Investigating the Impact of Sustainability on Corporate Profitability: Evidence from Egypt

Asmaa Hamdy
Accounting Assistant Professor, October University for Modern Sciences and Arts
Magdy Gamal Abdel-Kader
Professor Doctor, Accounting Department, Faculty of Commerce
Cairo University, Cairo, Egypt
Kholoud Abdel Karim Mahmoud (Corresponding author)
Assistant Professor, Accounting Department, Faculty of Commerce
Cairo University, Cairo, Egypt

Abstract:

The aim of this research is to investigate whether corporate sustainable performance (CSP) impacts corporate profitability. The study's sample includes the most active 100 listed firms in the Egyptian stock exchange (EGX) in terms of their trading value. Empirical analysis has been conducted to examine the impact of sustainability environmental, social, and governance (ESG) factors on corporate profitability using the regression model. In addition, the study seeks to determine whether highly ranked businesses outperform those with lower rankings in terms of sustainability. A parametric t-test was used. The study demonstrates a considerable positive association between sustainability and company profitability metrics, measured by Return on Assets (ROA), Return on Equity (ROE), and Return on Invested Capital (ROIC). Furthermore, empirical data indicate that businesses that adopt

outstanding sustainable improvement strategies report increased profitability and lower levels of risk.

Keywords: Sustainability; Profitability; Environmental Performance; Social Performance; Corporate Governance.

1.Introduction:

Sustainability is a vital issue and a key concern in the globe. The importance of sustainability reporting has grown in recent years. Although it is not required, most organizations report on their social and environmental performance because of the increased pressure stakeholders place on them to disclose their CSP. Therefore, it is a challenge for businesses, particularly big multinational ones, to operate in a way that is socially and environmentally sustainable while both preserving and enhancing shareholder profit (Solomon & Solomon, 2006; Solomon et al., 2011; Bowerman & Sharman, 2016).

Sustainability reporting is the process of evaluating, reporting, and being responsible to various stakeholders for organizational performance toward the objective of sustainable development, according to the Global Reporting Initiative (2011). Companies today need to take accountability for both the positive and negative effects of their actions on the environment and society as a whole. Additionally, the companies should accurately disclose these effects in a suitable sustainability report that provides a thorough overview of their governance framework, stakeholder engagement strategy, and

triple-bottom-line performance. Elkington (1998) introduced the term "triple bottom line" to emphasize the importance of three factors: the planet (environmental), the economy (profits), and the social (people).

For businesses that are listed on stock exchanges, the demand for sustainable practices is particularly important. This additional information must be provided for a number of reasons. The first benefit is that it will lessen the information gaps between management and financial stakeholders. The uncertainty of the financial stakeholders over future economic rewards would decrease with more knowledge, and the company's risks might also decrease. This information can be used by analysts and investors to produce more accurate estimates for the stock of the company (Healy & Palepu, 2001). Second, if financial markets value a firm's efforts in CSP, managers will have a proper incentive to continue their efforts in caring about societal and environmental issues. Third, according to Mays (2003), sustainable behavior enhances economic competition and adopts a positive business climate because it is regarded as a useful tool for managing corporate image. In addition to assisting with the evaluation of managerial and administrative skills, it also causes a shift in the organizational emphasis from short-term to long-term objectives. A crucial component of corporate sustainability is transparency.

Therefore, a positive association between CSP and

Corporate Financial Performance (CFP) is expected for companies that provide this kind of information. As a result, in order to include environmental and social performance in the annual financial reports, the accounting profession must go beyond its normally responsibilities. CSP impacts the CFP either in the short term reflected in its stock returns or in the long term reflected in its profitability.

Despite the fact that the CSP has been the subject of numerous studies and theories, most studies on the relationship between the CSP and CFP found contradictory results. According to some studies (Waddock & Graves, 1997; Orlitzky et al., 2003; Margolis & Walsh, 2001; Cormier & Magnan, 2006), there is a positive relationship between CSP and CFP, some studies (Bauer et al., 2005; McWilliams et al., 2006) found a neutral relationship, and some studies found negative relationship (Brammer et al.,2006; Garcia-Castro et al., 2010).

Quirós (2017) listed several explanations for these ambiguous results, including the inclusion of data from various countries and time periods that make comparisons between research difficult and even the use of various CSP measurements. This is due to the fact that CSP disclosure is still a voluntary reporting practice in a number of countries and is carried out in a format that is not standard. In addition, the fact that most of the earlier research was carried out in developed nations (such as the US, Europe, the UK, Australia,

etc.) may potentially be the cause of the contradictory findings, according to Aggarwal (2013).

The literature regarding the relationship between CSP and CFP is quite large but with mixed results. So, there is still a gap in satisfactory, comprehensive, and positive explanations for CSP and its impact on a firm's profitability. Consequently, building a comprehensive model to explain how CSP in developing countries like Egypt impacts firm profitability is an important research area that needs to be explored. Thus, this research seeks to fill this gap by examining the association between CSP and its influence on firms' accounting profitability performance indicators for the firms listed on the EGX. The empirical analysis depends on the most active 100 listed Egyptian firms in terms of their trading value that are consistently listed in EGX during 2017.

In this light, the research proceeds as follows: In the next section, it presents the concept of CSP, the related theories, and the measures of CSP, along with the literature review of numerous studies which examined the relationship between CSP and CFP. Next, the methodology used is defined, and the research outcomes are shown. The conclusions drawn from the investigation are presented at the end.

2. The Literature Review:

A considerable amount of literature has been published

on CSP; this section sheds light on the concept of CSP, the theories related to CSP, measures of CSP, and the empirical results for the impact of CSP and CFP employed by prior studies.

2/1. Concept of CSP:

A growing literature on CSP has emerged in recent years. Wood (2010) identified that the CSP area is arguable, ambiguous, and challenging to research. Sustainability was defined by Brundtland (1987) at the World Commission on Environment and Development (WCED) as filling the demands of the current generation without bargaining the capabilities of forthcoming generations to satisfy their own needs. According to Mays' 2003 report, "Corporate Sustainability" is the process of generating long-term shareholder value through the acceptance of possibilities and management of risks offered by social, environmental, and economic factors.

Despite Wood (1991) asserting that CSP might be seen as the application of CSR concepts, McWilliam et al. (2006) reached the conclusion that CSP is frequently used as a substitute for corporate social responsibility (CSR). Carroll & Shabana (2010) take a similar perspective and claim that CSP incorporates both the normative and the descriptive aspects of CSR. Montiel (2008) differentiated between CSR and CSP in the way how (the economic, social, and environmental) aspects are linked with each other. CSP recognizes that social and

economic factors are interrelated, whereas CSR regards them as separate components. According to Kaptein and Wempe (2002), CSR is seen as an intermediate stage when businesses seek to balance social, economic, and environmental challenges, while CSP is viewed as the ultimate organizational goal that balances the requirements of the current generation with the needs of future generations. Panapanaan et al., (2003) viewed CSR as one of the corporate responsibilities, while the CSP is part of corporate responsibilities. Van Marrewijk (2003) asserted that CSR focuses on the corporation's role as a communication channel between humans and the environment, while CSP is more concentrated on the corporation's role as a human-oriented agent.

Even though CSR and CSP have many similarities, they will be discussed separately in this study. Wood (1991) defines CSP as the combination of social responsibility concepts, social responsiveness activities, policies, strategies, and observable outcomes within a business enterprise that connect to the firm's social interactions. This term is applied to the objectives of this study.

2/2. Sustainability and Theory:

There is currently no fundamental theory addressing the relationship between CSP and financial performance (based on the market or accounting) (Wood, 2010). Even though the initial research into such a theory date back to 1985, when Ullmann

concluded that the situation relating to the relationships between social performance, social reporting, and economic performance could be described as empirical data in seek of an adequate explanation. Consequently, several ideas have been created to explain how CSP and CFP are related (McWilliams & Siegel, 2001).

The stakeholder theory is the one that is most frequently applied. Freeman (1984) defined a stakeholder as any group or individual who could influence or be impacted by the accomplishment of an organization's goals. This idea aims to identify which groups—within or without the organization—are the stakeholders that management needs to consider. There are two classifications of stakeholders: primary and secondary. Primary stakeholders are those whose continued involvement is necessary for the company to survive, while secondary stakeholders are those who have an influence over, are affected by, or are influenced by the corporation but do not engage in transactions with businesses (Clarkson, 1995). As a result, the stakeholders seek information on how company operations affect publicly owned natural and social capital and their long-term sustainability. They also expect managers to take these external influences on the sustainability of these public goods into account when making decisions. Additionally, respecting the interests of the company's stakeholders is in its strategic best interest, which gives rise to CSR.

CSP helps in strengthening stakeholder relations. (Wiseman 1982; Ullmann, 1985; Barth & McNichols, 1994; Li, et al., 1997; Barth, et al., 1997; Cormier & Magnan, 1997; Neu, et al., 1998; Li & McConomy 1999; Ruf et al., 2001; Patten, 2002; Clarkson et al., 2004; Cho & Patten, 2007; Clarkson, et al., 2008; Clarkson et al., 2013; Clarkson et al., 2015).

Another theory that targets the explanation of the relationship between CSP and CFP is the resource-based perspective (RBP). As organizations consider achieving stakeholder demands is a strategic investment, they attempt to fulfill stakeholders' requirements beyond the minimum necessary commitments (Ruf et al., 2001; Laurenço et al., 2012). According to the RPB, companies can gain long-term competitive advantages by effectively managing the limited, non-replaceable resources (Laurenço et al., 2012). The resource-based view (RBV) asserts that competitive advantage performance results from firm-specific resources and talents that are expensive for competitors to imitate (Barney, 1991; Wernerfelt, 1984, Rumelt 1987). If these resources and competencies meet specific criteria, they can contribute significantly to a sustained competitive advantage and superior business performance.

The legitimacy theory is an additional theory. The legitimacy theory, according to Deegan & Unerman (2011), is predicated on the idea that there exists a "social contract" between

the corporation and the society it serves. To obtain societal acceptability (the societal approach) and ensure their continued existence, firms attempt to justify their corporate operations by engaging in CSP reporting. According to Maignan & Ralston (2002), a firm's legitimacy is dependent on maintaining a reciprocal connection with its stakeholders since it owes these parties moral obligations in a number of different areas (Adams et al., 1998).

Finally, the agency theory describes how principals and agents interact in a business context. Problems that can arise in agency interactions because of misaligned goals or disparate levels of risk aversion are addressed by agency theory. The most common agency relationship occurs between shareholders (principals) and company executives (agents). The information asymmetry, risk, and uncertainty that investors feel are reduced by the CSP report. Furthermore, it strengthens CFP and the decision-making process.

Thus, it can be affirmed that the corporates' execution of sustainable developments and maintaining social responsibilities are essential to enhance economic growth and maximize the company's wealth.

2/3. Measures of CSP:

CSP was described by Waddock and Graves (1997) as a multifaceted term that is challenging to both define and quantify. The demand for their quantification has grown

despite this difficulty and as a result of rising interest in CSP and CSR studies.

One of the first to attempt to categorize and compile various kinds of CSP measurements, Ulmann released a paper in 1985. He classified three comprehensive CSP measures—social disclosures (such as mandatory disclosures on pollution and voluntary corporate social reporting), social performance (such as rankings or reputational indexes), and economic performance (such as net income, shareholder returns, returns on equity, or net profit margin)—based on the valuation of 31 empirical studies carried out in the 1970s and early 1980s.

Wood (2010) conducted a thorough analysis of the body of research on CSP and its metrics. The sustainability index, he determined, is the CSP indicator that is most frequently employed. Although there have been a lot of different measures proposed to evaluate CSP, it is not surprising that there is no agreement on which one is best. However, indices like (DJSI, KLD, GRI, and PSI) are becoming more and more popular. Additionally, it has been acknowledged that a company's inclusion (exclusion) in reputation indexes is a reliable indicator of its high (poor) long-term performance (Ulmann, 1985; Orlitzky et al., 2003).

Parallel to prior literature, the current research assumes a company's level of CSP by its inclusion in a reputation index; in this case, S&P/EGX ESG Index in Egypt is used as a proxy for

CSP. Over the last decade, the EGX has paid considerable critical attention to social risks, environmental risks, business opportunities, and corporate governance, as it affects the long-term investment themes in the world's capital markets. These influential trends in sustainable investment are primarily supported by the idea that ESG elements in an economy, regardless of industry or company, play an increasingly significant role in enhancing or detracting from shareholder value. To encourage the development of corporate sustainability standards and management practices among listed firms, the EGX announced the introduction of the ESG index in 2010. Additionally, it guarantees that the Egyptian market is capable of effectively addressing the increased information demands for businesses, analysts, and investors connected to ESG. The ESG index aims to motivate public corporations to shift their focus away from charity activities and toward enhancing their ability to manage ESG-related risks. Therefore, ESG Index would encourage companies to be more transparent and to disclose their governance, social and environmental practices more clearly to increase their market value.

The S&P/EGX ESG Index was created to include Egyptian businesses that scored highly in terms of characteristics related to ESG elements. Both quantitative and qualitative elements are used to create the index. ESG considerations are converted into a series of scores that are used to evaluate the securities of publicly traded Egyptian

firms. The index uses a unique score-weighting system and comprises the top 30 equities out of 100 Egyptian firms assessed annually based on their market value that perform the best in ESG elements.

2/4. The Relationship between CSP and CFP:

In recent years, a sizable and expanding body of literature has examined CSP and its effects on CFP. Numerous research has looked into the relationship between CSP and firm value during the last 20 years. Studies have mostly focused on the investment perspective and whether CSP is "priced" in capital markets or whether highly sustainable enterprises do better financially than other firms (e.g. Konar & Cohen, 2001; Lopez et al., 2007; Chih et al., 2010; Lourenço et al., 2012). Despite their conflicting conclusions, this research has provided some remarkable findings.

In their 2001 study, Konar & Cohen looked at the connection between the market value of S&P 500 firms and their environmental performance. Poor environmental performance was found to have a negative impact on a company's intangible asset value. On the other hand, Lopez et al. (2007) investigated the relationship between CSP and CFP. Results indicated a weak relationship between CSP and CFP, particularly in the early years after applying sustainability principles. The same conclusion was reached by Chih et al. (2010) when they looked at the specific circumstances under which corporations may or may not act in

socially responsible ways. The findings revealed that larger firms are more CSR-minded and that there is no relationship between CFP and CSR.

Prior research has compared the risk-adjusted returns of sustainability indices like Domini and Dow Jones Social Index (DJSI) with related market indices like the S&P 500 and Dow Jones Global Trading Index in order to determine the criterion for dealing with sustainability indices (Sauer, 1997; Cerin & Dobers, 2001). However, other research has examined the association between CSP and CFP by using membership in a sustainability index as a proxy for a company's overall sustainability (Ziegler, 2012; Sonnenbery & Hamann 2006; Lopez et al. 2007). These studies make use of one of the many methods available to measure sustainability and accounting data on financial performance.

Bauer et al. (2005) evaluated the differences in investment style between ethical and conventional funds over the years 1990 to 2001 using an international database that included 103 German, UK, and US ethical mutual funds. The findings indicated that there were no considerable variations in risk-adjusted returns.

On the other hand, Consolandi et al. (2009) used an event study approach to analyze the impact of CSP performance on stock return. Over the years 2001 to 2006, the Dow Jones Sustainability Stoxx Index (DJSI Stoxx) was

employed. The findings showed that CSP significantly affects the criteria for asset allocation activities. However, Cheung (2011) looked at the effects of a sample of US equities' Dow Jones World Index (DJSI World) firm inclusions and exclusions from the years 2002 to 2008. The findings indicated that the announcement had no discernible influence on stock return.

While some studies used market-based measures such as stock return, other studies used accounting-based measures for the CFP such as ROA, ROE. Additionally, a number of metrics for CSP have been utilized by researchers in earlier studies, including external sustainability ratings, GRI-based Disclosure Index Scores, and the existence of corporations' GRI Sustainability Reports.

Previous studies examined whether firms that maintain sustainable practices execute better when they are compared with firms that do not apply sustainability criteria within its strategies. Some studies have found a negative relationship between CSP and CFP (Aupperle et al., 1985; López, 2007). López (2007) has justified this result by clarifying that extra expenses incurred by the firms to be socially responsible have a negative impact on profitability in the short time span. On the contrary, other studies have shown a significant positive effect of sustainability on a firm's profitability (Waddock & Graves, 1997; Lo & Sheu, 2007; Artiach et al., 2010). While still other studies have stated that there is no significant relationship between CSP and firm profitability

(Cochran & Wood, 1984; Garcia-Castro et al., 2010; Surroca, et al., 2010).

3.Research Hypotheses:

This study adds to the scarce body of literature related to the relationship between CSP and a company's profitability performance in the Egyptian context. The ESG Index composite score is used to calculate the CSP. While ROA, ROE, and ROIC have been chosen as indicators of the profitability of the firm. While the control variables chosen were revenue growth and debt to equity. When compared to market measures of performance, accounting indicators are thought to be less volatile (López, 2007). Additionally, it is believed that accounting performance measurements are the most appropriate because it is simple to grasp how corporate policies affect these figures. Furthermore, market perception regarding firms after implementing sustainability practices can be impacted by several external macro-level factors too. (Cochran & Wood, 1984; López, 2007; Garcia-Castro et al., 2010). Thus, the following hypothesis will be tested:

H1: There is a significant positive relationship between CSP and the firm's profitability performance (ROA, ROE, ROIC).

Further, the research aims to empirically analyze whether there is a difference in the performance of the two sets of firms, i.e., the HESG and LESG. HESG set represents the 30 firms that have been listed in S&P/EGX ESG Index and LESG set represents

the remaining 70 firms. The research investigates these based on the following proxies of profitability, i.e. ROIC, ROE, and ROA. The following hypothesis is evaluated to see if there are empirical variations in the profitability indicators between companies included in the HESG group in comparison to companies in the LESG group:

H2: There are significant differences between HESG and LESG firms concerning profitability (ROA, ROE, ROIC).

4. Data and Research Methodology:

4/1. Sample:

The data of sustainability scores are obtained from the EGX based on ESG composite score. The composite score is the overall weighted ESG rating score as an aggregate for all three parameters. The empirical research will examine the relationship between CSP and CFP for the 100 most actively traded firms in terms of their trading value included in EGX in 2017. Supplementary, the final sample was separated into two sets. The first set called the "high ESG" (HESG) consists of the 30 firms which have scored the highest ESG composite score. The second group referred as "low ESG" (LESG) is composed of the remaining 70 companies that have scored low ESG composite score.

4/2. Variables:

Firm profitability is represented through accounting-based indicators. The key indicators for measuring a company's profitability performance are ROIC, ROE, and ROA (Cochran & Wood, 1984; López, 2007; Ameer & Othman, 2012). As opposed to market-based performance indicators, accounting-based proxies are more suitable because they are trustworthy figures based on audited financial accounts and are less noisy. Additionally, risk and revenue growth are

used as control variables. The variables' definitions are demonstrated in (Table 1). The statistical analysis for the study is performed using the SPSS software.

Table 1: The definitions of the variables for the regression analysis

Variables	Type	Description
ROIC	Dependent	The ratio of net profit plus interest × (1−tax) divided by the average of total capital plus short-term debt plus long-term debt.
ROE	Dependent	The ratio of net profit to shareholders' equity
ROA	Dependent	The ratio of net profit to total assets
CSP	Independent	composite score (ESG)
Total Revenue Growth (REV Growth)	Control	Year-on-year change in revenue
RISK	Control	The ratio of total debt to equity

4/3. Empirical models specification:

To examine the relationship between firm profitability performance and ESG, regression analysis is utilized following (Lourenço et al., 2012; López; 2007).

For estimation, the following equations are formed:

Model 1: $ROA_{it} = \alpha_0 + \beta_0\ ESG_{it} + \beta_1\ REV_{it} + \beta_2\ RISK_{it} + \varepsilon_{it}$

Model 2: $ROE_{it} = \alpha_0 + \beta_0\ ESG_{it} + \beta_1\ REV_{it} + \beta_2\ RISK_{it} + \varepsilon_{it}$

Model 3: $ROIC_{it} = \alpha_0 + \beta_0\ ESG_{it} + \beta_1\ REV_{it} + \beta_2\ RISK_{it} + \varepsilon_{it}$

Where ROA_{it}, the return on assets; ROE_{it}, the return on equity; $ROIC_{it}$, the return on invested capital; ESG_{it}, the ESG score; REV_{it}, and $RISK_{it}$ are the control variables referring to revenue growth and debt to equity, respectively; εit is the error term.

5.Data Analysis and Results:

Table 2 presents the descriptive statistics for an entire sample of 100 firms as well as for sub-samples of 30 HESG companies and for 70 LESG companies. When two sub-samples are compared, HESG vs LESG firms, it was found that mean and the median values of the profitability variables (ROA, ROE, ROIC) are higher for the HESG firms. These results are consistent with those of (Lourenço et al., 2012). Further, it was observed that HESG firms have lower risk (debt to equity ratio) than LESG. While it was found that mean and the median values of the REV are slightly higher for the LESG firms.

Table 2: Descriptive Statistics

		ESG	ROA	ROE	ROIC	RISK	REV	ESG	ROA	ROE	ROIC	RISK	REV	ESG	ROA	ROE	ROIC	RISK	REV
N	Valid	100	100	100	100	100	100	70	70	70	70	70	70	30	30	30	30	30	30
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		122.146	1.44789	6.648	7.1413	.279	31.465	117.59	.78618	4.102	6.615	.30720	31.764	132.75	2.9	12.58	8.3673	.2153	30.76
Median		119.745	.08231	.269	4.3801	.095	24.640	116.4	.045	.1271	2.2850	.0916	27.8	131.6	3.565	11.85	8.270	.0954	19.24
Std. Deviation		9.9389	2.677	12.83	9.254	.350	43.219	6.11	2.2	10.79	9.237	.376	45.958	9.044	3.00	15.26	9.3303	.2742	36.74
Skewness		.985	5.49	.650	.738	1.175	.371	.618	1.180	1.429	1.041	1.021	.192	.739	-.656	-.533	.078	1.562	1.198
Std. Error of Skewness		.241	.241	.241	.241	.241	.241	.287	.287	.287	.287	.287	.287	.427	.427	.427	.427	.427	.427
Kurtosis		1.208	-.244	-.015	-.267	-.064	.058	-.452	2.228	2.120	-.301	-.533	-.158	2.269	-.417	-.264	.578	1.705	1.016
Std. Error of Kurtosis		.478	.478	.478	.478	.478	.478	.566	.566	.566	.566	.566	.566	.833	.833	.833	.833	.833	.833

5.1 Testing H1:

The results of the linear regression, which was used to examine the relationship between company profitability performance (ROA, ROE, and ROIC) and sustainability, are shown in Tables 3, 4, and 5, respectively. The outcomes demonstrated that there is a statistically significant positive relationship between CSP and the dependent variables (ROA, ROE, and ROIC). The outcomes are consistent with earlier research by Maletic et al. (2015), Artiach et al. (2010), and Lourenço et al. (2012). The models' overall fit is good (p-value $\leq$ 0.05), and the R^2 range from 9 to 20%.

Table 3: The Regression Analysis Results for the Effect of Sustainability on ROA

Panel A: Model

Model	R	R^2	Adjusted R^2	Std. Error	F-test	Sig.
1	.468[a]	.219	.194	2.4035	8.966	.000

Panel B: Coefficients

Independent Variables	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	-8.066	2.991		-2.696	.008
ESG	.082	.024	.306	3.391	.001
RISK	-2.618	.689	-.343	-3.800	.000
REV	.006	.006	.091	1.011	.314

Dependent Variable: ROA

Table 3 presents the regression analysis results for the effect of sustainability on ROA. The results showing that ESG score has a significant positive association with ROA. This indicates that practicing sustainability performance reinforces the ROA. Therefore, H_1 is accepted. Regarding control variables, the results outline that RISK is associated negatively with ROA. While there is an insignificant association between REV and ROA.

Table 4: The Regression Analysis Results for the Effect of Sustainability on ROE

Panel A: Model

Model	R	R^2	Adjusted R^2	Std. Error	F-test	Sig.
2	.415[a]	.172	.146	11.85776	6.651	.000[b]

Panel B: Coefficients

Independent Variables	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	-30.149	14.757		-2.043	.044
ESG	.329	.120	.255	2.741	.007
RISK	-11.972	3.398	-.327	-3.523	.001
REV	3.243E-5	.028	.000	.001	.999

Dependent Variable: ROE

Table 4 presents the regression analysis results for the effect of sustainability on ROE. The results shows that ESG score has a significant positive association with ROE. This indicates that practicing sustainability performance increases the ROE. Therefore, H_1 is accepted. Regarding control variables, the results outline that RISK is associated negatively with ROE. While there is an insignificant association between REV and ROA.

Table 5: The Regression Analysis Results for the Effect of Sustainability on ROIC

Panel A: Model

Model	R	R^2	Adjusted R^2	Std. Error	F-test	Sig.
3	.300[a]	.090	.061	8.965171	3.161	.028[b]

Panel B: Coefficients

Independent Variables	Unstandardized		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.818	11.157		.432	.667
ESG	.027	.091	.029	.293	.770
RISK	-6.870	2.569	-.260	-2.674	.009
REV	.032	.021	.148	1.522	.131

Dependent Variable: ROIC

Table 5 presents the regression analysis results for the effect of sustainability on ROIC. The results shows that ESG score has insignificant positive association with ROIC. Regarding control variables, the results outline that RISK is associated negatively with ROIC. While there is an insignificant association between REV and ROIC.

5.2 Testing H2:

The research also looked empirically into whether there were any significant differences in the firms' profitability (ROA, ROE, and ROIC) between firms of the HESG set and those who were part of the LESG set. To determine whether there has been a substantial variation in the means of different variables between two groups of firms, Table 6 shows the mean values for each of the variables. Table 6 provides the t-test application results (probability value). The probability value (at

p⩽0.05) shows that there was a significant variation in the profitability indicators between the two groups of enterprises. When compared to the LESG firms, the HESG group of companies has more profitable businesses on average. The average score of the HESG group's companies (ROA & ROE) is greater and significantly different from the LESG group's companies, showing that the HESG group's companies are more profitable than other companies. It has been discovered that HESG firms gain from differentiation and a competitive edge over LESG firms. For the mean values of revenue growth and ROIC, no significant difference was discovered. This can be attributable to the possibility that several additional significant factors affect these ratios. Additionally, it is discovered that businesses in the HESG group have low mean Risk ratios of 0.2 as opposed to 0.3 for businesses in the LESG group, showing a statistically significant difference. Therefore, H2 is accepted.

Table (6): Comparison on Profitability Proxies between HESG and LESG

Group Statistics					
	Dummy variable	**N**	**Mean**	**Std. Deviation**	**Std. Error Mean**
	HESG	30	.8030	1.19114	.21747
ROA	LESG	70	.7866	2.2398	.267707
	HESG	30	2.9907	3.0046	.548568
ROE	LESG	70	4.10247	10.7906	1.28972
	HESG	30	12.588	15.264	2.78691
ROIC	LESG	70	6.6159	9.237	1.1040
	HESG	30	8.36	9.3332	1.7040
RISK	LESG	70	.307	.37615	.044959
	HESG	30	.215	.27774	.0507097
REV	LESG	70	31.7645	45.95	5.49310
	HESG	30	30.7678	36.749	6.70945

Table (6): Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ROA	Equal variances assumed	6.728	.011	-4.05	98	.000	-2.2041	.54350	-3.2827	-1.1255
	Equal variances not assumed			-3.61	43.423	.001	-2.20413	.61040	-3.4347	-.97348
ROE	Equal variances assumed	7.082	.009	-3.15	98	.002	-8.486	2.6809	-13.8064	-3.166150
	Equal variances not assumed			-2.76	41.943	.008	-8.486	3.070	-14.6838	-2.28878
ROIC	Equal variances assumed	.310	.579	-.866	98	.389	-1.7512	2.021	-5.763	2.2612
	Equal variances not assumed			-.863	54.428	.392	-1.7512	2.03	-5.821	2.31876
RISK	Equal variances assumed	5.426	.022	1.195	98	.235	.09127	.0763	-.06026	.24280
	Equal variances not assumed			1.347	73.439	.182	.091271	.0677	-.043781	.22632
REV	Equal variances assumed	1.766	.187	.105	98	.916	.99718	9.4787	-17.813	19.8075
	Equal variances not assumed			.115	68.055	.909	.99718	8.6712	-16.30	18.30

6. Conclusion:

The last ten years have seen the emergence of corporate governance, social and environmental risks, and opportunities from their long gestation on the periphery of the mainstream investment sector to become commonplace long-term investing topics in the global capital markets. The introduction of the ESG Index in Egypt has pushed businesses to boost their market value by being more open and transparent about their governance, social, and environmental policies. Additionally, it inspired businesses to develop new products for investors who were keen to put their money into businesses that supported sustainable ESG performance. As a result, the S&P/EGX ESG Index was created to include Egyptian companies with the highest ratings in terms of corporate governance, social responsibility, and the environment.

The current study set out to investigate the relationship between Egyptian listed firms' levels of profitability and their adoption of sustainable strategies. To the best of the researcher's knowledge, S&P/EGX ESG Index is the only complete index in Egypt that currently rates listed companies based on all relevant social, environmental, and governance proxies. Consequently, the composite score of ESG for the most active 100 listed firm in the terms of their trading value has been used as measure of CSP. Whereas ROIC, ROE, ROA have been selected as accounting profitability measures. Moreover, growth in revenue, and debt to equity were used as

control variables. Because accounting indicators are less volatile than market measures of performance, accounting-based measures are preferred over market-based indicators (López, 2007). It is believed that accounting performance indicators are the most suitable since it is easy to understand how business policies affect these values (Cochran & Wood, 1984; López, 2007; Garcia-Castro et al., 2010).

The investigation on how CSP relates to profitability in large publicly traded companies in Egypt revealed a significant and positive correlation between a firm's profitability (ROIC, ROE, and ROA) and CSP. These findings are in line with (Waddock & Graves; 1997; Artiach et al., 2010; Ameer & Othman, 2012). The findings of this study demonstrated that Egyptian businesses' increased emphasis on sustainability measures had a favorable and significant influence on their profitability. Furthermore, the results showed that highly ranked firms in terms of ESG are significantly more profitable in terms of their (ROA, ROE) compared to low-rated ESG firms. The mean values of profit proxies are higher for the HESG firms. High-rated ESG enterprises have lesser risk than low-rated ESG firms, which suggests that they have more access to equity capital markets, which reduces their demand for borrowed money.

Finally, considering sustainability, when Egyptian businesses make decisions and develop their business plans,

will increase the profitability of the company. This is in line with stakeholder management theory. This research is limited to analyzing the accounting performance measures only. In addition، it focuses only on the firms' performance in 2017. Consequently, this leaves scope for further research regarding widening the time span and measuring the market-based indicators to investigate whether investors in Egypt value corporate sustainability.

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