An Empirical Examination of Stock Market Reaction to the Corporate Sustainable Performance: The Egyptian Stock Exchange Evidence

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Abstract:

Sustainability has received considerable critical attention in the Egyptian Stock Exchange (EGX). In an economy, whether a sector or corporation, the Environmental, Social, and Governance (ESG) aspects have a greater role in enhancing or detracting shareholder value. Along with this growth in sustainability, however, there is increasing concern over explaining the association between Corporate Sustainable Performance (CSP) and Stock Return (SR). The stakeholder theory has been vigorously challenged in recent years by many researchers. Critics question the theory's ability to explain (a) market investors' short-term reactions to announcements of ESG Index inclusion, (b) whether market investors' reactions differ depending on industry sectors, and (c) whether firms with higher

sustainability rankings in terms of weighted ESG index score perform better than low-ranked firms. The method used in this study is an event study analysis based on examining the effect of a company's announcement that it has been added to the S&P/EGX ESG Index on its SR during the event period of 31 days, along with the use of parametric t-tests. The results showed that, for the sample of the 90 ESG index inclusion announcements, investors react significantly both to the raw and within-industry sectors in terms of short-term SR analysis. Moreover, the investor reaction is significantly affected by ESG index scores since the market rewards firms with high CSP. The results are supported by the stakeholder theory, which argues that investors in better-ranked firms heavily invest in CSP, anticipate larger future cash flows due to more favorable responses from key stakeholders, and thus reward these firms with increases in stock price.

Keywords: Corporate Sustainable Performance, S&P/EGX ESG Index, Event Study, Stakeholder Theory

1. Introduction:

Sustainability reporting has received considerable critical attention not only from a professional perspective but also from an academic view. According to Torres et al. (2018), corporate sustainability (CS) is defined as company practices that proactively attempt to contribute to sustainability equilibrium, taking into account both short- and long-term social,

environmental, and economic aspects, as well as the company's systems (such as governance, production, strategy, organizational, and financial), and its stakeholders (including the environment). As a result, during the past ten years, issues about the environment, society, and corporate governance have steadily increased. Because of this, stakeholders have begun to ask businesses to be accountable for the effects of their decisions on the environment and society by sharing information on how they handle this effect (Hillon et al.,2019; Lee et al., 2017; Bowerman & Sharman, 2016). Several businesses, particularly those listed on stock markets, have begun to use sustainability reports to disclose their sustainability and social responsibility practices. By supplying this extra data, businesses may narrow the information gap between managers and stakeholders. More details would lessen stakeholders' uncertainty about potential future financial gains and lower firm risks. This information can be used by analysts and investors to produce more accurate estimates of the company's stock (Fuhrmann et al., 2017; Diebecker & Sommer, 2017). Therefore, it is anticipated that CSP disclosure and the market value of businesses that offer this type of information would be positively correlated.

The debate whether voluntary accomplishments of a company to save the environment or to comply with social and governance standards can lead to positive financial performance and on the contrary whether a poor sustainable performance can

lead to negative financial performance has been a crucial interest for the stakeholders. The question is whether stock markets rewarded good sustainable performance and penalized poor sustainable performance. Most research on the relationship between CSP and stock market return provided mixed outcomes (Stolowy et al., 2018; Charlo et al. 2015, 2017; De la Torre et al. 2016; Ortas et al. 2014; Garefalakis et al. 2022).

These confusing results can be attributed to several factors, including the involvement of data from several nations and time intervals, which makes it hard to contrast results, and also the use of various CSP disclosure measures. This is because CSP disclosure is still an unstructured optional reporting practice in several nations (Brown et al., 2009; Rasche, 2009; Levy et al., 2010; Roca & Searcy, 2012; Lassala et al. 2017).

Furthermore, since it's possible that stock market return has an impact on social or environmental issues, as well as governance standards, determining the causality of this relationship in such studies can be challenging. The associated parameter estimates can be inaccurate if such a reverse impact exists. Micro-econometric analyses using cross-sectional data show this issue clearly. But even in recent panel data models that take into account unobserved heterogeneity, dynamic effects, and instrumental variable techniques, the reliability of the estimations remain unclear since suitable instrument variables are frequently unavailable, according to Arellano & Bond (1991). An important starting point for a novel

methodological approach, event studies, is this weakness of popular micro-econometric methods. The goal of event studies is to measure the stock market's initial response to the announcement of this significant new information about the company. Typically, event studies look at the mean SR for firms experiencing a specific event (such as inclusion in the sustainability index) (Lourenco et al. 2013; Lyon & Maxwell, 2013; Lackmann et al. 2012; Cheung 2011; Robinson et al. 2011).

Consequently, this study investigates the instant and direct investor response to a discrete event (the inclusion in the ESG Index on August 1, 2016, 2017& 2018) that is obviously related to CSP. This enables the above-mentioned concerns to be avoided. Since event study evaluates the immediate reaction of stockholders to the new ESG Index data for the companies. The inclusion announcement's release affects not only the company's investors but also its other stakeholders, including its clients, staff, regulators, and general public. Consequently, the main contribution is not only building a comprehensive Model to explain how CSP in developing countries like Egypt impacts SR, which is an important research area that needs to be explored. But also studying the immediate, short-term investor reactions to the inclusion announcement using event study analysis.

Additionally, stakeholder theory-based explanations have been developed for the research model, it is anticipated that the new information about businesses' sustainable performance

shared by the announcement of their inclusion in the ESG Index will assist the stakeholders in the company in revising and updating their expectations and evaluation of the company's past and future sustainable performance. Using the framework of stakeholder theory (e.g., Freeman 1984; Donaldson & Preston 1995; Jones & Wicks 1999), and drawing especially on recent applications of the stakeholder view in the sustainability management context (Hörisch, 2014).

it can be argued that the investor (stockholder) reaction in the stock market is likely related to revised stockholder expectations that the firm would benefit (lose) in terms of higher (lower) expected future cash flows from more (less) positive stakeholder perceptions of firms sustainably related to the ESG Index inclusion announcement. Therefore, businesses that operate more sustainably will have more favorable stockholder responses, especially in light of Egypt's commitment to making progress toward the Sustainable Development Goals (SDGs). Egypt Vision 2030, the country's sustainable development strategy, is in line with the SDGs. Egypt started a very thorough domestic economic reform, which has the support of foreign financial institutions. To set the economy on the path to becoming one that is more stable, the Egyptian government implemented excellent changes at the right time and with great courage. Institutional investors are beginning to include ESG considerations in their investment decisions.

Furthermore, based on recent stakeholder theory applications to the CSP context (e.g., Delmas & Toffel, 2004, 2008, 2011; Etzion 2007), this study assessed the effect of ESG Index inclusion announcement based on the industry perspective. Finally, the impact of ESG weighted index score is used to form two groups' high and low sustainable performance (HESG & LESG). Consequently, this study tests the impact of the adjusted rankings of the sustainable performance on the stock market response of investors.

Using information from the whole sample of Egyptian companies listed in the ESG Index in 2016, 2017, and 2018. Results showed that that short-term investor response is significantly related to firms' CSP as captured by ESG Index inclusion announcement. However, perhaps more importantly, results also showed that the association between investor responses and CSP within the industry context is consistent with stakeholder theoretical arguments. Furthermore, the results showed that highly ranked firms in terms of ESG Index weighted scores are significantly more awarded in terms of SR increase compared to low rated ESG firms.

In this regard, the research is carried out as follows: the next section provides a review of the pertinent literatures and develops the hypothesis. The research findings are then presented after a description of the methods used. The research end with a conclusion with some conclusions and suggestions.

2. Literature Review:

Extensive literature has been published on CSP; the next section will shed light on the concept, theories, and measures of CSP. As well, the empirical results for the impact of CSP and SR employed by prior studies.

2.1. Corporate Sustainable Performance:

The World Business Council for Sustainable Development (WBCSD) and the United Nations Global Compact (UNGC) were established to promote CS. CS is defined as a company's provision of long-term value in financial, social, environmental, and ethical dimensions (UNGC, 2013). In recent decades, ESG, has become a vital concept that connects both CSP and Corporate Financial Performance (CFP). It refers to the ESG issues that investors are evaluating in the context of corporate behavior (WBCSD & UNEP, 2011). Institutional investors are increasingly more interested in ESG analysis as it helps to identify critical corporate strategic risks (Knoepfel & Hagart, 2009). Furthermore, sustainable development is described by Griggs et al. (2013) as the development that serves the requirements of the present while conserving Earth's life support system, on which the prosperity of current and future generations depends.

Setó-Pamies & Papaoikonomou (2016) concluded that, although Wood (1991) asserted that CSP can be viewed as the implementation of Corporate Social Responsibility (CSR) principles. Carroll & Shabana (2010) have a parallel view CSP is

often used as a synonym for CSR, stating that CSP contains both the descriptive and the normative characteristics of CSR. Bansal & Song (2017) differentiated between CSR and CSP in the way how (economic, social and environmental) dimensions are integrated with each other. Since CSP recognizes that social and economic factors are interrelated, whereas CSR regards them as separate components. Torres et al., (2018) stated that CSP is considered as the ultimate organizational goal that balances the needs of the present generation with the need of future generations, while CSR is viewed as an intermediate stage where companies aim in balancing economic, social and environmental concerns. Kolk. (2016) viewed CSR as one of corporate responsibilities, while the CSP is part of corporate responsibilities. Arrive et al., (2019) asserted that CSR focus on the role of the corporation as a communication channel between human and environment, while CSP is more concentrated on the role of the corporation as a human-oriented agent.

Despite a huge degree of similarity between the notions of CSR and CSP, they will be treated as two distinct concepts in this research. According to Stekelenburg et al. (2015), CSP is a corporate organization's combination of social responsibility principles, social responsiveness processes, and policies, programs, and observable outcomes as they relate to the firm's societal relations. For the purposes of this research, this term will therefore be used.

2.2. The Relationship between CSP and SR:

Studies addressed the association between CSP and stock market performance concentrated primarily on whether CSP is 'priced' in capital markets Garcia et al., (2019) or if highly sustainable businesses outperformed other businesses in terms of financial performance (Alshehhi et al., 2018; Lourenço et al., 2013; Chih et al., 2010; Becchetti et al., 2008; Lopez et al., 2007). These studies have shown contradicting results.

Cheung (2011) came to the conclusion that the Dow Jones World Sustainability Index's (DJSI) inclusion or exclusion had no tangible effect on the stock. On the other hand, index inclusion (exclusion) equities see a sizable but transient increase (reduction) inSRon the day of the shift. Robinson et al. (2011) also looked at the reputational benefits of top corporations joining DJSI. The DJSI was utilized as a gauge of the company's sustainability, and it was determined if inclusion or exclusion from the DJSI affected North American firms' short- and medium-term firm values significantly. The findings revealed that after additions and deletions, the mean cumulative abnormal returns (CARs) for the three event periods (preannouncement, announcement, and effective) indicated an insignificant positive shift for additions and deletions during the pre-announcement periods, as well as an insignificant negative and positive shift for additions and deletions during the announcement period.

Contrarily, Consolandi et al. (2009) used an event study approach to analyze the effect of CSP performance on stock return. Over the years 2001 to 2006, the DJSI was utilized. The findings showed that CSP significantly affects the criteria for asset allocation activities. Furthermore, by dividing the sample into two groups, Stekelenburg et al. (2015) presented a thorough investigation of the impact of Dow Jones Sustainability Europe Index (DJSI Europe) additions and deletions on SR index. All European stocks that were added to or removed between 2009 and 2013 were included in the first category. While the second group concentrated on the stocks of the leading companies. For the initial analysis, there was insufficient data to conclude that the SR is significantly impacted by the announcement of the inclusion and exclusion events. However, index inclusion (exclusion) stocks see a considerable but transient gain (reduction) in SR on the day of change (CD) and in the period immediately after CD. These findings appear to confirm the price pressure hypothesis put out by Harris & Eitan (1986), which contends that event announcements do not convey information and that any adjustment in demand, and hence the associated price change, is temporary. The second analysis' findings, however, indicated that the market favors companies with high CSP. Industry group leader stocks receive a sustained and considerable increase in stock returns in the time following the day of change. Finally, Lo & Kwan (2017) investigated how

ESG factors affected the stock returns of Hong Kong-listed companies. The outcome demonstrated that the market responds to the inclusion in the ESG index more positively.

Conversely, Oberndorfer et al. (2013) looked at how the Dow Jones Sustainability World Index (DJSI World) and Dow Jones STOXX Sustainability Index (DJSI STOXX) inclusion of German firms affected stock performance. An event research approach was utilized to obtain reliable estimation findings. It was based on a GARCH model in addition to a three-factor model from Fama & French (1993), a modern asset pricing model. The findings demonstrated that a company's membership in sustainability stock indices might be penalized by stock markets. The impact of the inclusion in the DJSI World's negative rankings serves as evidence of this outcome.

2.3. ESG Index Inclusion as a Valid Source of Sustainability Performance Disclosure:

CSP was described as a multidimensional notion by Waddock & Graves (1997), making it challenging to both define and quantify. Despite this obstacle, the need for their measurement has grown along with the interest in CSP research. Wood (2010) conducted an extensive and comprehensive evaluation of the literature on CSP and indicators. It was determined that the sustainability index is one of the most popular CSP metrics. It is not surprising that there is no agreement on the best suitable measurements, despite the wide range of measures that have been proposed to evaluate CSP. Nevertheless,

indices like the Dow Jones Industrial Average and (DJSI, KLD, GRI, and PSI). Additionally, it has been acknowledged that a company's inclusion (exclusion) in reputation indexes serves as a complete indicator of its high (poor) long-term performance (Ulmann, 1985; Orlitzky et al., 2003; Jain et al., 2019; Garcia et al., 2019). Similar to earlier research, the current analysis makes the assumption that a company's CSP is high (poor) depending on whether it is included in a reputation index, in this case, the S&P/EGX ESG Index in Egypt.

In order to encourage the improvement of CS 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 can effectively satisfy the increasing information demands for investors, analysts, and businesses related to ESG. The ESG index aims to motivate public corporations to shift their attention away from charity endeavors and enhance their ability to manage ESG-related risks. In order to boost their profitability and market value, corporations would be encouraged by the ESG Index to be more transparent and to reveal their governance, social, and environmental practices in greater detail.

Egyptian companies with the greatest scores in terms of ESG responsibility criteria are included in the S&P/EGX ESG Index. Both quantitative and qualitative elements are used to create the index. Through the procedure, a number of scores

measuring securities in the universe of publicly traded Egyptian firms are created by converting environmental, social, and corporate governance criteria. The index uses a novel score-weighting system and comprises the top 30 equities (at least) among the 100 Egyptian companies tested annually in terms of ESG performance.

The inclusion in the ESG Index is appealing for a number of reasons for the event study, which assesses the stockholder response to the revelation of new information given by a news event. First, it provides a thorough evaluation of a company's sustainable performance (CSP). Second, firm-specific events that can also affect the reaction of investors are unlikely to confuse the announcement date. Third, the pertinent stakeholders are anticipated to be unfamiliar with this knowledge.

3. Theoretical Framework:

Several theories have been proposed to explain how CSP and CFP are related (McWilliams & Siegel, 2001). Stakeholder theory is the theory that is applied most frequently. With Freeman's (1984) conceptual model as its foundation, contemporary stakeholder theory suggests that managers have a responsibility to the corporation's shareholders, individuals, and communities that either voluntarily or involuntarily affect (or are affected by) the company's welfare capability and activities and who, as a result, are its potential beneficiaries and/or risk bearers. As a result, CSP efforts may increase corporate profits (Baron 2001; McWilliams & Siegal 2001).

Thus, the company can increase its overall organizational wealth by ensuring that all stakeholders have legitimate legal and moral rights (Donaldson & Preston 1995; Jones 1995; Jones & Wicks 1999).

Information asymmetry between stakeholders and the company's executives negatively impacts stakeholders (Martinez, 2016). To be more exact, they are not aware of any information that is relevant to their interests. In the case of this study, the objective is to concentrate on the sustainability performance employed by the company, which is important to ethical consumers, clients, employees, NGOs, and regulators. Because the Egyptian stock exchange, an impartial, reliable third party, is providing the information, it is anticipated that the announcement of the ESG Index inclusion will provide new information to the stakeholders, reducing information asymmetry and assisting them in revising their expectations regarding the firm's present and future sustainable performance (Ramchander et al. 2012).

As a result of the disclosure of higher (lower) sustainable performance, stakeholders are more likely to engage in advanced (basic) levels of involvement. They are also more likely to favor the company with new or ongoing business or talented labor due to the disclosure of superior (inferior) sustainable performance. The firm's stockholders also anticipate an increase in future expected cash flows to the firm as a result of the disclosure of ESG Index inclusion announcement, which reveals superior sustainability performance, as corporations must spend

significant resources on luring customers and keeping talented employees (Johari & Komathy, 2019; Stekelenburg et al., 2015). It is predicted that the firm's stockholders will respond favorably to the disclosure of news about the firm's sustainability performance by requesting more of the firm's stock at the time of the announcement because of this expected growth in the firm's future cash flows from improved relations with its stakeholders in response to the new information conveyed by the ESG Index inclusion announcement. resulting in increased stock returns. Figure 1 provides a summary of this reasoning. As a result, in line with the findings by Stekelenburg et al. (2015), it is anticipated that investors will have a positive stock market reaction when news regarding a company's superior sustainable performance is disclosed.

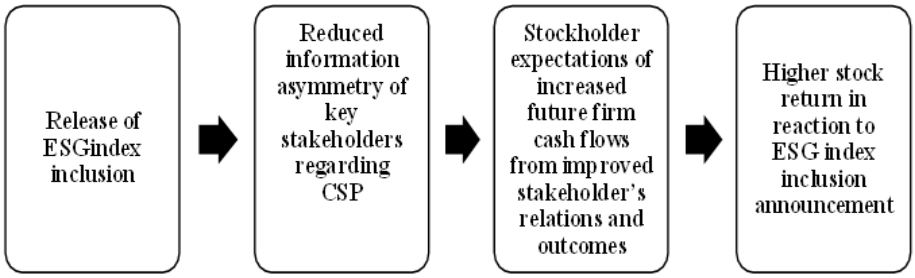

Figure 1: Causal logic for stock market reaction to the firms included in ESG Index

4. Hypotheses Development:

Several ideas have been explored to determine the association between firm sustainability index inclusion events and stock return. Strong empirical evidence of positive (negative), permanent (temporary), and pricing impacts on index inclusion is available in the literature (exclusion). In the literature, at least five alternative theories are put out to account for the considerable pricing impacts. The price pressure hypothesis (Harris & Gurel, 1986), the information cost hypothesis (Merton, 1987), the downward sloping demand curve hypothesis (Shleifer, 1986), the signaling hypothesis (Jain, 1987; Dhillon & Johnson, 1991; Denis et al., 2003), and the liquidity hypothesis (Beneish & Whaley, 2002; Hegde & McDermott, 2003).

The first two theories postulate that index inclusion and exclusion events don't include information and can't, thus, affect stock price. The considerable price repercussions are brought on by changes in demand that result from portfolio allocation that is not information-based. According to the theory of a downward sloping demand curve, the rise in demand is ongoing. As a result, the effects on the stock price and trade volume are also long-lasting. On the other hand, the price pressure hypothesis contends that the rise in demand is just temporary. Therefore, the effects on the stock price and trade volume are similarly temporary.

The other three theories, in contrast, rely on the idea that an event contains information and, as a result, affects a stock's

fundamental value. The information cost theory, in particular, contends that index events raise investor awareness and lower the cost of information searching because the index makes more information available to investors. This will subsequently result in a decrease in the issues with information asymmetry. Investor awareness will therefore contribute to the existence of asymmetric price responses, which will result in an anticipated long-term shift in the stock price for the additional enterprises after the occurrences. According to the signaling theory, index-related events are perceived by investors as indications that the index company is holding secret information that will impact the stock price in the future. According to the liquidity hypothesis, index inclusion reduces stock volatility by increasing the underlying stock's liquidity (as indicated by the bid-ask spread). Due to the influx of information-based trading into the stock market and the expansion of hedger and arbitrager trading, market participants have reduced the bid-ask spread. In conclusion, the liquidity hypothesis postulates that changes in the discount rate as a result of changes in liquidity risk produce large stock price implications. Subsequently,

H1: There is significant positive relationship between CSP and SR.

The research's important objective is to track this impact independently for each industry group in addition to looking at how investors' short-term stock market reactions to announcements of the ESG Index inclusion will affect the market. The current study has paid a lot of attention to the industrial perspective as a pertinent component of analysis for the study on CSP. According to Etzion (2007), Delmas & Toffel (2008), Cordeiro & Tewari (2015), and others, the companies are divided into "clean" and "dirty" industry sectors, such as banking and other services and the chemical and automotive industries. However, each industry sector's inputs, processes, outputs, and stakeholders vary, making this distinction subject to change.

Etzion (2007) investigated how key stakeholders are concerned with industry as a discrete unit of analysis. The results showed that stakeholders' attitudes differ widely according to their preferences for green product, process, and service features across industry sectors. In industries where firms sell ''final goods'' directly to the consumer, there is more pressure to be environmentally proactive and to invest in high-quality environmental management systems than primary or intermediary good producers. (Arora & Casson 1996; McWilliams & Siegel 2001; King et al. 2002; Khanna & Anton (2002).

Potoski & Prakash, (2005) found that regulatory agencies enforce pressure on dirtier industries more intensely, since these industries have a negative significant impact on the environment. Moreover, companies that don't comply with environmental regulations are subjected to obligatory penalties and personal lawsuits targeting corporate officers with significant fines. That's why previous research showed that firms from dirtier industries are more likely to engage in proactive environmental strategies (Henriques & Sadorsky 1999; Hutchinson 1996).

Moreover, NGO (non-governmental organization) stakeholders use a variety of activism strategies, such as boycotts (Nike, Anti-Sweatshop Campaign), protests, legal actions, and student mobilization campaigns (as in the case of Coca-Cola at the University of Michigan), to put pressure on businesses and significantly influence them to adopt more proactive social and environmental behavior. Due to the reputational commons effect, it is anticipated that NGOs would exert more pressure on companies, especially in industries with a bad reputation or those are shadier (Baron & Diermeier 2007; Doh & Guay 2006; Eesley & Lenox 2006).

Finally, pressure to perform well in terms of the environment and society may come from the company's current and future personnel. There is strong evidence that employee self-selection varies by industry since more environmentally conscious employees are less likely to favor working in dirty

industries. Previous studies have shown that CSP can improve employee attitudes and morale (with positive implications for productivity) (Backhaus et al. 2002; Greening & Turban 2000; Turban 2001; Turban & Greening, 1996).

After highlighting the significance of sector context, it is not anticipated that businesses within the same industry will respond uniformly to stakeholder pressures (such as those from consumers, regulators, and NGOs). Due to the cognitive disparities amongst managers and the variations in firm-level resources, businesses in the same industry that are under the same stakeholder pressures will respond differently to the environment and to society. Furthermore, according to Cordeiro & Tewari (2015), all industries, whether they are considered to be "dirty" or not, have already developed a special plan of action to deal with the implementation of environmental regulations. Regardless of how dirty their industry is, some sectors may have evolved progressive environmental cultures, strong industry-level associations, affordable and easy access to sources of remediation, or influential actors who support progressive causes.

It's vital to note, nonetheless, that the industry sector continues to have a big influence on investors' decisions about the announcement of ESG Index inclusion. The differentiation between industries is a significant issue in the context of the current study because the ESG Index only covers the top 30 performing companies without taking the context of the industry

into consideration. Simply put, a company from a clean industry like technology may not find the inclusion in the ESG Index to be particularly impressive, whereas a company from a dirty industry like paper, chemicals, or utilities may find it to be quite impressive. This is because proactive sustainable performance in some industries may actually be considered to be just above compliance in others.

As a result, it is anticipated that the investor response will vary depending on the industry sector upon disclosure of the firm's sustainable performance as represented by its inclusion in the ESG Index.

H2: The short-term stock market reaction by investors will be positively, significantly related to the firm's industry sector.

In accordance with the ESG weighted index score for each firm at the time of the announcement, the sample is then split into two groups (HESG-LESG). As a result, 45 observations have been acknowledged as having the best long-term performance in comparison to the rest of their particular peer group. The 45 observations with the highest index scores are represented by the HESG set, and the 45 observations with the lowest index scores are represented by the LESG set.

Organizations that can build sustained competitive advantages by successfully controlling and using their rare resources, as proposed by the resource-based approach of CSP

theory, cannot be precisely imitated (Laurenço et al., 2012). As one of the most significant intangible assets that give a firm a durable competitive edge, corporate reputation has also been linked to the external benefits of CSP (Roberts & Dowling, 2002; Orlitzky et al., 2003; Laurenço et al., 2012). The third study question is to determine whether there are empirical variations in CAAR during the event window between the two groups (HESG & LESG)

H3: There are significant differences between HESG and LESG firms concerning market reaction to the ESG Index inclusion news.

5. Methodology and Data Collection:

5.1. Methodology:

Based on the ESG Score, the companies are included in this index. Each sample firm's cumulative abnormal return (CAR) served as the dependent variable to calculate the short-term investor impact. This information was gathered using an event study, which documents investor responses to major event announcements (such as the announcement of the inclusion of ESG factors in indexes) and meaningfully connects financial market performance with sustainability performance. The event study captures the impact of the unanticipated new information on the companies' stock prices (Bauer et al., 2005; Curran & Moran, 2007; Cheung, 2011; Stekelenburg et al., 2015).

The basic steps of a standard event study can be summarized as follows:

1. Choose a firm-specific announcement or event to analyze its impact on the stock return. The announcements made by the ESG Index on new additions to the ESG Index are the events of interest (Egypt).
2. Identify the event day. This research focuses on the ESG Index inclusion announcement on August 1, 2016, 2017 & 2018. The sample is first separated into two periods in the approach of Cheung (2011). The estimating period is the first period, which consists of data from t = -60 to t = -16; the event period is the second period, which runs from t = -15 to t = +15 and is used to examine a relevant window. The entire event window for each stock is 15 days before the announcement date through 15 days following the announcement. The timeline for the event and estimation window is presented in figure 2.

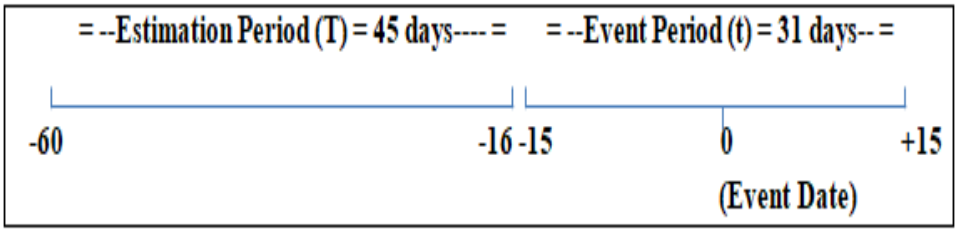

Figure 2: The timeline for the event and estimation window

3. Control over the confounding events.
4. Define a model to measure the benchmark expected for the normal stock performance. In the current research, The market model is applied to estimate the daily abnormal return because it provides the best results, Following MacKinlay (1997).

5. Define the estimation period, the event window.

Use the market model to compute the expected stock performance. Abnormal return of stockiat time t (AR_{it}) is defined as the difference between realized return (R_{it}) and an estimate of its expected (or normal) return (ER_{it}).

$$AR_{it} = R_{it} - ER_{it} \quad \text{..... (1)}$$

Abnormal returns are then averaged over the N firms for each day in the event period to form (CAR_t) daily event window. The expected value of CAR_t is zero at the announcement date in the case of no price response.

$$CAR_t = \frac{1}{n} \sum_{i=1}^{n} AR_{it} \text{ .....(2)}$$

The ($CAAR_t$) are calculated over the event period from day 1 to day k where the maximum period from 1 to k is the event period 31 days.

$$CAAR_t = \sum_{t=1}^{t=k} CAR_t \text{ .....(3)}$$

5.2 Sample of the Study:

The stock prices for the firms' included in the ESG Index were extracted from the Egyptian stockexchange. The ESG score is based on three key parameters: environmental score, social score and the corporate governance score. The composite score is the overall weighted ESG rating score as aggregate for all the three parameters. The empirical research will examine the impact of ESG Index inclusion announcement on the stock return. The sample includes 90 inclusion announcements covering 3 years (2016, 2017, and 2018). The breakdown of the ESG Index

inclusion announcements in terms of the industry sector and ESG Index weights is presented in figure 3. The industry sectors, classification is based on S&P Global Industry Classification Standard (GICS) effective on September 28, 2018. It can

be seen from the data in figure 3 that the majority of the announcement included in the ESG Index are from firms in the financial sector which represents 41%. Additionally, the Materials sector comes in the second rank as it represents 19%. While the Industrial sector which represents 11%. Moreover, the Telecommunication represents 7%. Consumer Staples sector represents 6%. However, the Consumer Discretionary and the Information Technology represent 4% equally. Finally, Health Care sector and the Energy sector represent 2% and 1% respectively.

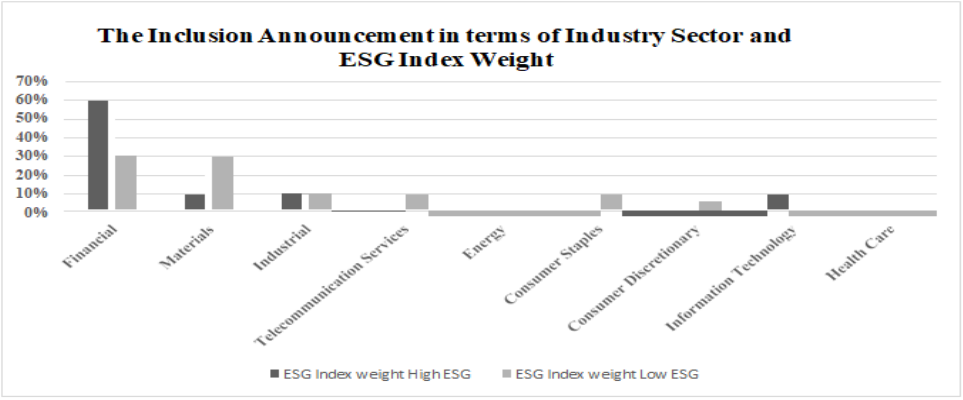

Figure 3: The breakdown of the ESG Index inclusion announcements in terms of the industrysector and ESG Index weights

The frequency of announcements of index inclusions across the various industry sectors is shown in Panel A of Table

1 each year. There are 90 events for index inclusion. According to the industry sector, different events take place at different times each year. The sample comprises of 41 companies that were included in the ESG Index between 2016 and 2018. Due to the addition of numerous firms throughout the sampling period, the total number of firms (i.e. 41) is lower than the total number of events (i.e. 90). These 41 businesses represent a variety of business sectors, as shown in panel B. The financial sector is the sector with the highest participation (around 46% of the total sample), followed by Materials, Industrial, Telecommunication Services and Consumer Staples in the next three ranks, respectively. However, the Consumer Discretionary and Information Technology sectors comes in the same rank. Finally, the Energy and Health Care comes in the last rank. Panel C classify the firms in terms of their ESG index weight into high ESG scores and Low ESG score along with their industrial sectors. The financial sector and the information technology represents the highest ESG scores. Whereas the Materials, Consumer Staples and Consumer Discretionary sectors displays the lowest ESG scores.

Table 1: displays the frequency of index inclusions announcement among the industry sectors per year												
	Panel A: by Year						Panel B: by Industry announcement		Panel C: by ESG Index weight			
	2016	%	2017	%	2018	%	No. of firms	%	High ESG	%	Low ESG	%
Financial	14	47%	13	43%	14	47%	41	46%	27	60%	14	31%
Materials	6	20%	7	23%	4	13%	17	19%	4	9%	13	29%
Industrial	4	13%	4	13%	2	7%	10	11%	5	11%	5	11%
Telecommunication Services	2	7%	1	3%	3	10%	6	7%	2	4%	4	9%
Energy	1	3%	0	0%	0	0%	1	1%	0	0%	1	2%
Consumer Staples	1	3%	2	7%	2	7%	5	6%	1	2%	4	9%
Consumer Discretionary	1	3%	1	3%	2	7%	4	4%	1	2%	3	7%
Information Technology	1	3%	1	3%	2	7%	4	4%	4	9%	0	0%
Health Care	0	0%	1	3%	1	3%	2	2%	1	2%	1	2%

6. Research Results:

6.1 Results of Index Inclusion (H1):

6.1.1 Descriptive Statistics:

Table 2. Descriptive statistics of CAAR H1:				
	whole sample	2016	2017	2018
	Panel A			
Range	0.0259829	0.0128208	0.0178804	0.0236557
Mean	-0.0000692	0.0000582	-0.0001043	-0.0001616
Std. Deviation	0.0039500	0.0028524	0.0043406	0.0045694
	Panel B			
Skewness	-0.2548463	0.8096065	0.7333943	-1.3028175
Kurtosis	2.1619240	0.8739788	0.1232861	3.4534011

Panel A of Table 2 shows the range, mean and standard deviation of daily abnormal returns, for the whole sample and per year, whereas Panel B shows additional summary statistics, such as skewness and kurtosis. When looking at the average daily abnormal returns on a yearly basis in Panel A, non-significant differences are detected between the mean of the daily abnormal returns for the whole sample, 2017 and 2018 with the exception of 2016. However, according to Panel B, it is clear that while the samples are approximately symmetric (i.e. the skewness is within normal boundaries) regarding the whole sample and 2018. Whereas regarding 2016 and 2017 the samples are moderately skewed. However, the kurtosis is rather normal, which might suggest normal data. This justifies the use of the t-test statistic for hypothesis testing.

Figure 4 presents the time-series behavior of CAARs in the complete event window spanning from t= - 15 to t= +15 to provide clear picture. Regarding the CAAR before the announcement, it seems that there was an anticipation effect since the CAAR value started to increase in few days before the announcement. Also, it is clear that the market reacted positively following the announcement with exception to year, 2018. Since there is significant upswing for the CAAR value after the announcement which indicate that the stocks included in the ESG Index experienced an upward price movement. However, this may be temporary effect because prices decreased later in the

period, as there is a loss in momentum latter which might suggest a price reversal effect. Figure 4 doesn't indicate whether the price persistence or reversal is statistically significant or not. In order to overcome this limitation a detailed analysis for the CAAR through the event window is shown in table 3.

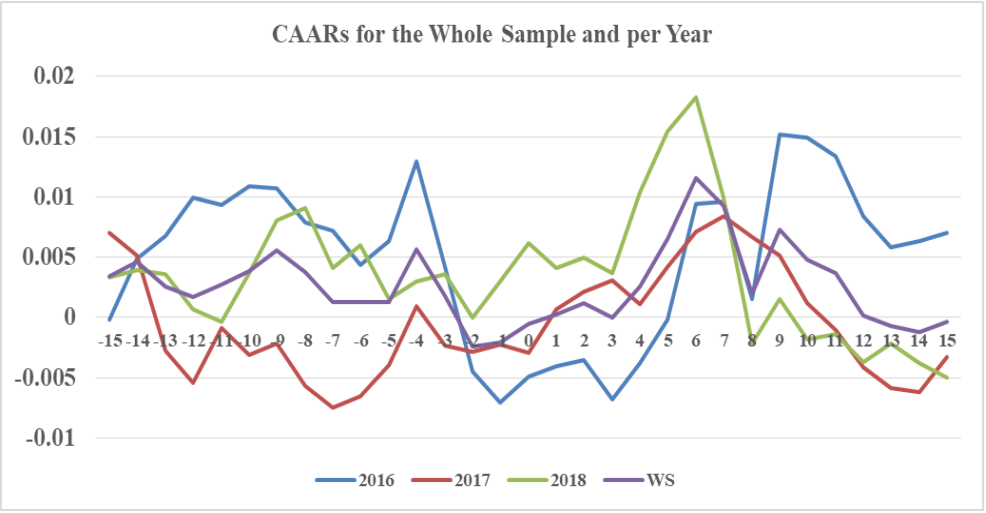

Figure 4: presents the time-series behavior of CAARs in the complete window spanning from -15 to +15, through the whole sample and on yearly basis.

6.1.2. The t test analysis of Index Inclusion news (H1):

In order to ensure that market responses to the events. The analysis is executed according to the whole sample and per year. The trading behavior is examined separately for stocks included to the ESG Index, through three successive years and on yearly basis, in order to investigate whether there is abnormal trading behavior after the announcement day. According to the whole

sample analysis as presented in Table 3, there is evidence to support that the ESG inclusion announcements have significant positive impact on the stock return, given that the overall result of (+5, +6, +9) days are statistically positive significant and that in other days (+8,+12) there is negative significant results are found. Consequently, this indicate that although there is lagged positive response to the news, there was also negative response latter which indicate the temporary effect of the announcement. When looking at the effect of the ESG Index inclusion announcement on a yearly basis, there is significant positive impact is detected in 2016, 2018 at days +6 ,+ 4 respectively, with the exception of 2017 since the was no significant impact for the announcement on the stock return.

Table 3.daily mean abnormal return (AR) around ESG Inclusion announcements

	Whole sample		**2016**		**2017**		**2018**	
	Mean	t-statistics	Mean	t-statistics	Mean	t- statistics	Mean	t-statistics
-15	.0016651	0.813	-.005448	-1.935*	.0070610	1.742*	.003382	1.001
-14	.0012255	0.653	.0050384	1.653	-.0019376	-0.524	.0005758	0.196
-13	-.0020941	-1.182	.0019445	0.626	-.0078308	-2.510*	-.000396	-0.142
-12	-.0008280	-0.543	.0031026	1.197	-.0027361	-0.906	-.002850	-1.301
-11	.00097869	0.589	-.000561	-0.21	.00455583	1.468	-.001058	-0.374
-10	.0011231	0.555	.0015249	0.511	-.0021713	-0.591	.0040158	1.049
-9	.0017040	1.008	-.000149	-0.058	.0008899	0.245	.0043718	1.786*
-8	-.0017594	-1.488	-.002837	-1.398	-.0034656	-1.848*	.0010253	0.467

-7	-.0024763	-1.831*	-.000651	-0.422	-.0018122	-0.684	-.004965	-1.865*
-6	-.0000407	-0.029	-.002860	-2.157**	.0008817	0.339	.0018563	0.631
-5	.0000515	0.038	.0019984	0.832	.0026134	1.077	-.004457	-2.131**
-4	.0043425	2.960***	.0066003	2.398**	.0049253	1.774*	.0015018	0.746
-3	-.0038131	-1.72*	-.008757	-2.145**	-.0033140	-0.936	.0006325	0.166
-2	-.0042778	-2.301**	-.008650	-2.303**	-.0005368	-0.224	-.003646	-1.108
-1	.0003488	0.227	-.002601	-0.926	.0006275	0.266	.0030209	1.092
0	.0015347	1.279	.0021203	0.941	-.0006451	-0.331	.0031290	1.54
+1	.0008204	0.467	.0009164	0.332	.0035861	1.075	-.002041	-0.675
+2	.0009582	0.678	.0005262	0.217	.0014412	0.532	.0009071	0.399
+3	-.0012386	-0.763	-.003296	-1.481	.0009423	0.281	-.001362	-0.488
+4	.0025639	1.468	.0029891	0.873	-.0019961	-0.668	.0066986	2.703**
+5	.0039560	2.369**	.0036356	1.439	.0031414	1.377	.0050912	1.36
+6	.0050778	2.761***	.0095899	2.820**	.0028513	0.931	.0027923	0.924
+7	-.0023009	-1.714*	.0001260	0.053	.0012916	0.585	-.008322	-4.123***
+8	-.0072777	-4.16***	-.008063	-2.79**	-.0016972	-0.572	-.012072	-4.01***
+9	.0052676	2.649***	.0136585	4.188***	-.0015462	-0.503	.003690	1.057
+10	-.0025115	-1.481	-.000218	-0.071	-.0039565	-1.509	-.003359	-1.069
+11	-.0011086	-0.719	-.001544	-0.494	-.0022357	-0.87	.000453	0.195
+12	-.0034600	-2.87***	-.004980	-2.007*	-.0030555	-1.633	-.002343	-1.243
+13	-.000888	-0.545	-.002574	-0.982	-.0016853	-0.558	.0015941	0.559
+14	-.0005135	-0.551	.0005265	0.336	-.0003838	-0.237	-.001683	-1.001
+15	.0008251	0.579	.0007010	0.323	.0029655	1.333	-.001191	-0.402

Note. *, **, and *** denote significance at the 10, 5 and 1% level, respectively.

6.2 Industry Sector Analysis Results (H2):

6.2.1. Descriptive Analysis:

Significant differences across the various sectors are found in table 4 when examining the mean of CAAR on an industry sector basis. It is also evident that the data is roughly symmetric (i.e., the skewness is within normal borders) and that the kurtosis is also within normal boundaries, both of which reflect normal data. This supports the usage of the ANOVA for testing hypotheses because it has been demonstrated to be extremely suitable for normal data.

Table 4. Descriptive statistics of CAAR within the industry sector H2:

	Mean	Standard Deviation	Kurtosis	Skewness
Financial	0.00280	0.00470	-0.83668	0.26296
Materials	0.00139	0.02149	0.16217	-0.12177
Industrial	-0.00641	0.00696	-0.39065	0.06156
Telecommunication Services	0.02121	0.00594	-0.70079	-0.14893
Energy	0.00978	0.02710	-0.77458	-0.53636
Consumer Staples	-0.03364	0.01859	-1.08903	0.31027
Consumer Discretionary	0.02363	0.01572	-0.65673	-0.05716
Information Technology	0.04094	0.01476	-0.37402	-0.27880
Health Care	-0.05237	0.02322	-0.81344	-0.38638

6.2.2. Analysis of variance (ANOVA) by industrial sectors (H2):

The ESG Index inclusion announcement does not take type of industry explicitly into consideration. This is unfortunate, since as discussed previously, industry has the

potential to exercise significant influence on a firm's sustainable performance both through the variance in the nature of production and service processes, inputs, and outputs as well as the variance in the types and importance of stakeholders. Table 5 supports this view, as an ANOVA analysis conducted separately for the days in the event window (i.e. -15 to +15). The results shows that day t-8 has significant variance across industries (F tests in all industries are significant with $p<.05$). Moreover, the results also indicated that day t+2 has significant variance across industries (F tests in all industries are significant with $p<.05$). To accommodate this cross- industry variation after the ESG inclusion announcement. The industry sectors have been re-rankedbased on mean value in figure 5. The results showed that the market responded positively to the announcement as the Consumer Discretionary comes in the first rank followed Health Care, materials, Telecommunication Services and Information Technology. However, the remaining industry sectors have been affected negatively after the inclusion announcement. The financial, industrial, Consumer Staples and Energy are ranked from highest to the lowest return value.

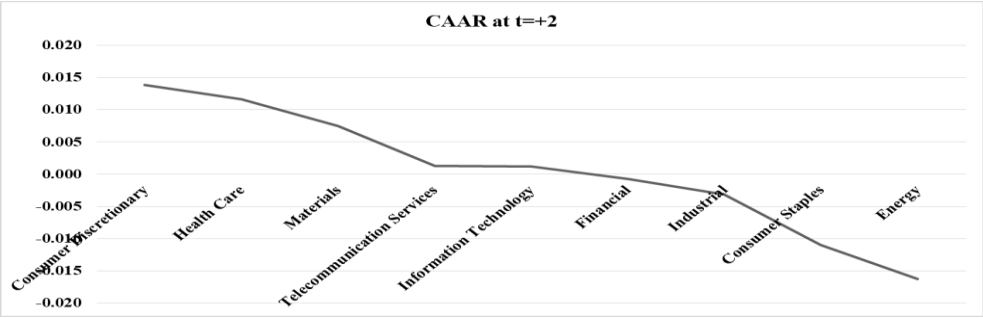

Figure 5: presents the re-ranked industrial sectors based on CAAR at t=2

Table 5. Analysis of variance (ANOVA) by industrial sectors

	N	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
Financial	41	-0.002	0.001	0.002	0.000	0.002	0.003	0.002	-0.001**	-0.003	0.000	-0.002	0.004	-0.004	-0.008	0.000	0.002
Materials	17	0.008	0.002	-0.011	-0.005	-0.002	-0.006	0.001	0.000**	-0.002	-0.001	0.001	0.006	0.002	0.001	0.002	0.004
Industrial	10	-0.002	-0.005	-0.001	0.002	-0.002	-0.003	0.002	-0.007**	-0.002	0.000	0.010	0.004	-0.010	-0.002	-0.007	-0.002
Telecommunication Services	6	0.009	0.007	0.005	-0.002	0.001	0.006	0.002	-0.014**	-0.003	0.001	0.003	0.000	0.004	0.001	0.007	0.001
Energy	1	0.007	0.042	-0.020	0.009	0.008	-0.009	0.001	-0.003**	-0.002	-0.002	-0.003	0.011	-0.023	-0.027	0.029	0.013
Consumer Staples	5	0.001	-0.004	-0.008	0.005	-0.013	0.011	-0.003	-0.006**	0.001	-0.005	-0.006	0.004	-0.009	-0.006	-0.009	0.001
Consumer Discretionary	4	0.007	-0.002	-0.009	-0.003	0.017	-0.001	0.011	0.006**	-0.003	0.002	0.007	-0.003	-0.011	-0.012	-0.001	0.003
Information Technology	4	0.007	0.013	0.002	-0.007	0.009	0.005	0.007	-0.001**	-0.010	0.011	-0.007	0.008	-0.005	0.001	0.008	0.002
Health Care	2	-0.010	-0.010	-0.011	0.005	-0.011	-0.007	-0.017	0.013**	0.002	-0.001	-0.011	0.018	-0.008	0.012	0.011	-0.009
Total	90	0.002	0.001	-0.002	-0.001	0.001	0.001	0.002	-0.002**	-0.002	0.000	0.000	0.004	-0.004	-0.004	0.000	0.002
F		0.657	1.342	1.457	0.559	1.527	0.698	0.597	2.189	0.246	0.445	1.467	0.576	0.600	1.044	1.541	0.544

	N	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12	+13	+14	+15
Financial	41	0.005	-0.001**	-0.001	0.003	0.003	0.005	-0.003	-0.010	0.004	-0.005	-0.002	-0.002	0.000	0.002	0.002
Materials	17	-0.001	0.007**	-0.001	-0.003	0.002	0.004	-0.001	-0.007	0.001	0.003	0.000	-0.008	-0.008	-0.005	-0.004
Industrial	10	-0.001	-0.003**	-0.002	0.006	0.006	0.013	0.006	-0.008	0.012	0.003	-0.003	-0.002	0.003	0.003	0.011
Telecommunication Services	6	-0.008	0.001**	0.000	0.002	0.002	0.009	-0.005	-0.002	0.001	-0.006	-0.002	-0.004	0.010	0.002	0.000
Energy	1	-0.022	-0.016**	-0.020	0.022	0.025	0.008	-0.012	-0.011	0.000	-0.018	0.001	-0.009	-0.018	-0.002	0.001
Consumer Staples	5	-0.007	-0.011**	0.006	0.002	0.009	0.000	-0.001	-0.005	0.012	0.002	0.009	-0.004	-0.008	-0.002	-0.007
Consumer Discretionary	4	0.002	0.014**	-0.001	0.008	0.006	0.002	-0.012	0.003	0.027	-0.008	-0.005	-0.007	0.011	-0.003	-0.009
Information Technology	4	0.000	0.001**	0.006	0.006	0.008	0.003	-0.010	0.001	0.000	-0.008	0.002	-0.002	-0.005	-0.005	0.005
Health Care	2	-0.004	0.012**	-0.018	0.005	-0.003	-0.022	0.000	-0.006	-0.009	-0.001	-0.008	0.002	0.001	-0.007	-0.004
Total	90	0.001	0.001**	-0.001	0.003	0.004	0.005	-0.002	-0.007	0.005	-0.003	-0.001	-0.003	-0.001	-0.001	0.001
F		1.066	2.258	0.726	0.529	0.394	1.014	1.224	0.526	1.320	0.819	0.428	0.577	1.606	1.473	1.657

Note. *, **, and *** denote significance at the 10, 5 and 1% level, respectively.

6.3 Sustainability Group Leader Results (H3)

6.3.1. Descriptive analysis:

Table 6 shows that there are substantial differences between the two groups when examining the mean of CAAR on HESG and LESG. As seen in figure 6, the CAAR mean for the HESG is higher than the mean for LESG daily. The kurtosis for the HESG group is positive, indicating that the distribution has slightly heavier tails, while the kurtosis for the LESG group is negative, indicating that the distribution has slightly lighter tails. Additionally, it is evident that the data are roughly symmetric (i.e., the skewness is within normal borders). Although the kurtosis values for the HESG and LESG are likewise within the usual range, this suggests that the data are normal.

Table 6. Descriptive statistics of CAAR Sustainability Group Leader H3:

	LESG	HESG
Mean	**-0.002004748**	**0.003740578**
Standard Error	**0.000568173**	**0.00095985**
Standard Deviation	**0.003163451**	**0.005344216**
Kurtosis	**-1.298538229**	**0.582493323**
Skewness	**0.16460865**	**0.225499253**
Range	**0.011618444**	**0.023843556**
Minimum	**-0.007825822**	**-0.0065956**
Maximum	**0.003792622**	**0.017247956**

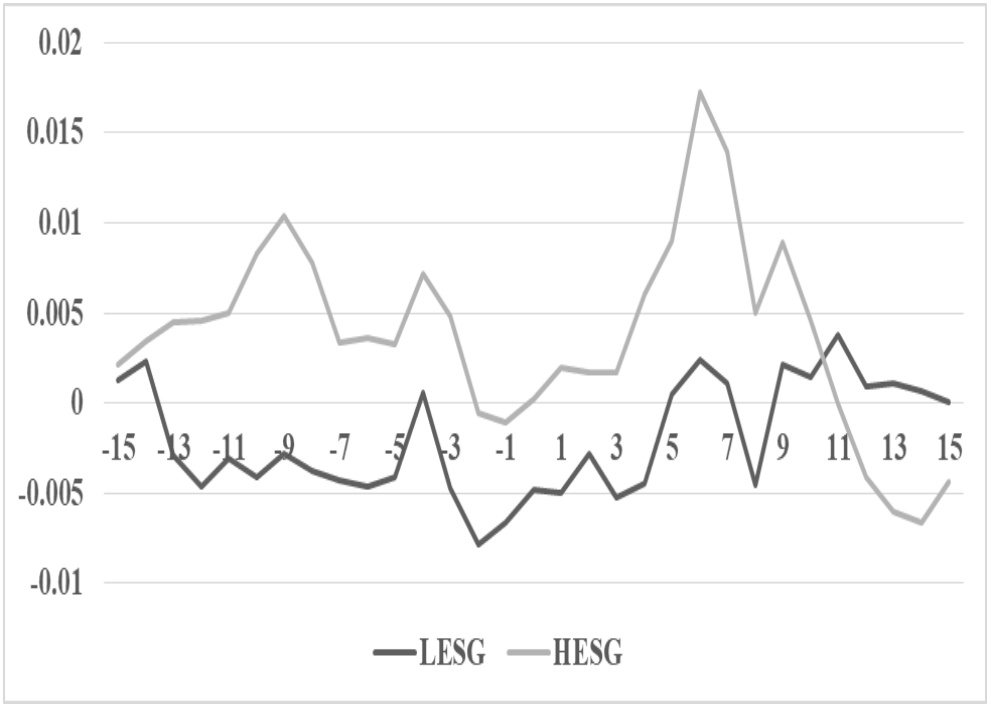

Figure 6: presents the HESG CAAR versus LESG

6.3.2. Paired analysis by Sustainability Group Leader (H3):

Table 7. paired t-test foe HESG &LESG

	Paired Differences				t	Sig. (2-tailed)
	Mean	Std. Deviation	95% Confidence Interval of theDifference			
			Lower	Upper		
H-15&L-15	0.0009	0.0294	-0.0080	0.0097	.200	.843
H-14&L-14	0.0002	0.0218	-0.0063	0.0067	.064	.949
H-13&L-13	0.0063	0.0232	-0.0006	0.0133	1.828*	.074
H-12&L-12	0.0017	0.0216	-0.0048	0.0082	.538	.593
H-11 & L-11	-0.0010	0.0209	-0.0073	0.0052	-.334	.740
H-10& L-10	0.0043	0.0267	-0.0037	0.0123	1.080	.286
H-9 &L-9	0.0008	0.0225	-0.0060	0.0075	.229	.820
H-8 &L-8	-0.0016	0.0165	-0.0066	0.0033	-.670	.506
H-7 -&L-7	-0.0038	0.0178	-0.0092	0.0015	-1.435	.158
H-6& L-6	0.0005	0.0176	-0.0048	0.0058	.200	.842
H-5 &L-5	-0.0008	0.0188	-0.0065	0.0048	-.297	.768
H-4& L-4	-0.0008	0.0218	-0.0074	0.0057	-.252	.802
H-3 & L-3	0.0030	0.0243	-0.0043	0.0103	.820	.417
H-2 & L-2	-0.0023	0.0235	-0.0093	0.0048	-.653	.517
H-1 & L-1	-0.0017	0.0198	-0.0076	0.0043	-.571	.571
H0 & L0	-0.0005	0.0170	-0.0056	0.0046	-.199	.843
H+1 & L+1	0.0019	0.0242	-0.0054	0.0092	.525	.602
H+2 & L+2	-0.0025	0.0188	-0.0081	0.0032	-.882	.382
H+3 & L+3	0.0025	0.0213	-0.0039	0.0089	.796	.430
H+4 & L+4	0.0035	0.0227	-0.0033	0.0103	1.033	.307
H+5 & L+5	-0.0019	0.0209	-0.0082	0.0043	-.623	.537
H+6& L+6	0.0063	0.0238	-0.0009	0.0134	1.774*	.083
H+7 & L+7	-0.0020	0.0174	-0.0072	0.0032	-.762	.450
H+8& L+8	-0.0033	0.0236	-0.0104	0.0038	-.933	.356
H+9 & L+9	-0.0028	0.0226	-0.0096	0.0040	-.839	.406
H+10 & L+10	-0.0036	0.0217	-0.0101	0.0029	-1.107	.274
H+11 & L+11	-0.0070	0.0220	-0.0136	-0.0004	-2.131**	.039
H+12 & L+12	-0.0012	0.0177	-0.0066	0.0041	-.467	.643
H+13 & L+13	-0.0021	0.0210	-0.0084	0.0042	-.669	.507
H+14 & L+14	-0.0001	0.0122	-0.0038	0.0035	-.066	.948
H+15 & L+15	0.0028	0.0181	-0.0026	0.0083	1.050	.299

Note. *, **, and *** denote significance at the 10, 5 and 1% level, respectively.

This supports the use of the paired test in table 7 for testing the null hypothesis because it has been shown to be very effective with normal data. To determine whether there has been a significant variation in the means of CAARs between the two groups (HESG & LESG), Table 7 shows the mean values of the CAAR for each day in the event widow for the two groups (HESG & LESG). Table 7 provides the t-test application results (probability value). The probability value (at p0.05) demonstrated a significant difference in the CAAR at T=+6 between the two groups. When compared to LESGS on the same day, the companies in the HESGS group have greater CAARs. In addition, when compared to the LESG group, the CAARs of the HESGS group are lower and significantly different at t=+11. Although there was delay in the market response to the ESG inclusion announcement in the two groups, the HESG group experienced significant upward price movement then the LESG. However, this is temporary because the prices decreased later, and this might suggest a price reversal effect.

6. Discussion and Conclusions:

This study aims to examine whether the market rewards firms in terms of their sustainable performance through analyzing the impact of ESG Index inclusion announcements through three successive years (2016, 2017& 2018) on the abnormal stock return. Additionally, the study not only examines the impact on the SR separately in terms of the industrial sectors but also based

on ESG Index weighted sustainability scores.

The event announcement, or the first five days following the announcement, had a positive, significant impact on the stock return, according to the results. The fact that these companies' stock returns had increased 4 days prior to the release provided further proof that the market had anticipated the disclosure. Moreover, within the days of change period which length between 5 trading days after the event announcement, stocks experience significant decrease in the stock return. This suggests that investors wanted to benefit from the increase in the stock prices and the Egyptian stock market allows investors to sell at t+2. That's why there was significant increase in the SR at (t=+5 & t = +6) and significant decrease in the SR at (t=+7 & t=+8). While the significant increase in the SR at t=+9 reveals that the announcement still has positive significant impact during the days of change period. The research findings also support the pricing pressure idea. The investigation showed that there is no immediate, significant change in the security price following the announcement of a stock's inclusion in the ESG index. This contradicts the information cost and downward-sloping demand hypotheses, which argue that any shift in stock prices must be long-lasting. The price pressure theory, which anticipates just a limited shift in price given the considerable fall in SR at t = +12 which suggests significant price reversal, is supported by the reality that there were temporary changes in stocks.

Secondly, the research outcomes for the industry context are relatively different. Although there is significant effect of the announcement on the SR at t+2, this impact differs across the different industry sectors. Regarding consumer staples sector which includes producers and suppliers of food, beverages and tobacco and producers of non-durable household goods and personal products. Along with the Industrials Sector which includes manufacturers and distributors of capital goods such as aerospace & defense, building products, electrical equipment and machinery and companies that offer construction & engineering services. In conjunction with the Energy Sector, which contains companies engaged in exploration & production, refining & marketing, and storage & transportation of oil & gas and coal & consumable fuels. The outcomes showed that there is significant negative impact for the announcement on the stock return. These results are contrary to previous studies which showed thatcompanies in highly polluting sectors give greater attention to their ESG disclosure (Deegan & Gordon, 1996; Halme & Huse, 1997; Deák & Karali, 2014). Therefore, it could be suggested that the investors didn't reward this sector. This suggests that enterprises with high environmental impact are having trouble persuading investors through their sustainability reports that they are adequately managing their environmental risks. Furthermore, for the financial sectors results have showed that there is negative significant SR to the announcement and this can be due to the

high opaqueness of ESG information disclosed in the banking reports. (Tang & Zhong, 2019).

Regarding the consumer discretionary sector, the announcement has significant positive impact on the stock return. This sector includes the automotive, household durable goods, leisure equipment and textiles & apparel. As a result, it is categorized as a dirty industry since, according to Ba et al. (2013), cars are a significant source of CO2 emissions. Therefore, automakers' attempts to concentrate on environmental issues demonstrate their commitment to good corporate responsibility. As a result, the stock market rewards these companies' sustainability efforts and these efforts are frequently seen as positive signs (e.g., Hart & Ahuja 1996, Hull & Rothenberg2008, Klassen & McLaughlin 1996, Konar & Cohen 2001, Russo & Fouts 1997, Maignan et al. 2001, Hull & Rothenberg 2008). Additionally, for the telecommunication industry sector, there is significant evidence the market reacted positively to the announcement. Regarding the Materials industry, which consists of businesses that create chemicals, building materials, metals, minerals, and mining firms, including businesses that make steel. Despite being classified as a dirty industry, the data showed that the announcement of the ESG Index inclusion had a significant positive influence on stock return, indicating that investors rewarded the material sector for its sustainability measures. These findings also suggest that stock

market investors may find sustainability disclosure helpful in determining a material sector's prospects for future growth. The findings also agree with most past prior literature (Ambec & Lanoie, 2008). Finally, there is evidence that the announcement positively impacted the information technology and healthcare sectors.

Third, the research findings for the sustainability leading firms (HESG) differ significantly from (LESG). The SR for the HESG is significantly higher than the LESG at time t=+6. In light of the subsequent price increase for these securities, it may be said that investors reward HESG for being recognized to surpass CSP. It's also crucial to note that the transient changes in stocks are compatible with the price pressure hypothesis, which forecasts just a temporary change in price given the considerable decline in SR for HESG compared to LESG at t=+11, which suggests a significant price reversal.

This study is a part of the larger category of studies (referred to as "event studies") that attempt to answer the open-ended question of whether CS pays off in terms of financial gain. The ESG Index inclusion announcement, however, provides perhaps a more conclusive test of the impact of company sustainable performance on stockholder wealth than the majority of prior event studies in this field, which have relied on various measurements. This is crucial to note. This is due to the fact that the ESG index is based on both quantitative

and qualitative elements. Through the procedure, a number of scores measuring securities in the universe of publicly traded Egyptian firms are created by converting environmental, social, and corporate governance criteria.

The results are in line with the stakeholder theory perspective that has been carefully developed; investors in better-ranked companies in terms of their sustainable performance and based on their inclusion in the ESG Index anticipate larger future cash flows due to more favorable responses from key stakeholders, and as a result reward these companies with stock price increases. This study's reliance on the idea that third-party certification, like that offered by the Egyptian stock exchange, can give stockholders new information they can use to effectively incorporate into their trading decisions by forming or revising their impressions of firms' sustainable performance, is a crucial component. Due to the fact that investors only have imperfect information of the companies they invest in (Greenwald & Stiglitz 1990), external information providers and rating agencies, such as the Egyptian stock exchange, play a more important role in revealing new information about firm performance and disseminating it to outside investors (Ramchander et al. 2012;). Additionally, the reputation of well-known and unbiased rating organizations as ESX EGS will aid in the provision of reliable information to investors.

There are certain restrictions with this study. To increase the generalizability of the findings, the dependence on three years calls for a multiple-year reexamination of the issue. Excellent supplemental findings will also result from replication using long-term stock market and accounting performance measurements to support the instant stock market reaction. Furthermore, the application of stakeholder theory is the main foundation of this paper. Future study could use different theoretical frameworks, such as applications of the voluntary disclosure theory and the legitimacy theory to sustainable performance.

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