small variation, indicating that CSR activities are still limited and uneven. The average company size (SIZE) is 12.89, while asset intensity (AI) has large fluctuations, reflecting differences in financial structure. The average financial leverage (LEV) is highest (46.67), accompanied by high risk, while the average employee intensity (EI) is negative (-9.46), reflecting industry specificity.

Figure 1. Statistics of research variables



Source: Data collected and processed by the authors using Excel and STATA 15

4.2. Research results

This study uses balanced panel data of 197 companies listed on the Vietnamese stock market in the 4 years 2020-2023. We estimate regressions using all three models: Pooled OLS, Fixed Effects Model (FEM) and Random Effects Model (REM) to choose the most suitable model for the research data. After estimating all three models, the F-test results (F(196, 582) = 0.63; Prob > F = 0.9999) and Breusch-Pagan Lagrange multiplier (Chibar2 (01) = 0.0000; Prob > Chibar2 = 1.0000) show that the Pooled OLS model is appropriate.

Because the appropriate application of panel data analysis necessitates fulfilling several core assumptions such as: multicollinearity, homogeneity of variance, and serial correlation were studied.

Firstly, we used the variance inflation factor (VIF) to detect general multicollinearity. A large VIF on an independent variable indicates a high collinearity with other variables. The general rule is that a VIF exceeding 10 is a sign of severe multicollinearity, but the results showed that all VIF values are <10, so the multicollinearity does not exist. To test for homoscedasticity, a modified Wald test was used, and the results (Prob>chi2 = 0.0002) show that the model may have heteroscedasticity. In addition, the Wooldridge test for autocorrelation showed that there was a first-order correlation (F (1,196) = 5.460, Prob > F = 0.0205).

The test results show that the model experiences problems of heteroscedasticity and autocorrelation,

making the Pooled OLS model unsuitable. Therefore, a more efficient estimation method is Feasible Generalized Least Squares (FGLS) which corrects these problems. Table 1 compares the OLS, FEM, REM, and FGLS models; it shows that FGLS is superior in overcoming the heteroscedasticity and autocorrelation errors of the OLS model.

Table 1. Comparison results between Pooled OLS, FEM, REM and FGLS

LNSGA	Pooled OLS	FEM	REM	FGLS
LNSALE	0.705***	0.733***	0.705***	0.697***
	[12.64]	[9.43]	[12.64]	[25.65]
LNSALE*DEC	-0.246**	-0.302*	-0.246**	-0.299***
	[-2.10]	[-1.91]	[-2.10]	[-5.04]
LNSALE*DEC*CSR	-1.194**	-0.699	-1.194**	-0.693***
	[-2.07]	[-0.87]	[-2.07]	[-2.72]
CSR	-0.067	-0.0995	-0.067	-0.0222*
	[-1.02]	[-1.13]	[-1.02]	[-1.66]
SIZE	0.00343	0.146*	0.00343	0.00950***
	[0.33]	[1.66]	[0.33]	[3.16]
AI	0.000845	0.0367	0.000845	-0.00925*
	[0.05]	[0.42]	[0.05]	[-1.72]
LEV	-0.0000151	-0.00087	-1.5E-05	-0.00011
	[-0.05]	[-0.79]	[-0.05]	[-1.16]
EI	-0.000235	0.0629	-0.00024	0.00714*
	[-0.02]	[1.22]	[-0.02]	[1.68]
_cons	-0.0367	-1.142	-0.0367	-0.0394
	[-0.26]	[-1.24]	[-0.26]	[-0.88]
N	788	788	788	788
R-sq	0.257	0.261		
t statistics in brackets				
* p<0.1, ** p<0.05, *** p<0.01				

Source: Data collected by the authors, STATA 15

According to Anderson et al. (2003), the costs are considered sticky when the coefficient $\beta_1 > 0$ and $\beta_2 < 0$. The results in Table 1 show that the coefficient β_1 of 0.697 is statistically significant at 1% level of significance, and the coefficient β_2 of -0.299 is also statistically significant at 1% level of significance. This shows that the SG&A expenses of listed companies on the stock market of Vietnam are sticky. Specifically, when the company's sales increase by 1%, the SG&A expenses will increase by about 0.697%, and when the sales decrease by 1%, these SG&A expenses will decrease by about 0.398%. In other words, the SG&A expenses of listed companies on the stock market of Vietnam in the period 2020 - 2023 tended to be sticky. In addition, the coefficient LNSALE*DEC*CSR is $\beta3 = -0.693 < 0$ with a significance of 1% (P_value = 0.000), indicating that the implementation of CSR activities affects the cost stickiness. The coefficient $\beta3 < 0$ shows that the more listed companies carry out CSR activities, the more they increase the cost stickiness; this result supports hypothesis H. The result is similar to the research results of (Habib & Hasan, 2019; Ballas et al., 2019, …).

The control variables affecting the variation of SG&A expenses include firm size (SIZE) with $\beta5 = 0.00950$ (P_value = 0.002), asset intensity (AI) with $\beta6 = -0.00925$(P_value = 0.085), and employee intensity (EI) with $\beta8 = 0.00714$ (P_value = 0.092) while the financial leverage (LEV) has no effect.

Conclusion: The objective of this study is to assess the stickiness of SG&A expenses, as well as the impact of CSR on the stickiness of SG&A expenses of enterprises. The results show that CSR increases the stickiness of SG&A expenses at companies listed on the Vietnamese stock market. This result is consistent with reality because enterprises have to fulfill environmental and social commitments that often require long-term investments such as green technology, wastewater treatment, etc. This makes it difficult for them to reduce costs quickly even when sales decrease. This research result is consistent with the research results of some authors such as Habib & Hasan (2019) or Ballas et al. (2019), showing that, despite different national scopes, the impact of CSR on the cost stickiness. Actively participating in CSR activities helps listed companies enhance their reputation, image and manage costs more effectively, thereby maintaining stable operations and minimizing financial risks. For the government, this result provides a basis for developing policies to encourage businesses to implement CSR as part of a sustainable development strategy, contributing to promoting economic stability and enhancing national competitiveness.

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