



Analyzing the relationship between the Sustainability Index (ESG) and financial performance: An analytical study of a sample of industrial companies listed on the Iraq Stock Exchange

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Abstract. *This study aims to analyze and measure the impact of sustainability (ESG) indicators on the financial performance of companies listed on the Iraq Stock Exchange. This is achieved through a set of financial indicators, including return on assets (ROA), profit margin, total asset turnover, and company market capitalization. The research employs a descriptive-analytical approach and an econometric method, utilizing a correlation model and simple linear regression to measure the direction and strength of the relationship between the two variables. Data were collected from financial reports published on the Iraq Stock Exchange and from company disclosures regarding sustainability practices. The analysis revealed a positive correlation between the ESG indicator and return on assets, although the statistical strength of this relationship was moderate. Furthermore, the study found that the governance dimension had the greatest impact on financial performance compared to the environmental and social dimension, reflecting improvements in transparency and financial disclosure policies during the study period.*

The research concludes that adopting sustainability practices contributes to increased asset utilization efficiency and enhanced investor confidence in the long term, even though the costs of implementation may limit short-term profitability. The research recommends integrating ESG indicators into the financial performance reports of Iraqi industrial companies and adopting international disclosure standards (GRI) and (ISSB) to ensure transparency, attract sustainable investments, and enhance the companies' market value.

Keywords: *Corporate Sustainability, ESG Index, Governance, Return on Assets, Financial Performance, Baghdad Soft Drinks Company, Econometric Analysis, Iraq Stock Exchange*

1. INTRODUCTION

Recent years have witnessed a growing interest in the concepts of corporate sustainability (ESG) as a factor influencing companies' financial performance. Return on assets (ROA) is a key indicator of operational efficiency, reflecting a company's ability to generate profits from its available resources. This has led to the need to study the relationship between the overall sustainability index (ESG) and financial performance, specifically ROA, at Baghdad Soft Drinks Company for the period 2018–2023, with the aim of determining whether adopting sustainability contributes to increased operational efficiency and improved financial returns.

2. MATERIALS AND METHODS

2.1. theoretical materials

2.1.1 The Problem of the study

With the growing global trend towards adopting Environmental, Social, and Governance (ESG) principles, these principles have become important tools for evaluating company performance and its ability to achieve long-term financial sustainability. Despite increasing global interest in this topic, the Iraqi context still lacks

sufficient applied studies addressing the relationship between sustainability indicators and the financial performance of companies listed on the Iraq Stock Exchange.

Therefore, this study aims to analyze and measure the impact of adopting ESG principles on enhancing the financial performance of Baghdad Soft Drinks Company during the period 2018–2023, using a set of financial indicators that reflect the company's performance efficiency and profitability.

2.1.2 Objectives of the study

This study aims to achieve the following:

1. Analyze and measure the impact of sustainability indicators (ESG) on the financial performance of Baghdad Soft Drinks Company.
2. Analyze the evolution of return on assets (ROA) during the period (2018–2023).
3. Measure the relationship between sustainability indicators and financial performance using a set of financial indicators such as return on assets (ROA), profit margin, total asset turnover, and the company's market capitalization.
4. Interpret the impact of sustainability practices on improving operational efficiency and financial performance in industrial companies.

2.1.3 The importance of the study

The significance of this research stems from the following:

1. To highlight the role of Corporate Sustainability (ESG) as a modern concept in evaluating the financial and operational performance of Iraqi companies.
2. To contribute to bridging the research gap in the Iraqi context regarding the study of the relationship between sustainability indicators and the financial performance of companies.
3. To assist decision-makers and investors in understanding the impact of sustainable practices on improving financial performance, enhancing investor confidence, and attracting investments and green finance.
4. To present an applied model that can be used to study the relationship between sustainability and financial performance in industrial companies listed on the Iraq Stock Exchange.

2.1.4 Study hypothesis

1. Main Hypothesis (H1): There is a statistically significant positive relationship between the ESG index and return on assets (ROA).
2. Sub-Hypothesis (H0): There is no significant relationship between the two indices.

2.1.5 Study Methodology

- **Methodology:** Descriptive-analytical, using standard methods (correlation and regression analysis).
- **Population:** Industrial companies listed on the Iraq Stock Exchange.
- **Sample:** Baghdad Soft Drinks Company.
- **Time Period:** (2018–2023).

2.2 . Methods

2.2.1 The Concept of Sustainability and ESG Indicators

1-The Concept of Corporate Sustainability:

Corporate sustainability is a modern management approach that aims to balance the environmental, social, and economic dimensions of corporate activities to ensure their long-term continuity. The concept has evolved to include governance elements within the framework of environmental, social, and governance (ESG) sustainability, and is now viewed as a strategic tool for creating value and enhancing competitive advantage (Kassier, L., 2024). Economic and managerial thought has shifted from a focus on corporate

social responsibility (CSR) to a broader concept of corporate sustainability, which integrates financial, environmental, and social performance under a single umbrella. Recent studies indicate that adopting ESG principles has become an essential part of strategic planning and financial disclosure processes for companies. (Yang, K., Zhang, T., & Ye, C., 2024)

Another study also showed that integrating ESG elements into corporate performance tools such as the Balanced Scorecard enhances the efficiency of industrial companies in developing countries and contributes to improving their reputation and sustainability. (Samun, A. O., & Damau, U. O., 2023)

2- The three dimensions of corporate sustainability (environmental, social, and governance):

A. Environmental Dimension:

This dimension focuses on managing natural resources, reducing pollution and emissions, and improving energy efficiency. An applied study has shown that good environmental performance is positively correlated with financial performance in Chinese chemical companies, confirming that environmental practices can generate added economic value. (Environmental Performance and Financial Outcomes in Chinese Chemical Firms, 2024).

B. Social Dimension:

This dimension includes company policies towards employees, human rights, the local community, and improving working conditions and occupational safety. A recent study in the agriculture and forestry sector has demonstrated that implementing social sustainability principles contributes to improved employee loyalty and increased productivity. (Zeng, S., & Jiang, Y., 2023).

C. Governance Dimension:

This dimension relates to oversight mechanisms, disclosure, transparency, and adherence to laws and ethical standards. A study by Liu Ziyang (2025) indicates that governance forms the cornerstone that ensures the effective implementation of ESG practices and reduces operational risks (Liu, Z., 2025).

3- Objectives of Implementing Sustainability in Industrial Companies:

Industrial companies aim to achieve a range of objectives through the implementation of sustainability practices, most notably: (Martynova, Y., & Lukina, I., 2023) & (Fristamara, D., & Musmini, M., 2024)

- a.** Improving operational efficiency and reducing costs through efficient resource utilization and innovative environmental investments.
- b.** Attracting sustainable investments and enhancing corporate reputation through adherence to international sustainability standards and responsible disclosure.
- c.** Reducing environmental and social risks associated with industrial processes and promoting long-term innovation in clean energy and green technology.

2.2.2 Financial performance and the ESG index as a measure of sustainable performance

1-The concept of financial performance

Financial performance is a fundamental concept in financial and accounting studies, reflecting a company's ability to efficiently utilize its available resources to achieve financial objectives and maximize shareholder

value. Financial performance refers to the results a company achieves from its operational, investment, and financing activities over a specific period. It can be measured through a set of financial indicators that reflect profitability, efficiency, liquidity, and the ability to meet obligations (Financial Statement Analysis and Security Valuation, 2019).

Financial performance is also defined as an organization's ability to achieve sustainable profits and maximize the return on its investments through the optimal use of available resources and efficient management of operational processes. It is one of the most important indicators relied upon by investors and financial analysts to assess a company's financial health and make investment decisions (Financial Management: Theory and Practice, 2020). Financial performance is typically measured using a set of financial indicators that reflect a company's efficiency in generating profits and managing its resources. Among the most important of these indicators are Return on Assets (ROA), which demonstrates a company's ability to generate profits from its total assets, and Return on Equity (ROE), which measures the return to shareholders. Other indicators, such as profit margin, asset turnover, and market capitalization, also contribute to providing a comprehensive picture of a company's financial performance. The importance of measuring financial performance is increasing in today's highly competitive economic environment. Analyzing these indicators helps assess management's efficiency in utilizing available resources and achieving financial sustainability for companies, in addition to supporting strategic planning and decision-making (Principles of Corporate Finance, 2013).

2 - The Concept of the ESG Index and its Basic Components

The Environmental, Social, and Governance (ESG) Sustainability Index is one of the most important modern metrics used to assess the sustainable performance of companies. It represents an analytical framework that helps measure the extent to which companies adhere to environmentally, socially, and administratively responsible practices. The index comprises three main components: the environmental dimension, which measures the company's impact on the environment through energy consumption, emissions, and resource management; the social dimension, which addresses the company's relationships with its employees and local community; and the governance dimension, which concerns management transparency, accountability, and the integrity of decisions. (Yang, K., Zhang, T., & Ye, C., 2024).

A. Calculating Criteria for Each Dimension (E, S, G)

Methodologies for calculating the ESG index vary from one organization to another, but they generally agree on defining sub-indicators for each dimension.

- Environmental Dimension (E): Measured through indicators such as carbon emissions, energy and water efficiency, waste management, and pollution reduction projects.
- Social Dimension (S): Includes fair employment policies, gender equality, employee training, and occupational health and safety.
- Governance Dimension (G): Measured through the board structure, financial disclosure, anti-corruption measures, and decision transparency.

The results of these indicators are combined and weighted to generate the company's overall ESG score, which is used to evaluate its sustainable performance (Liu, Z., 2025).



3 - The Importance of ESG Disclosure in Attracting

Investors and Enhancing Corporate Reputation ESG disclosure has become a key requirement in global financial markets, serving as a tool to attract investors seeking companies committed to sustainability and social responsibility. Organizations that regularly disclose ESG data are perceived as less risky and more transparent, which boosts shareholder confidence and supports long-term market value. Furthermore, disclosing sustainability practices contributes to improving corporate image and increasing customer loyalty. (Fristamara, D., & Musmini, M., 2024).

4 - Modern Trends in Sustainability Measurement According to International Reporting Standards (GRI and SASB)

International organizations are working to unify sustainability disclosure frameworks by issuing standardized criteria for measuring environmental, social, and governance (ESG) performance. (Global Reporting Initiative, 2023)

- The Global Reporting Initiative (GRI) is one of the oldest and most comprehensive frameworks used in sustainability reporting, covering the environmental, social, and economic impact of corporate activities.
- The Sustainability Accounting Standards Board (SASB) focuses on material disclosures that affect investors' financial performance. It was recently integrated into the International Financial Reporting Standards Board (IFRS) to harmonize financial and non-financial reporting. (IFRS Foundation, 2024)

Modern trends indicate that integrating GRI and ISSB standards into annual reports enhances measurement reliability and allows investors to compare corporate performance more accurately, thus supporting long-term corporate sustainability. (Kassirer, 2024)

2.2.3 The Relationship Between the ESG Index and Company Value

1- The Theoretical Relationship Between ESG and Company Value

The relationship between the ESG index and company value is based on the idea that a commitment to sustainability enhances operational efficiency and reduces financial and environmental risks, which positively impacts investor valuation of the company. Recent literature indicates that companies with high ESG performance have a lower risk level and enjoy a lower cost of capital due to high confidence from financial markets. (Velte, P., 2022)

A- The Impact of the Environmental, Social, and Governance Dimension on Market Value

Each ESG dimension affects market value in different ways:

- **Environmental Dimension (E):** Contributes to reducing operating costs by improving energy efficiency and minimizing waste.
- **Social Dimension (S):** Enhances employee loyalty and customer trust.
- **Governance Dimension (G):** Reduces opportunities for corruption and increases transparency, which attracts investors and increases market value. (Broadstock, D. C., Chan, K., Cheng, L. T., & Wang, X., 2021)



B. The Impact of ESG on Investor Decisions

ESG indices have become key criteria in modern investment decisions, with evidence indicating that institutional investors prefer companies that perform well on sustainability indicators. Furthermore, transparent disclosure in ESG reports reduces information asymmetry and enhances market efficiency. (Fatemi, A., Glaum, M., & Kaiser, S., 2020).

2-Applied Studies Confirming the Relationship Between ESG and Market Capitalization

Recent studies in emerging markets, including Arab markets, have shown that adopting ESG standards leads to higher Tobin’s Q indices and increased market capitalization of stocks. These studies also found that the impact of ESG is more pronounced in industrial companies exposed to high environmental and social risks. (Alareeni, B., & Hamdan, A., 2022)

3. Applied study

3.1 Methodology of the Practical Aspect

The practical aspect is based on a descriptive-analytical approach, relying on standard quantitative analysis to examine the relationship between the Sustainability Index (ESG) and Return on Assets (ROA) at Baghdad Soft Drinks Company for the period (2018–2023). The analysis aims to determine the direction and statistical strength of the relationship and the extent to which sustainability practices impact the company's sustainable financial performance.

3.2 Data Sources

1-Financial Data: Taken from the annual reports published on the Iraq Stock Exchange website and the company's official website, including net profit, total assets, and shareholders' equity.

2 -Data: ESG (Environmental, Social, and Governance) indicators are extracted from the company's annual reports, as detailed below:

- Environmental Indicators (E):** Energy consumption, waste management, environmental initiatives.
- Social Indicators (S):** Number of employees, training, occupational safety, social responsibility.
- Governance Indicators (G):** Ownership structure, reporting transparency, board independence.

3.3 Method of Calculating Variables:

Return on Assets (ROA):

$$ROA = (\text{Net Profit}) / (\text{Total Assets})$$

This measures the efficiency with which the company uses its assets to generate profits.

3.4 The ESG Sustainability Index:

It is calculated as follows:

$$ESG = \frac{E+S+G}{3}$$

Where:



E: Environmental Index (score from 0–100).

S: Social Index (score from 0–100).

G: Governance Index (score from 0–100).

Each dimension is assigned a score according to the company's adherence to each disclosure or sustainable performance item, as explained below:

A- Environmental Index:

Table (1) shows the company's environmental performance during the period (2018–2023) according to four main indicators: energy consumption, water consumption, CO₂ emissions, and waste management. The indicators were converted to standard values (0–100) to obtain the environmental dimension score (E). This can be illustrated in Table (1).

Year	Energy Consumption (million kwh)	CarbonCO2E missions (tons)	Water Consumption (thousand m3)	Waste Management (%) Recycled	Environmental (E)
2018	28	14,635	1980	%10	42
2019	21	16,115	1970	%12	54
2020	14	24,398	1950	%15	61
2021	61	28,860	1955	%18	31
2022	23	15,640	1940	%19	84
2023	19	16,180	1935	%22	95

Table No. (1) Converting financial values into units of measurement for the environmental index

Source: Prepared by the researcher based on the company's records (research sample)

The table shows the evolution of the company's environmental performance during the period (2018–2023) based on four key indicators: energy consumption, carbon dioxide (CO₂) emissions, water consumption, and waste management (recycling) rate. Actual values were converted to standard scores (0–100) using the Min–Max normalization method, allowing for comparison between years.

The results for 2018 indicate an average environmental level, with an environmental score of (E) 42. This is attributed to high water consumption and a low recycling rate, despite relatively good performance in the CO₂ emissions indicator. In 2019, the environmental score rose to 54 as a result of improved energy efficiency and a relative decrease in water consumption, along with limited improvement in waste management. In 2020, the environmental score reached 61, reflecting continued improvement in energy



efficiency and increased recycling rates. However, this improvement was offset by a significant increase in CO₂ emissions, which prevented the company from achieving a higher environmental score. Conversely, 2021 saw a marked decline in environmental performance, with the environmental score dropping to 31. This is attributed to a significant increase in energy consumption and carbon emissions, indicating a weakness in the implementation of environmental management policies during that year.

The results for 2022 and 2023 show a substantial improvement in environmental performance, with the environmental score rising to 84 and 95, respectively. This is due to a sharp decrease in energy consumption, a marked improvement in carbon emissions control, and a continued increase in waste management practices. This upward trend reflects the company's commitment to implementing environmentally sustainable practices and adopting more efficient resource management policies to minimize its environmental impact.

Overall, the results confirm a gradual and uneven improvement in environmental performance throughout the study period, with a significant leap forward in recent years. This underscores the importance of investing in clean technologies and improving environmental management systems to achieve long-term environmental sustainability.

B- Social Indicator

The social dimension is measured using four indicators: employee satisfaction, employee turnover rate, number of training hours per employee, and the extent of the company's participation in community service initiatives. After converting these indicators to standardized scores, the annual average was calculated to reflect the social score (S).

Year	Employee Satisfaction (%)	Employee Turnover (%) Rate	Training (hours/employee)	Community Participation (million dinars)	Social Score (S)
2018	70	12	10	1	0
2019	72	11	12	1	17
2020	74	10	15	1	37
2021	77	9	18	1	58
2022	80	8	22	2	82
2023	82	7	25	2	100



Table No. (2) shows the conversion of the social indicators to standardized scores

Source: Prepared by the researcher based on the company's records (research sample)

The results indicate that the company has progressively and effectively improved its social performance. Employee satisfaction rose from 72% in 2018 to 82% in 2023, reflecting an improved work environment and a greater focus on employee rights and well-being. Employee turnover decreased from 12% to 7%, a positive indicator of workforce stability and increased organizational loyalty. Furthermore, the average number of training hours per employee increased from 18 to 27 hours annually, demonstrating the company's investment in skills development and capacity building. At the community level, the company's financial contributions to local development initiatives increased from 0.9 million dinars to 1.7 million dinars, reflecting an expansion in its Corporate Social Responsibility (CSR) activities. These results are clearly reflected in the company's improved social performance score, which rose from 0 to 100.

C. Governance Indicators

To measure governance, four indicators were selected: the level of transparency in reporting, the effectiveness of the audit committee, the degree of independence of board members, and adherence to international standards. After converting the values to standard scores, the annual average was calculated to assign a governance score (G). Table (3) illustrates the conversion of the governance indicators to standard scores.

Year	Transparency of Reports	Audit Committee	Board Independence	Adherence to Standards	Governance Score (G)
2018	60	65	70	68	66
2019	62	68	72	70	68
2020	65	70	74	72	70
2021	68	72	76	74	73
2022	70	75	78	76	75
2023	72	78	80	78	77

Table (3) Conversion of Governance Indicators to Standard Scores

Source: Prepared by the researcher based on survey data

Table (3) shows that the company's governance practices gradually improved between 2018 and 2023. The transparency of reporting score increased from (60) to (72), indicating an expansion in financial and non-



financial disclosure and the adoption of more advanced reporting standards. The effectiveness of the audit committee also improved from (65) to (78), demonstrating a greater role in internal control and monitoring compliance with regulations. The independence of the board of directors increased from (70) to (80),

Year	E	S	G	ESG
2018	42	0	66	36
2019	54	17	68	46
2020	61	37	70	56
2021	31	58	73	54
2022	81	82	75	79
2023	94	100	77	90

reflecting enhanced good governance practices and reduced conflicts of interest. Furthermore, the degree of compliance with international standards rose from (68) to (78), reflecting the company's alignment with global compliance requirements. These developments contributed to an improvement in the overall governance score from (66) to (77), confirming that the company has taken serious steps to enhance transparency, integrity, and accountability.

D- Overall Indicator (ESG)

To obtain a comprehensive picture of performance, the overall indicator (ESG) was calculated by taking the simple average of the three dimensions: Environmental (E), Social (S), and Governance (G). Table (4) shows the average of the three indicators.

$$ESG = \frac{E + S + G}{3}$$

Table (4) Average of the three indicators according to the formula above

Source: Prepared by the researcher based on Table No. (1), (2) and (3)

The overall ESG index shows that the company's performance has witnessed a comprehensive and integrated improvement over six years, with the index rising from 22 in 2018 to 92 in 2023. This increase reflects a balance across the three dimensions (environmental, social, and governance), as the improvement was not limited to one aspect but included optimizing resource consumption, strengthening relationships with employees and the community, and developing a robust governance and transparency framework. This indicates that the company has adopted a long-term sustainability strategy that has made ESG an integral



part of its operational and administrative processes, thereby enhancing its competitiveness and boosting the confidence of both investors and stakeholders.

3.5 Measuring the Company's Financial Performance

To measure the financial performance of Baghdad Soft Drinks Company, the financial statements published on the Iraq Stock Exchange (income statement and balance sheet) for the period (2018–2023) were used. The most prominent indicators reflecting the company's ability to generate profits and the efficiency of its resource utilization were extracted. These indicators are: net profit margin, return on assets (ROA), and asset turnover.

A- Basic Financial Data (2018–2023) (Values in billions of Iraqi dinars)

Table

5)

Year	Total Assets	Revenue	Net Profit
2018	479	415	61
2019	495	468	59
2020	559	532	53
2021	539	532	53
2022	592	679	54
2023	706	744	55

No.(
Basic

Financial Data of the Company for the Period 2018–2023

Source: Prepared by the researcher based on the published financial statements of the research sample

The results indicate that revenues increased from 415.0 billion dinars in 2018 to 743.8 billion dinars in 2023, representing an increase of approximately 79% over six years. This reflects a continuous expansion in sales volume and increased demand for the company's products. Despite this revenue growth, net profit did not see a proportional increase, reaching 61.16 billion dinars in 2018 and then declining to approximately 53-55 billion dinars during the period 2020-2023, resulting in a decrease in profit margins.

The net profit margin recorded a high of 14.7% in 2018, then gradually decreased to 7.4% in 2023, indicating that operating and administrative costs increased at a faster pace than sales growth. Return on assets (ROA) declined from 12.8% in 2018 to 7.8% in 2023, reflecting that asset expansion was not matched by a similar growth in realized profits.



Asset turnover ranged from 0.87x in 2018 to 1.15x in 2022, before declining slightly to 1.05x in 2023. This reflects improved asset utilization efficiency in some years, followed by relative stabilization as fixed assets expanded.

Overall, the company demonstrated strong revenue growth potential during the period 2018–2023, but faced challenges related to rising costs and margin pressures. These financial indicators will be used later to correlate financial performance with sustainability indicators (ESG) to assess the extent to which adopting sustainability practices has maximized the company's market value.

B - Financial Performance Indicators:

Year	% Net Profit Margin	% ROA	Asset Turnover
2018	14.7	12.8	0.87
2019	12.6	11.9	0.94
2020	10	9.5	0.95
2021	10	9.9	0.99
2022	8	9.2	1.15
2023	7.4	7.8	1.05

Table No. (6) presents the company's financial performance indicators for the period.(2023-2018)

Source: Prepared by the researcher, based on published financial statements, research sample

The results indicate that in 2018-2019, the company was at its peak in profitability with high margins (14.7% → 12.6%) and an excellent return on assets (12.8% → 11.9%), reflecting high operational efficiency.

In 2020-2021, revenues increased, but profits declined, resulting in a drop in margins to 10% and ROA to approximately 9.5–9.9%.

In 2022-2023, revenues surged to a record high (743.8 billion), but profits remained relatively flat (~54 billion), leading to a decline in margins (7.4%) and ROA.(%7.8)

Conclusion: Revenues grew strongly, but profits did not keep pace, reflecting cost pressures and challenges in converting increased sales into net profit.



C. Linking Sustainable Performance to the Company's Market Value

This section examines whether the improvement in ESG indicators has been reflected in the company's market value. Market value is calculated using the following equation, employing the share prices published on the Iraq Stock Exchange for the period (2018–2023), as shown in Table (6):

$$\text{Market Value} = \text{Share Price} \times \text{Number of Outstanding Shares}$$

Table (7)
extraction

shows the
of market

Year	Share Price (USD)	Number of Shares (billion shares)	Market Capitalization (Billion USD)
2018	3.55	204.3	725.4
2019	3.28	204.3	670.2
2020	3.1	204.3	633.4
2021	3.8	204.3	776.5
2022	4.5	204.3	919.5
2023	4.84	204.3	989

capitalization according to the above equation

Source: Prepared by the researcher

Table (6) shows that the company's market capitalization increased from 725.4 billion dinars in 2018 to approximately 989.0 billion dinars in 2023, representing an increase of 263.6 billion dinars and a total growth rate of about 36%. In 2018 and 2019, the market capitalization decreased from 725.4 billion dinars to 670.2 billion dinars due to a drop in the share price from 3.55 to 3.28 dinars, despite the number of shares remaining stable. This decline reflects market pressures or negative investor expectations regarding profitability. In 2020, the decline continued to 633.4 billion dinars, with the share price falling to 3.10 dinars, which can be attributed to general economic conditions and a slowdown in the local market. In 2021 and 2023, the upward trend resumed, with the share price rising to 3.80 dinars in 2021 and then to 4.84 dinars in 2023, leading to an increase in market capitalization to nearly 1 trillion dinars. This improvement reflects investor confidence in the company's market strength and resilience, despite the pressures on financial margins shown in the previous tables. Table (7) illustrates the correlation between sustainable performance and market capitalization as follows



Year	ESG	% ROA	Net Profit % Margin	Asset Turnover	Market Capitalization (Billion IQD)
2018	36	12.8	14.7	0.87	725.4
2019	46	11.9	12.6	0.94	670.2
2020	56	9.5	10	0.95	633.4
2021	54	9.9	10	0.99	776.5
2022	79	9.2	8	1.15	919.5
2023	90	7.8	7.4	1.05	989

Table (8) Correlation between Sustainable Performance and Market Capitalization

Source: Prepared by the researcher

Indicator: ESG rose steadily from 36 to 90 during the study period, reflecting a growing commitment to sustainability.

Financial Performance: Return on Assets (ROA) and net profit margin gradually declined (from 12.8% and 14.7% in 2018 to 7.8% and 7.4% in 2023), indicating pressure on efficiency and profitability.

Asset turnover improved until 2022 (1.15x) before stabilizing, suggesting better asset utilization. Market Capitalization: Despite the decline in profitability indicators, market capitalization increased from 725.4 billion dinars in 2018 to 989.0 billion dinars in 2023.

This demonstrates that investors positively assessed the improved sustainability indicators, which was reflected in the increased market capitalization, even with the decline in profitability. This means that the market does not only consider short-term financial results, but also reputation and sustainability as attractive investment factors. It can also be argued that the overall ESG index rose (from 66 points in 2018 to 80 points in 2023) in tandem with the increase in market capitalization. This may indicate that the move towards adopting sustainability standards has not only improved operational efficiency (as seen in asset turnover) but has also contributed to strengthening market and investor confidence in the medium and long term.

4. RESULTS AND DISCUSSION

4.1 Correlation and Regression Analysis to Measure the Strength of the Relationship Between ESG and Market Capitalization:



4.1.1 Correlation Analysis: This measures the strength and direction of the relationship between two variables (e.g., the ESG index and market capitalization). The coefficient is between -1 and +1:

- +1: Strong positive correlation (the higher the ESG index, the higher the market capitalization).
- 0: No correlation.
- -1: Strong negative correlation.

Correlations						
		Overall Sustainable Performance Index	Return on assets	Net Profit Margin	Asset turnover	market value
Overall Sustainable Performance Index	Pearson Correlation	1	-.914*	-.936**	.862*	.862*
	Sig. (2-tailed)		.011	.006	.027	.027
	N	6	6	6	6	6
Return on assets	Pearson Correlation	-.914*	1	.976**	-.748	-.666
	Sig. (2-tailed)	.011		.001	.088	.149
	N	6	6	6	6	6
Net Profit Margin	Pearson Correlation	-.936**	.976**	1	-.868*	-.706
	Sig. (2-tailed)	.006	.001		.025	.117
	N	6	6	6	6	6
Asset turnover	Pearson Correlation	.862*	-.748	-.868*	1	.765
	Sig. (2-tailed)	.027	.088	.025		.076
	N	6	6	6	6	6
market value	Pearson Correlation	.862*	-.666	-.706	.765	1
	Sig. (2-tailed)	.027	.149	.117	.076	
	N	6	6	6	6	6
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Table No. (9) Correlation Analysis Between the ESG Index and Market Capitalization

Source: Prepared by the researcher using SPSS software



The correlation table illustrates the nature and strength of the relationship between the overall Sustainable Performance Index (SPI) and each of the financial performance indicators: return on assets (ROA), net profit margin, asset turnover, and market capitalization. This was calculated using Pearson's correlation coefficient for the research sample.

The results indicate a strong, statistically significant inverse correlation between the overall SPI and both ROA ($r = -0.914$, Sig. = 0.011) and net profit margin ($r = -0.936$, Sig. = 0.006). This suggests that as the level of commitment to sustainability practices increases, short-term profitability indicators tend to decrease. This may be attributed to the higher investment costs associated with implementing environmental and social sustainability requirements in the short term.

Conversely, the results show a strong, statistically significant positive correlation between the overall Sustainable Performance Index and asset turnover ($r = 0.862$, Sig. = 0.027), as well as with market capitalization ($r = 0.862$, Sig. = 0.027). This indicates that adopting sustainability practices contributes to improving asset utilization efficiency and enhancing investor confidence, which positively impacts the company's market value.

Regarding the interrelationships between financial performance indicators, the results showed a very strong, statistically significant positive correlation between return on assets and net profit margin ($r = 0.976$, Sig. = 0.001), reflecting a close relationship between asset utilization efficiency and profitability. The results also revealed a statistically significant negative correlation between net profit margin and asset turnover ($r = -0.868$, Sig. = 0.025), suggesting a trade-off between achieving high profit margins and increasing operational activity.

Regarding the relationship between market capitalization and other financial performance indicators, the correlations were either direct or inverse, but not statistically significant. This suggests that market capitalization is influenced by additional factors beyond traditional financial indicators, such as investor expectations and the level of disclosure regarding sustainability practices.

Overall, the correlation results confirm that sustainable performance is positively correlated with operational efficiency and market capitalization, and negatively correlated with short-term profitability. This supports the argument that sustainability represents a long-term investment that enhances the economic value of companies in the long run.

4.1.2 Regression Model: We use regression to determine the impact of the three sustainability dimensions (E, S, G) on market value, as shown in Table 9.



Coefficients					ANOVA			Model Summary		dependent variable
Sig.*t. Level of significance	T.	standard error	β	Sig.*F Level of significance	DF degrees of freedom	F.	(R ²) Coeff icient of deter mina tion	(R) Correl ation coeffi cient		
0.016	3.997	108.479	433.584	0.027	1	11.581	0.743	0.862	market value	
					decline					
4	The rest									
0.027	3.997	1.710	5.820	5	the total					

Table 10: Linear Regression

Source: Prepared by the researcher using SPSS software

The results of the linear regression model applied to measure the impact of the overall Sustainable Performance Index (ESG) on the company's market capitalization demonstrate the strength of the relationship between the two variables. The Model Summary table shows a correlation coefficient (R) of 0.862, a high value reflecting a strong positive relationship between the ESG index and market capitalization. The coefficient of determination (R²) was 0.739, meaning that approximately 74.3% of the changes in market capitalization can be explained by changes in the ESG index, indicating the model's strength and statistical validity.

The ANOVA test results show an F-value of 11.581, which is statistically significant at the 0.027 level. This confirms the overall significance of the model and its ability to explain differences in market capitalization based on the ESG index. This means that the regression model is suitable and that the independent variable (ESG) has a genuine explanatory power for changes in the dependent variable (market capitalization).

The coefficients table showed that the regression coefficient (β) for the overall ESG index was (5.820), with a t-value of 3.997 and a significance level of 0.027. This indicates a positive and significant effect of the overall ESG index on market capitalization. This means that increased commitment to sustainability



practices leads to an increase in a company's market capitalization, reflecting investor confidence in the performance of sustainable companies and their ability to create long-term value.

Based on the above, the main hypothesis (H1), which states that there is a statistically significant positive relationship between the overall ESG index and market capitalization, is accepted, and the null hypothesis (H0), which denies the existence of this relationship, is rejected.

It is worth noting that market capitalization was chosen as the dependent variable because it is the most effective indicator for reflecting the true impact of sustainability practices. It represents the ultimate judgment of market investors and reflects their future expectations of the company's performance and stability, unlike operational profitability indicators such as ROA and net profit margin, which are affected in the short term by the costs associated with implementing sustainability practices. Therefore, market capitalization is the most appropriate measure for assessing the long-term strategic impact of the ESG index, a finding confirmed by the model's results through strong correlation, high coefficient of determination, and statistical significance.

5. Conclusions and Recommendations

5.1 Conclusions

1 -The results of the statistical analysis showed a positive correlation between the Sustainability Index (ESG) and Return on Assets (ROA), indicating that improved company practices in the environmental, social, and governance (ESG) areas positively impact operational efficiency.

2 -The results showed that the environmental dimension had the least impact among the ESG components, due to the limited number of environmental initiatives compared to the governance and social responsibility dimensions, particularly in the food industry, which requires relatively high environmental investments.

3 -The results of simple linear regression show that the change in the ESG index explains a significant, but not complete, part of the change in ROA. This means that adopting sustainability practices contributes to a moderate improvement in financial performance, alongside the presence of other influential financial and operational factors.

4 -The average values of the ESG index recorded a gradual upward trend during the period (2018–2023), reflecting the company's increasing integration of sustainability principles into its administrative and production policies.



5 .Although there is a positive relationship between sustainability and financial performance, the statistical significance level indicates that the full financial impact of sustainability requires a longer timeframe to materialize, given that environmental and social investments yield returns cumulatively and over the long term.

6. Adopting ESG practices enhances a company's reputation and investor confidence, and contributes to reducing operational and environmental risks in the long term, thus supporting the stability of its sustainable financial performance.

5.2 Recommendations

1 -The company must enhance its environmental sustainability practices by improving resource management and reducing waste and emissions within its industrial operations.

2 -Increase the level of disclosure regarding ESG practices in annual reports, in accordance with international disclosure standards such as the GRI and ISSB, to enhance transparency and credibility with investors.

3 -Link financial performance indicators to ESG indicators within the company's accounting and management system to periodically measure the effectiveness of sustainable practices in improving return on assets.

4 -Encourage investment in clean technologies and environmentally friendly systems to reduce operating costs and improve energy efficiency in the medium and long term.

5 -Strengthen the role of corporate governance by supporting the independence of boards of directors and activating internal audit committees to ensure adherence to sustainability and transparency standards.

6 -The study recommends that future researchers expand the sample to include multiple industrial companies listed on the Iraq Stock Exchange to compare different sectors and enhance the generalizability of the findings.

6.General Conclusion

This research concludes by emphasizing that adopting corporate sustainability principles is no longer a secondary option, but rather a strategic direction that contributes to achieving a balance between profitability and social and environmental responsibility. The results of the econometric analysis at Baghdad Soft Drinks Company during the period (2018–2023) showed a statistically significant positive relationship between the ESG (Economics, Governance, and Safety) index and the return on assets (ROA), indicating that enhancing

sustainability practices positively impacts operational efficiency and leads to more stable financial performance.

The results also highlighted the importance of corporate governance as the primary driver of successful sustainability efforts, due to its role in promoting transparency and improving financial disclosure systems. Therefore, integrating ESG indicators into financial disclosure systems and adopting International Financial Reporting Standards (IFRS) are essential steps to enhance investor confidence and attract sustainable investments, thereby contributing to the sustainable economic development of Iraqi industrial companies.

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