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Original Research

Asymmetric Reaction of Market for Non-Continuing Items in the Profit or Loss Statement: Moderating Role of Company's Sustainability Performance

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ABSTRACT

In recent years, sustainability has garnered significant attention as a critical issue, emphasizing the integration and balance of environmental, economic, and social dimensions. These three pillars collectively form the foundation of supply chain sustainability, offering the potential to harmonize the interests of diverse stakeholder groups. This study aims to explore the impact of corporate sustainability performance on the asymmetric market response to non-continuing profit or loss items transactions or events that do not recur in a company's regular operations among companies listed on the Tehran Stock Exchange. The research analysed a sample of 110 companies over the period from 2016 to 2022. This applied study employed a post-event methodology, utilizing a panel data approach to test the research hypotheses. Statistical analysis was conducted using Eviews software. The findings revealed an asymmetric market response to positive and negative non-continuing items in the profit or loss statements. Specifically, the market responded negatively to positive non-continuing items and positively to negative ones. This asymmetric reaction can be attributed to the unique characteristics of non-continuing items, as market mechanisms differentiate between positive and negative events based on their distinct impacts on the company's profitability and operations. Furthermore, the evidence suggests that enhanced corporate sustainability performance mitigates the market's asymmetric evaluation of these non-continuing items. By improving sustainability practices, companies can reduce market misjudgements, thereby aligning stakeholder perceptions more closely with the firm's overall strategic direction and operational realities.

1 Introduction

In capital markets, investors' reactions to financial information disclosed by firms have long been a central theme in financial and accounting research. These reactions reflect the degree of market efficiency in processing information and play a pivotal role in the pricing of securities [33]. Among various

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financial disclosures, the items reported in the income statement have garnered particular attention from analysts and investors due to their direct relevance to firm performance. However, growing evidence in the accounting literature suggests that the market does not respond uniformly to all financial statement components. In many cases, asymmetric reactions are observed, particularly in response to certain information items such as non-continuing items [8]. These asymmetries are especially pronounced when markets exhibit stronger sensitivity to negative information than to positive news, indicating behavioral biases and the presence of information asymmetry.Non-continuing items in the income statement typically include gains or losses from asset disposals, costs related to business closures or restructurings, and consequences of rare or extraordinary events. These items are usually nonrecurring and unpredictable, arising outside the firm's normal operating activities. Hence, many scholars argue that non-continuing items do not provide a reliable basis for evaluating a firm's sustainable performance [18]. Nevertheless, empirical studies have shown that in environments with weak disclosure practices and limited transparency, markets may either overemphasize or completely disregard these items, leading to asymmetric market responses. The more pronounced market reaction to non-continuing losses compared to similar gains suggests a lack of investor understanding regarding the informational content of these items [10]. Prior studies support this assertion, indicating that markets tend to react more strongly to non-continuing losses. For instance, Dari-Mattiacci et al (1997) found that investors often attempt to avoid the recognition of losses by artificially inflating earnings, thereby exacerbating market asymmetry [10]. Similarly, Brown and Kennelly (2020) demonstrated that market valuations are significantly more sensitive to reported losses than gains [24]. More recent research, such as that by Smith and Lee (2017), also confirms that markets exhibit nonlinear and uneven reactions to non-standardized disclosures, including non-continuing items—a behavior largely rooted in investor psychology and the firm's information environment. Moreover, a lack of investor trust in management's ability to clearly distinguish between non-operating and recurring items further intensifies these asymmetric responses [33].

Under these circumstances, one key variable that may moderate the market's reaction is the firm's level of sustainability performance. In recent decades, sustainability performance has emerged as a fundamental indicator for assessing corporate transparency, management quality, and social responsibility [39]. Firms with higher environmental, social, and governance (ESG) scores tend to provide more transparent disclosures, foster greater investor trust, and reduce the likelihood of emotionally driven reactions to special information items such as non-continuing items. In this context, strong sustainability performance may serve as a "positive signal" regarding managerial credibility and the quality of financial reporting [27]. According to Legitimacy Theory, companies that adhere to high environmental and social standards are granted greater institutional legitimacy by society and stakeholders. This legitimacy can mitigate the market's adverse reactions to negative disclosures. Likewise, Signaling Theory suggests that sustainability reporting can be perceived as a signal of effective management, thereby strengthening investor confidence [6]. As such, firms with superior sustainability performance are more likely to face balanced and rational market responses—even when reporting negative non-continuing items—whereas firms with weak sustainability performance may experience more severe and irrational market reactions.Given the significance of non-continuing items as non-recurring yet influential information affecting investor decision-making, it is essential to explore the relationship between these items and market reactions with theoretical backing. In this regard, Information Processing Theory suggests that investors face cognitive limitations when processing complex or unusual information such as non-continuing items and may, instead of conducting thorough analysis, fall prey to behavioral biases, leading to asymmetric reactions [24]. Furthermore, Prospect Theory posits that individuals are more sensitive to losses than gains, and therefore, markets exhibit a stronger reaction to negative non-continuing

items [8]. In this context, a company's sustainability performance can play a moderating role by enhancing transparency and the credibility of information. According to Legitimacy Theory and Signalling Theory, firms with better sustainability performance project a more favorable image in the minds of investors, thereby moderating the intensity and direction of market reactions to specific information, such as non-continuing items. Therefore, the relationship between non-continuing items and market reactions not only has empirical and behavioral rationale but also rests on a solid theoretical foundation. Understanding this relationship can contribute to clarifying how market participants make decisions [7]. Accordingly, the present study aims to examine the asymmetric reaction of capital markets to non-continuing items in the income statement, with a focus on the moderating role of corporate sustainability performance. The findings of this research are expected to contribute to the growing body of literature in financial reporting, responsible accounting, and market behavior, while offering novel insights into the interplay between financial and non-financial information for various stakeholders [5].Our results underscore the informative value of non-continuing items, which provide critical insights into a company's future earnings potential. Different types and sources of these items exert varying influences on analysts' earnings forecast revisions, emphasizing the importance of aligning their disclosure with user needs [10]. This study offers empirical evidence to support the refinement of disclosure practices for non-continuing items, advancing financial reporting standards and providing actionable insights for companies and policymakers.

The paper is structured as follows: Section 2 reviews the literature, while Section 3 outlines the research methodology. Section 4 presents the findings, highlighting the critical interplay between sustainability performance and the market's evaluation of non-recurring items. Finally, Section 5 discusses the implications for theory and practice, concluding with a summary of the key contributions of this research.

2 Institutional Background and Theoretical Analysis

2.1 Institutional Background

Accounting theory distinguishes between continuing and non-continuing items, with disclosure practices varying significantly across jurisdictions [18]. The U.S. Financial Accounting Standards Board (FASB) adopts a flexible approach, requiring companies to recognize non-recurring items based on their operational context [33]. In contrast, China employs a more standardized and prescriptive methodology, reflecting the regulatory framework introduced by the China Securities Regulatory Commission (CSRC) in 1999. Since its initial clarification of the concept and disclosure requirements for non-continuing items, the CSRC has periodically refined these definitions to align with evolving regulatory priorities [24].In Iran, the treatment of non-continuing items adheres to a similarly standardized approach, closely aligning with international accounting practices. The Iranian Accounting Standards (IAS), under the auspices of the Iranian Audit Organization (IAO), establish detailed guidelines for the recognition and disclosure of non-continuing items. These regulations aim to enhance transparency and consistency in financial reporting, thereby fostering greater reliability in the information disclosed by Iranian firms [14, 20]. Historically, the IAS introduced explicit categorizations for non-continuing gains and losses in 2001, initially dividing them into identified and presumed items. However, this classification was eliminated in 2004, with subsequent revisions updating the specific components of non-continuing gains and losses. By 2007, the IAS removed several outdated items and introduced new ones, including net profits from subsidiaries under common control up to the merger date, restructuring costs (e.g., employee resettlement and integration expenses), and gains or losses from estimated liabilities unrelated to core operations. Additional revisions encompassed the scope of asset disposal income,

government subsidies, asset consumption, and profits and losses from non-monetary exchanges. By 2008, the IAS further expanded the classification of non-continuing items to include gains and losses from financial assets or liabilities held for trading, as well as from the disposal of financial assets held for sale [20, 35, 28]. Despite differences in regulatory approaches to defining non-continuing profits and losses, the disclosure of non-recurring items by listed companies remains highly comparable within the same accounting period. This comparability is not merely a technical aspect; it is pivotal for minimizing manual adjustments and ensuring the systematic management of endogenous reporting issues. Such consistency is critical for evaluating the economic implications of non-recurring items and highlights the fundamental role of comparability in enhancing the quality and reliability of financial reporting [26].

2.2 Corporate Sustainability

Corporate sustainability is defined as meeting today's needs without compromising the ability of future generations to meet their own needs. This concept encompasses five dimensions: economic, governance, social, ethical, and environmental, with a long-term perspective [36]. As an evolving management concept, corporate sustainability is an alternative to traditional short-term profit maximization methods. No company is fully sustainable, nor can it be, as corporate sustainability is considered a continuous improvement process [40]. Therefore, it can be defined as a relative concept that describes the planning and strategic management processes to balance economic, social, and environmental goals and values [13, 40]. Importantly, corporate sustainability aligns with investor interests, offering a potential for financial returns. The European Commission [31] defines corporate sustainability performance as the extent to which a company contributes to environmental, social, and economic development. The concept of sustainability performance indicates that a company should focus on factors beyond maximizing shareholder profits, considering the impact of its performance on the benefits of all stakeholders, including society and the environment. Many companies allocate a significant portion of their resources toward sustainability. However, some believe corporate sustainability activities need to align with profit maximization [40]. Corporate sustainability performance aims to achieve sustainable economic development, which refers to economic growth that is balanced with environmental protection and social progress, thereby improving the quality of life for employees, economic units, the environment, and society as a whole. Corporate sustainability performance emphasizes essential issues such as ethics, the environment, health, education, human rights, and more. Although implementing corporate sustainability performance incurs costs for economic units, it is expected to reduce costs and increase sales in the long term by enhancing reputation and credibility, improving financial performance competitiveness, and reducing risks, including bankruptcy risk [2]. If the firm conducts activities that are in line with the progress of some social goals that go beyond financial goals and also, it does not make mistakes in allocating funds to matters that are in favour of its own and society, cause to enhance the investment efficiency through competition sustainability [3]. Investors and creditors place greater importance on companies that effectively implement various aspects of corporate sustainability performance. This leads to higher credibility with investors and creditors due to the execution of corporate sustainability initiatives [37]. Previous researchers have argued that organizations that pursue and implement sustainability not only enhance long-term survival but also achieve superior performance and economic benefits, providing reassurance about its effectiveness. The Brundtland Report defines sustainable development as development that meets the needs of the present without compromising the ability of future

generations to meet their own needs. In a theoretical study, Jansen suggested that sustainability in corporate investment is strongly related to social responsibility investment and can be considered an optimal synthesis of conventional and sustainable investment, aiming to achieve superior social and environmental performance while maintaining financial returns. Existing studies indicate that corporate social responsibility positively impacts shareholder wealth. Additionally, Ben and Fisher's research provided evidence that economic sustainability concerning corporate financial performance involves adopting strategies that, compared to focusing on current issues such as short-term profit maximization, lead to increased share prices, operating profit, and market share in the long term [36].

2.3 Sustainability Performance and Non-Continuing Items

The impact of sustainability performance on the asymmetric market response to non-recurring items can be examined from various perspectives, each addressing different aspects of the relationship between firms and the market. One of the main dimensions of this impact is the enhancement of information transparency and long-term expectations from management. Specifically, sustainability performance acts as a crucial factor in shaping market perceptions and expectations of non-recurring items, which often involve unexpected or one-off events [29]. These items may appear suddenly in financial statements due to one-time transactions, unpredictable changes, or urgent strategic decisions. However, in firms with strong sustainability performance, there are generally more complex and effective management systems in place to prevent the occurrence of such events. In other words, companies that emphasize sustainability principles tend to adopt more advanced risk management strategies, enabling them to effectively identify and mitigate the risks associated with non-recurring items [1].On the other hand, these companies increase investor and stakeholder confidence by providing transparent and accurate reports on their sustainability performance in areas such as social responsibility, environmental impact, and governance. This type of transparency not only helps reduce uncertainty surrounding non-recurring items but also leads the market to react less to such items. In other words, when these items appear in a company's financial statements, the market typically responds less intensely due to the availability of sufficient information and confidence in the quality of management and sustainability strategies [16]. This trend is particularly evident in companies focused on sustainability, where the negative impacts of non-recurring items tend to be less pronounced compared to companies with weak sustainability performance [12]. In such cases, sustainability performance not only contributes to a reduction in the occurrence of non-recurring items but also leads to a more favorable evaluation by the market when these items do arise, based on clearer and more transparent information. Consequently, these companies are better able to generate greater stability in the market's response to non-recurring items, which in turn benefits the fairer and more rational valuation of their stock in the capital market [19].One of the key factors in this context is the use of agency theory, which explains how sustainability performance can improve the relationship between shareholders and managers [25]. Since managers typically act as agents for shareholders, when managers prioritize sustainability strategies, this action serves as a signal of commitment to long-term goals and a reduction in potential risks, which is conveyed to shareholders [30]. Consequently, investors are less concerned about the potential negative impacts of non-recurring items, as these items are effectively managed as part of the company's long-term sustainability strategies [11]. Therefore, agency theory suggests that sustainability performance can reduce the conflicts between shareholders and managers, thereby increasing market confidence [9]. In connection with this impact, signaling theory also plays a significant role. According to this theory, investors use available information to assess the quality and capabilities of company management [22]. Companies that are leaders in sustainability send signals through transparent and strategic actions in

areas such as environmental, social, and governance (ESG) practices, demonstrating their commitment to creating long-term value and mitigating potential risks. These signals can alter the asymmetric market response to non-recurring items, causing the market to view them more positively and with greater confidence. In fact, investors perceive companies that pay attention to sustainability as having lower risk and more stable performance, which can lead to a more favorable interpretation of non-recurring items [25]. Some researches show that there is no relation between non-financial information disclosure and market reaction whereas there is a meaningful relation between financial information disclosure and market reaction [38].Resource-based theory also plays an important role in explaining the impact of sustainability performance on market reactions. According to this theory, companies can leverage their unique resources to create a sustainable competitive advantage. Resources such as brand reputation, strong stakeholder relationships, and the ability to manage long-term risks can help companies interpret non-recurring items in a more positive light and with a forward-looking perspective. Companies that utilize rare and specific resources in the context of sustainability can more effectively reduce the risks associated with non-recurring items, leading to a positive market response to these items [4].
In this regard, market reactions to non-recurring items in companies with strong sustainability performance typically have distinct characteristics. These companies, by creating transparency in ESG reporting, particularly when facing non-recurring items, gain the trust of investors. As a result, the market tends to respond to these companies' non-recurring items in a more balanced way, based on sufficient information. In general, the higher the level of sustainability in a company, the more effectively the market adjusts its reactions according to this information, thereby reducing the likelihood of misunderstandings or negative interpretations of non-recurring items [25]. The findings of some researchers showed that there is a significant relation between the stock market uncertainty changes in an economic boom and the investment risk in general, which is not significant in terms of the economic turndown. The Investment risk during both economic boom and recession is decreased by the unexpected increase in profit of each share and propagation of positive news. Although the risk is increased by the spread of negative forecasts in relation to shares [41]. Using the Huang and Salmon model, researchers examined the impact of herding behavior of institutional investors on the stock returns of companies listed on the Tehran Stock Exchange, and their research results showed that there is a relationship between these two variables. Other findings of this study showed that the relationship between herding behavior and stock returns is greater in larger companies than in smaller companies, and also in companies with higher financial leverage; it is greater than in companies with lower financial leverage [42]. The researchers presented evidence in this study that shows that production costs do not decrease as income decreases. This phenomenon is called cost stickiness and indirectly affects tax evasion [43].
Through these theoretical lenses, it becomes clear that sustainability performance not only directly influences market reactions to non-recurring items but also facilitates a more informed and stable investor response. By reducing the asymmetry of information and mitigating perceived risks, companies with strong sustainability practices are better positioned to manage non-recurring items in ways that benefit their long-term value and market standing [2]. Theoretical frameworks such as agency theory, signalling theory, and the resource-based view offer a comprehensive understanding of how sustainability performance influences the asymmetric market response to non-continuing items. These perspectives collectively explain the mechanisms through which sustainability affects investor perceptions and market behaviours. By emphasizing the alignment of interests between managers and shareholders, the signalling of long-term value through sustainable practices, and the strategic use of unique resources, these theories highlight the crucial role sustainability plays in shaping market reactions to non-continuing items. This integrated approach provides a solid foundation for both academic research and practical

application, setting the stage for the development of hypotheses regarding the impact of sustainability on market valuations [25].

Based on the theoretical foundations and research literature, the research hypotheses are as follows:

H1: The reaction of market for positive and negative non-continuing items of the profit or loss statement is asymmetric.

H2: The corporate sustainability performance reduces the asymmetric reaction of market for positive and negative non-continuing items in the profit or loss statement.

3 Methodology

We employed a quantitative methodology to address our research question. Also, correlation tells us whether a relationship exists between two variables, as well as the overall strength of the relationship [15]. Furthermore, researchers require a technique like regression analysis, which enables them to predict the future with an assessed level of accuracy [34]. The subsequent section details the sampling method, variables, and the regression model.

3.1 Sampling Method and Variables

We selected companies listed on the Tehran Stock Exchange (TSE) from 2016 to 2022 to ensure the relevance of our research to the current market environment. Sustainability performance data was collected from the Rahavard Novin database, a trusted source for ESG information in Iran, while financial data was obtained from the Codal and TSETMC databases, both of which are recognized for their comprehensive and accurate financial reporting. Out of the total of 770 firm-year observations initially available, extreme values and records with missing data were systematically excluded to enhance data quality. In addition, we winsorized continuous variables at the 1% level to mitigate the impact of outliers, thereby improving the robustness of our analysis. Since this study investigates the relationship between sustainability performance and the asymmetric market valuation of non-recurring items, only firms that disclosed a sustainability score in the Rahavard Novin database were retained in the final sample, ensuring the use of relevant and complete data.To build a representative sample, we focused on companies operating in key industrial sectors, including pharmaceuticals, petrochemicals and refineries, machinery and equipment, automotive, basic metals, cement and lime, metal ores, and rubber and plastics. The initial population of the Tehran Stock Exchange includes approximately 450 listed companies. To refine our sample, we excluded firms that experienced trading suspensions longer than six months, did not disclose sustainability-related information, were delisted during the study period, or had accumulated losses exceeding their total equity. After applying these screening criteria, a final sample of 110 companies was selected, covering the period from 2016 to 2022, and providing a solid foundation for our empirical investigation

3.2 Regression Models

Each variable used in the analysis was tested for normality to ensure the validity of the assumptions underlying correlation and regression analysis. The regression analysis was performed using two models. The first model (1) aims to investigate whether sustainability performance influences the asymmetric market valuation of non-permanent income statement items, testing Hypothesis 1 (H1). Specifically, the coefficients for SUE (θ_1) and the interaction term SI×DUMMY (θ_4) are of particular interest in this model, as they will indicate the relationship between sustainability performance and market reactions to non-permanent items.

$$ABRET_{i,t} = \theta_0 + \theta_1 SUE_{i,t} + \theta_2 SI_{i,t} + \theta_3 DUMMY_{i,t} + \theta_4 SI \times DUMMY_{i,t} + \theta_5 SIZE_{i,t} + \theta_6 LEV_{i,t} + \theta_7 INSOWN_{i,t} + \mu_t + \gamma_t + \varepsilon_{i,t} \quad (1)$$

Where ABRET is abnormal stock returns (Abnormal stock return for firm *i* in year *t*, calculated as the firm's stock return minus the market return over a specified time window around the earnings announcement date), SUE is standardized unexpected earnings (Standardized Unexpected Earnings, computed as the difference between actual earnings and expected earnings (based on a time-series model or analyst forecasts), scaled by the standard deviation of earnings), SI represents non-continuing items (Size of non-continuing (non-recurring) items, measured as non-continuing items scaled by total assets or net income), DUMMY is a dummy variable indicating the sign of non-continuing items; It takes the value 1 if the item is negative (expense/loss) and 0 otherwise, SIZE denotes company size (measured as the natural logarithm of total assets at the end of the fiscal year), LEV is financial leverage (calculated as total debt divided by total assets), INSOWN is institutional ownership (defined as the percentage of shares held by institutional investors). μ_t represents the industry fixed effects to account for sector-specific characteristics that might influence the dependent variable, γ_t represents the year fixed effects to control for time-specific effects, such as macroeconomic or market-wide changes that could impact all firms. In this model, SUE tests the direct effect of sustainability performance, while SI × DUMMY examines whether the interaction between sustainability performance and non-permanent income items alters market valuation, which directly addresses H1.

Equation 2 is used to test the second hypothesis and show the role of the moderator variable:

$$\begin{aligned} ABRET_{i,t} = {} & \theta_0 + \theta_1 SUE_{i,t} + \theta_2 SI_{i,t} + \theta_3 CSP_{i,t} + \theta_4 DUMMY_{i,t} + \theta_5 SI_{it} \times DUMMY_{i,t} \\ & + \theta_6 SI_{i,t} \times CSP_{i,t} + \theta_7 DUMMY_{i,t} \times CSP_{i,t} + \theta_8 SI_{i,t} \times DUMMY_{i,t} \times CSP_{i,t} \\ & + \theta_9 SIZE_{i,t} + \theta_{10} LEV_{i,t} + \theta_{11} INSOWN_{i,t} + \mu_t + \gamma_t + \varepsilon_{i,t} \end{aligned} \quad (2)$$

Where CSP represents corporate sustainability performance.

In this equation, the interaction term $SI_{i,t} \times DUMMY_{i,t} \times CSP_{i,t}$ is key to testing H2, as it evaluates the moderating effect of CSP on the relationship between SI and the market valuation of non-permanent income items.

3.3 Moderating Variable: Corporate Sustainability Performance

The Tehran Stock Exchange (TSE) compiles extensive sustainability data from its listed companies, aggregating the information into a series of performance indicators structured across 18 categories. These categories are further consolidated into four key pillars: Environmental, Social and Governance. ESG (Environmental, Social, and Governance) performance, a key explanatory variable in the study, encompasses various aspects of a company's operations related to environmental sustainability, social responsibility, and governance practices [17].

To dissect and analyze this overarching construct, the study utilizes three distinct sub-indices including environmental performance, governance performance, and social performance. To quantify these sub-indices, the study utilizes proxy variables extracted from each pillar score. These proxy variables represent the individual scores or assessments related to each sub-index of ESG performance [27, 23]. The environmental performance evaluates a company's performance in managing environmental risks, minimizing ecological footprints, and adopting environmentally sustainable practices. It measures factors

such as carbon emissions, energy efficiency, waste management, and adherence to environmental regulations [21]. The governance performance focuses on assessing the quality of a company's governance structure and practices. It encompasses factors like board independence, transparency in financial reporting, adherence to ethical standards, and the effectiveness of risk management and internal controls [32]. Similarly, the social performance evaluates a company's social impact and engagement with stakeholders. It encompasses measures related to labor practices, employee relations, community engagement, diversity and inclusion, human rights, and product safety. The measurement of ESG performance was extracted from recent literature [16, 4, 23, 32].

Each pillar is scored on a scale from 0 to 100, where a score of 0 indicates a lack of disclosure for the respective data points, and 100 signifies full transparency and comprehensive reporting. The TSE also calculates an overall Corporate Sustainability Performance (CSP) score as the arithmetic mean of the four pillar scores. This equal-weighted approach underscores the TSE's dedication to providing a balanced and holistic assessment of corporate sustainability, reflecting its integration of environmental, social, and governance dimensions into a unified framework.

3.4 Dependent Variable: Asymmetric Reaction of Market for Non-Continuing Items

The asymmetric reaction of market for non-recurring items in the profit or loss statements is assessed using a regression approach. We use the Ordinary Least Squares (OLS) method to estimate the model (3) as follows:

$$ABRET_{i,t} = \theta_0 + \theta_1 SUE_{i,t} + \theta_2 SI_{i,t} + \theta_3 DUMMY_{i,t} + \theta_4 SI \times DUMMY_{i,t} + \varepsilon_{i,t} \quad (3)$$

ABRET: Represents abnormal stock returns (represents the deviation of stock returns from the expected returns based on a model such as the Capital Asset Pricing Model (CAPM) or other market models. This variable captures the abnormal reaction of the stock price to specific events or financial reports, particularly non-recurring items), SUE: Standardized unexpected earnings (reflects the earnings surprise, normalized to account for the size of the company), SI: Non-recurring items in each period (refers to non-continuing or one-off items reported during the period, divided by the book value of equity at the beginning of the period, divided by the book value of equity at the beginning of the period), DUMMY: A binary variable, where DUMMY = 0 if SI ≥ 0 and DUMMY = 1 otherwise.

DUMMY is a binary variable used to differentiate between the positive and negative impacts of non-recurring items on stock returns. It takes a value of 0 if SI is greater than or equal to 0 (indicating a positive impact) and a value of 1 if SI is less than 0 (indicating a negative impact). The interaction term SI × DUMMY captures the compounded effect of non-recurring items in conjunction with the direction of the market reaction.

Abnormal stock returns (ABRET) are calculated as the difference between a company's actual return and the market return. The model uses a modified market approach, computed as the model (4) follows:

$$ABRET = r_{it} - r_{mt} \quad (4)$$

Stock Return, the return over 4 days around the earnings announcement (2 days before and 2 days after), and Market Return, the corresponding index return over the same period, are practical tools in our analysis. Standardized unexpected earnings (SUE) are a key tool in our analysis, calculated as follows:

As per Kordestani and Sepid Dast (2012), non-continuing items represent the non-operating section of the profit or loss statement (e.g., other non-operating income and expenses). In the regression model,

the coefficient of θ_4 plays a crucial role. Its significance indicates the market's asymmetric reaction to positive and negative non-recurring items in the profit or loss statement [33].

3.5 Control Variables

To analyze the impact of corporate sustainability performance on the asymmetric reaction of market for non-recurring items in the Tehran Stock Exchange, the following control variables are considered:

Company Size (SIZE): A factor affecting financing choices and a proxy for scale. Larger companies benefit from product diversification, market share capture, economies of scale, and operational diversity, all of which reduce business risk and enhance profitability. Company size is calculated using the natural logarithm of total assets.

Financial Leverage (LEV) measures the extent of a company's reliance on debt. Higher financial leverage signifies a higher degree of fixed costs and associated financial risk. Financial leverage is calculated as total debt divided by total assets.

Institutional Ownership (INSOWN): Institutional shareholders, such as banks, insurance companies, and revolutionary institutions, represent investors in company stock portfolios. This variable is computed as the percentage of shares held by institutional investors [11].

4 Empirical Results

4.1 Descriptive Statistics

Table 1 displays the descriptive statistics for each variable. The mean abnormal return and standardized unexpected earnings are 0.108 and 0.028, respectively, suggesting that most data are concentrated around these averages. The mean non-recurring item ratio is 0.093, indicating that approximately 9.3% of companies' book equity is attributed to non-recurring items at the start of the period. The sustainability performance mean is 0.223, with minimum and maximum values of 0 and 0.638, respectively, reflecting variations among sample companies in sustainability practices. The mean leverage ratio is 0.653, suggesting that listed companies rely more on debt, increasing their financial risk. Notably, the average institutional ownership is 0.573, meaning institutional investors hold approximately 57.3% of company ownership, a significant show of confidence in the company.

Table 1: Descriptive Statistics for Research Variables

Variable	Max	Min	Std. Deviation	Median	Mean
ABRET	0.329	-0.198	0.259	0.053	0.108
SUE	0.530	-0.139	0.637	0.011	0.028
SI	0.823	-0.201	0.823	0.053	0.093
CSP	0.638	0.000	0.225	0.149	0.223
LEV	0.975	0.058	0.285	0.642	0.653
SIZE	14.965	10.265	0.697	11.85	11.92
INSOWN	0.675	0.075	0.385	0.420	0.573

4.2 Correlation Matrix

In Table 2, the correlation matrix of all variables is reported, using the Pearson product-moment correlations to measure the strength of association between variables. The correlation analysis reveals a significant positive correlation between abnormal returns and unexpected earnings, suggesting that as companies achieve abnormal returns, they also experience unexpected earnings. Additionally, a significant positive correlation exists between non-recurring items and abnormal returns, highlighting that non-

recurring items play a critical role in generating abnormal returns. A significant negative correlation exists between sustainability performance and abnormal returns, indicating that companies with more sustainable operations tend to have consistent (non-abnormal) returns. Further, financial leverage positively correlates with abnormal returns, suggesting that leveraged companies are more likely to yield abnormal returns, though with higher associated risk. Similarly, institutional ownership correlates positively with abnormal returns, indicating that institutional investors may have short-term, speculative investment incentives to achieve abnormal gains.

Table 2: Correlation Coefficients of Research Variables

Variable	Abnormal Return (ABRET)	Unexpected Earnings (SUE)	Non-Recurring Items (SI)	Sustainability Performance (CSP)	Financial Leverage (LEV)	Institutional Ownership (INSOWN)	Company Size (SIZE)
ABRET	1	0.173**	0.189**	-0.099**	0.127**	0.144**	0.002
SUE	-	1	-0.077*	-0.019	-0.011	-0.023	-0.027
SI	-	-	1	0.159**	-0.054	-0.068	-0.036
CSP	-	-	-	1	-0.152**	-0.005	-0.080*
LEV	-	-	-	-	1	0.278**	-0.043
INSOWN	-	-	-	-	-	1	0.193**
SIZE	-	-	-	-	-	-	1

Note: Significance levels are indicated with * and **, representing significance at the 0.05 and 0.01 levels, respectively.

4.3 Test Results

To evaluate the stationarity of the data, we employ the Augmented Dickey-Fuller (ADF) test. The results confirm that all variables are stationary and can be used in their original form without transformation. Before conducting panel data regressions, we identify the most appropriate model specification. Three standard approaches are considered: pooled OLS, fixed effects, and random effects. A series of diagnostic tests guide model selection.

An F-test comparing pooled OLS and fixed effects supports the latter, indicating significant individual heterogeneity. The Breusch-Pagan Lagrange Multiplier test favors the random effects model over pooled OLS, suggesting meaningful variance across entities. Finally, the Hausman test distinguishes between fixed and random effects, with results indicating that the fixed effects model is more suitable for analyzing ABRET. The relevant test statistics are reported in Table 3.

Table 3: Hausman Test

Dependent Variable	Test Result	Chi-Square Statistic	p-Value
ABRET	Fixed effects	83.234	0.000

We then apply Breusch-Pagan LM test and Pesaran CD test to check for cross sectional dependence in the error terms. We find there is cross sectional dependence in the model. However, it is not a factor complicating our research design because we have a panel with short time series and large cross-sectional units (short T, large N). We use Breusch-Godfrey/Wooldridge test to check for serial correlation. We find there is serial correlation in the model. While serial correlation may be a complicating factor in macro panels with long time series, it is not a major issue in micro panels with short time series.

Finally, we use Breusch-Pagan test to check for heteroskedasticity and we find there is heteroskedasticity in the model. To summarize, we have cross sectional dependence in the model, but because our panel data structure is short T (8 years) and short N (110 companies), it does not cause complication in results. We also have heteroskedasticity and serial correlation in the model. To fix these problems, we

run White robust correction (vcovHC) known as the sandwich estimator. We finally run our fixed effects models after the above steps. Each firm in our data has its own "fixed" characteristics that change very little over time. Fixed effects model controls for all firm-specific observable or unobservable features that do not change much over time and thereby mitigates omitted variable bias.

4.4 Regression Analysis

The results for testing Hypothesis 1, as displayed in Table 4, indicate that the market's evaluation of positive and negative non-recurring items in profit and loss is asymmetric. The interaction term's coefficient is positive (0.291) and statistically significant (p-value < 0.05), leading to the acceptance of Hypothesis 1 at a 5% significance level. This acceptance marks a significant milestone in our research. The R^2 value is 0.396, suggesting that the independent variables explain over 39% of the variation in abnormal returns. The F-statistic p-value is 0.000, confirming the overall model significance. Additionally, the VIF values for all variables are below 10, indicating no multicollinearity.

Table 4: Market's Asymmetric Valuation of Positive and Negative Non-Recurring Items

Dependent Variable: **ABRET**	**B**	**t**	**p-Value**	**VIF**
$Constant$	-0.063	-0.900	0.368	-
$SUE_{i,t}$	0.042	2.477	0.014	1.166
$SI_{i,t}$	-0.132	-2.930	0.004	1.025
$DUMMY_{i,t}$	-0.109	-3.182	0.002	1.263
$SI \times DUMMY_{i,t}$	0.291	2.458	0.014	1.367
$SIZE_{i,t}$	-0.179	-1.530	0.127	1.213
$LEV_{i,t}$	0.014	3.142	0.002	1.352
$INSOWN_{i,t}$	-0.116	0.040	-2.853	0.004
Adjusted R^2	0.396			
F-statistic	9.394		p < 0.05	

Table 5: Impact of Corporate Sustainability on Asymmetric Market Valuation

Dependent Variable: ABRET	**B**	**t**	**p-Value**	**VIF**
$Constant$	0.214	3.133	0.002	-
$SUE_{i,t}$	-0.215	-3.047	0.002	1.345
$SI_{i,t}$	-0.186	-2.734	0.014	1.125
$CSP_{i,t}$	0.075	2.445	0.024	1.220
$DUMMY_{i,t}$	-0.022	-3.921	0.000	1.413
$SI \times DUMMY_{i,t}$	0.075	3.206	0.023	1.235
$SI \times CSP_{i,t}$	0.108	4.909	0.022	2.455
$DUMMY_{i,t} \times CSP_{i,t}$	0.059	1.117	0.081	2.265
$SI_{i,t} \times DUMMY_{i,t} \times CSP_{i,t}$	-0.093	-2.657	0.017	1.885
$SIZE_{i,t}$	0.101	3.747	0.000	1.548
$LEV_{i,t}$	0.031	-1.882	0.065	1.642
$INSOWN_{i,t}$	-0.023	-2.892	0.004	1.113
Adjusted R^2	0.367			
F-statistic	9.288		p < 0.05	

Table 5 presents the results for Hypothesis 2, indicating that corporate sustainability performance significantly impacts the market's asymmetric reaction to positive non-recurring items in profit and loss (coefficient = 0.108, p = 0.000). However, for negative non-recurring items, the coefficient is negative (-0.093) and significant (p = 0.017), confirming Hypothesis 2 at a 5% significance level. The adjusted

R^2 value is 0.367, indicating that the model explains over 36% of abnormal return variations, with significant implications for corporate sustainability and market reactions. Additionally, VIF values for all variables are below 10, confirming no multicollinearity.

4.5 Robustness Check

To ensure the robustness of our findings and address potential endogeneity concerns in the relationship between corporate sustainability performance (CSP) and market reactions, we re-estimate the second model using a lagged measure of CSP. Specifically, we replace the contemporaneous CSP variable with its one-period lagged value, $CSP_{i,t-1}$ to mitigate reverse causality and simultaneity bias. This approach assumes that investors react to sustainability disclosures that were already available in the prior period, thereby enhancing causal interpretation. By using the lagged CSP variable in the interaction terms—particularly in the moderating term $SI_{i,t} \times DUMMY_{i,t} \times CSP_{i,t-1}$ the modified model continues to test Hypothesis 2 while controlling for the timing of information flow to the market. The consistency of results between the original and lagged CSP model specifications provides support for the robustness of our main findings

Table 6: Impact of Corporate Sustainability on Asymmetric Market Valuation

Dependent Variable: ABRET	$\boldsymbol{\beta}$	**t**	**p-Value**	**VIF**
$Constant$	0.435	3.979	0.000	-
$SUE_{i,t}$	-0.368	-3.573	0.000	1.345
$SI_{i,t}$	-0.298	-3.450	0.000	1.125
$CSP_{i,t-1}$	0.088	2.975	0.013	1.220
$DUMMY_{i,t}$	-0.033	-4.242	0.000	1.413
$SI \times DUMMY_{i,t}$	0.099	3.174	0.008	1.235
$SI \times CSP_{i,t-1}$	0.153	5.757	0.000	1.546
$DUMMY_{i,t} \times CSP_{i,t-1}$	0.067	1.356	0.075	1.556
$SI_{i,t} \times DUMMY_{i,t} \times CSP_{i,t-1}$	-0.108	-3.107	0.011	1.885
$SIZE_{i,t}$	0.088	3.234	0.008	1.548
$LEV_{i,t}$	0.064	-2.567	0.033	1.642
$INSOWN_{i,t}$	-0.046	-3.356	0.004	1.113
Adjusted R^2	0.386			
F-statistic	11.566		$p < 0.05$	

Table 6 presents the robustness test results for Hypothesis 2, using the lagged value of CSP to address potential endogeneity. The results indicate that CSP continues to significantly affect the market's asymmetric response to non-recurring items in profit and loss. Specifically, the coefficient for the three-way interaction term $SI \times CSP_{i,t-1}$ is positive (coefficient = 0.153, p = 0.000) for positive non-recurring items, indicating that higher sustainability performance enhances market confidence and reduces negative perceptions. Conversely, for negative non-recurring items, the interaction term remains negative (coefficient = -0.108, p = 0.011), suggesting a mitigating effect on adverse market reactions. These results confirm Hypothesis 2 at the 5% significance level even after controlling for endogeneity.

5 Discussion and Conclusions

Sustainability performance has emerged as a central strategic objective for an increasing number of firms worldwide. This shift is primarily driven by growing awareness of environmental challenges, the evolution of stakeholder capitalism, and heightened expectations around corporate transparency and

accountability. Importantly, this transition does not imply a replacement of financial performance objectives with non-financial ones. Instead, it reflects an increasing interdependence between the two dimensions of performance, as suggested in prior research [1, 4, 23]. Firms are progressively expected to pursue economic growth in tandem with social equity and environmental responsibility, thereby aligning their goals with broader societal interests [21, 32].The empirical findings of this study shed light on how the Iranian capital market asymmetrically evaluates non-recurring items in the income statement. Specifically, the results reveal that the market reacts more negatively to positive non-recurring items than it does to negative ones. This asymmetry suggests that investors may interpret positive non-recurring earnings with greater skepticism, possibly viewing them as unsustainable or manipulative attempts to inflate profits. In contrast, negative non-recurring items tend to provoke a milder reaction, perhaps due to the perception that such losses are one-off, externally driven, or do not reflect core operational weakness. These findings align with prior literature such as Anji and Rezaei [7] and Smith and Lee [33], who also documented market sensitivity to the transitory nature of certain profit components and the differential valuation of recurring versus non-recurring earnings.Further, this study contributes to the literature by demonstrating that higher corporate sustainability performance moderates this asymmetric market reaction. Companies that exhibit stronger performance in environmental, social, and governance (ESG) domains appear to benefit from greater investor trust and reduced skepticism regarding the nature and implications of non-recurring items. This suggests that sustainability performance may act as a signaling mechanism, reducing information asymmetry and enhancing the credibility of financial reporting. Consistent with stakeholder theory the integration of ESG considerations fosters transparency, improves alignment of interests among stakeholders, and enhances the firm's legitimacy in the eyes of capital market participants [15].Moreover, our findings extend previous work by providing empirical evidence from an emerging market context—specifically Iran—where institutional voids and limited transparency amplify the importance of credible ESG signals. In such contexts, sustainability disclosures serve not only ethical and regulatory purposes but also strategic ones, by influencing how the market interprets financial anomalies such as non-recurring items. This result is consistent with the observations of Kumari and Joshi [23] and Johnson et al [39] who argue that ESG performance improves investor confidence and lowers perceived risk.The implications of these findings are significant for managers, investors, and policymakers. For corporate managers, it is crucial to prioritize accurate classification and transparent disclosure of non-recurring items in the income statement. Doing so helps investors form balanced expectations regarding future profitability. Beyond financial reporting, firms should invest in improving their sustainability performance—not merely for compliance or reputational reasons, but as a means of enhancing market confidence in their overall financial disclosures. High-quality ESG practices serve as a foundation for building trust and mitigating negative investor reactions to financial irregularities or exceptional items. Institutional and individual investors, on the other hand, are encouraged to pay closer attention to a firm's sustainability indicators when evaluating its financial reports. A company with a strong ESG profile is likely to have more robust internal controls, greater managerial accountability, and clearer strategic direction, all of which enhance the interpretability of its earnings figures. Recognizing the moderating role of sustainability performance can help investors avoid overreacting to temporary profit shocks and instead focus on the firm's long-term value creation capacity [32]. Finally, these findings suggest several avenues for future research. Scholars may explore whether the moderating effect of sustainability performance on market asymmetry holds in other emerging markets with different institutional structures. Longitudinal studies may also investigate how sustained ESG improvement over time influences the informativeness of financial statements. Additionally, it would be valuable to assess whether specific components of ESG—such as environmental versus

governance dimensions—differentially affect investor perceptions of non-recurring items.This study provides new insights into the interaction between non-recurring earnings components and sustainability performance in shaping investor responses in the Iranian capital market. It reaffirms the importance of integrating ESG principles into corporate strategy and highlights the multifaceted role of sustainability in enhancing both financial communication and market valuation processes. By acknowledging the interconnectedness of financial and non-financial dimensions of performance, companies can move toward more resilient and inclusive forms of value creation that serve a broad spectrum of stakeholders.

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