

The financial and market consequences of environmental, social, and governance ratings: The implications of recent political volatility in Egypt

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Abstract

This study examines the combined impact of environmental, social and governance (ESG) ratings on the market and financial performance of Egyptian companies during the period from 2007 to 2016 and, thereby, determines the influence of the recent political revolutions – that broke out in the MENA region in early 2011 – on the association between ESG practices and corporate performance. Firms with high ESG ratings are found to enjoy a better financial and market performance. We found some evidence that the influence of ESG ratings on financial performance is more obvious after the revolutions than before the revolutions. These findings generally support the view that economic benefits are associated with environmental, social, and governance practices. The present results contribute to the growing literature on the economic consequences of ESG ratings, especially in relation to a context characterized by intense political/revolutionary changes.

Keywords: ESG, Egyptian Context, Political Volatility, Firm Performance

1. Introduction

Most of the literature examines the relationship between corporate social responsibility (CSR) and corporate financial performance (Dhaliwal et al. 2011; Harjoto and Jo 2015; Yadav et al. 2016). Although corporate governance (CG) is related to CSR (Jo and Harjoto 2011; McBarnet et al. 2007), few studies have examined both factors together. Appreciating the value of this relationship, a somewhat recent call has emerged for addressing the impact of environmental, social, and governance (thereafter ESG) ratings on corporate financial and

market performance (see Brooks and Oikonomou 2018; Busch et al. 2015; Eccles et al. 2014; El Ghoul et al. 2015; Fatemi et al. 2015; Li et al. 2017).

Moreover, a significant portion of the literature investigated ESG ratings in developed and politically stable countries (e.g., Aerts et al. 2008; Harjoto and Jo 2015; Richardson and Welker 2001; Yadav et al. 2016; Plumlee et al. 2015), and very few studies focused on emerging markets in general (see Akrouta and Ben Othman 2015; Malarvizhi and Matta 2016; Siagian et al. 2013; Aboud and Diab 2018) and African markets in particular (e.g., Barako and Brown 2008; De Villiers and Van Staden 2006)¹. These settings have become politically unstable. The authors of the present work believe that emerging markets, with their idiosyncrasies in terms of cultural specificity and political volatility, merit special interest. This study thus focuses on the Egyptian context, which represents a unique setting, to contribute to the ongoing discussion on the economic consequences of ESG ratings.

Several previous studies have also described how cultural values influence accounting systems and financial disclosure (Abdul Rahman and Ali 2006; Archambault and Archambault 2003; Ahmad et al. 2006; Arayssi et al. 2018; Haniffa and Cooke 2002, 2005; Patel et al. 2002; Yatim et al. 2006). Following this perspective, the present work examines whether intense political events moderate the relationship between ESG ratings and corporate financial and market performance. The outbreak of revolutions in the MENA region beginning at the end of 2010 had significant political and economic implications. However, few studies have addressed the impact of these political changes on accounting and control practices (e.g., Acemoglu et al. 2017; Ahmed et al. 2017; Arayssi et al. 2018; Elmassri et al. 2015; Maaloul et al. 2018). The latest changes in the Egyptian society after the revolution of 25th of January 2011 could have influences on budgeting, strategic orientation, and drivers for and obstacles to ESG practices (Darrag and Crowther 2017). Thus, this study contributes to the understanding of ESG ratings by investigating the stock market reactions to ESG ratings in the Egyptian context before and after the 2011 revolution.

The present work uses data from the S&P/EGX ESG index², which is the first of its kind in the MENA region³. The ESG index is designed to increase the profile of companies listed on the Egyptian Exchange and is expected to boost the level and quality of ESG practices in the

¹ In this study, the term ESG rating mostly refers to the extent of ESG practices and disclosures by the company.

² For simplicity, the S&P/EGX ESG Index is mostly referred to as the ESG Index throughout the study.

³ The first ESG index was launched in India and was created by Standard & Poor's (S&P) in collaboration with a local company, CRISIL.

Egyptian context. It also aims to link ESG practices to the stock market performance of firms. In particular, the ESG index ranks the best 30 companies from among the top 100 Egyptian companies listed in the Egyptian stock market in terms of their disclosures of social and environmental issues and their corporate governance practices. The index uses corporate governance and CSR norms and standards to evaluate the actions and programs of the listed companies. To determine the influence of the recent political revolutions in Egypt, ESG disclosures in the four years before the revolution (2007 - 2010) and after the revolution (2012 - 2016) were investigated.

This study therefore has two main objectives. The first is to determine the impact of ESG ratings on corporate financial and market performance. The second is to investigate the impact of political volatility or changes on the relationship between ESG ratings and corporate market and financial performance.

A sample consisting of the 100 most active companies in the Egyptian stock market is used. The findings suggest that firms with high-quality ESG practices enjoy higher stock liquidity, more trading activities, and higher return on assets. The influence of ESG ratings on financial performance is found to be more obvious after the revolutions than before the revolutions. These findings generally support the view that there are economic benefits associated with environmental, social, and governance disclosures. The present results contribute to the growing literature on the economic consequences of ESG, especially in relation to a context characterized by intense political/revolutionary changes.

The remainder of this paper is organized as follows. Section 2 presents a contextual overview of the ESG in the Egyptian context and a summary of recent political changes in Egypt. A literature review is given in Section 3, and the research design is discussed in Section 4. The results are presented in Section 5 and Robustness analysis in Section 6. Finally, the concluding remarks are given in Section 7.

2. Background

2.1 Environmental and social practices in the Egyptian context

Until recently, many Egyptian firms had not seriously considered environmental issues (Wahba 2008). However, the year 1994 witnessed the issuance of Environmental Protection Law No. 4, and the year 1995 marked the beginning of a new era for the Egyptian stock market with the enactment of Capital Market Law No. 95, which mandated new disclosure

rules for publicly traded corporations. In 1997, the Ministry of Environmental Affairs was established which is responsible for activating national and international environmental standards, policies, and initiatives to achieve sustainable development. This contributed to the rehabilitation of the Egyptian Environmental Affairs Agency, which was tasked with monitoring the performance of business organizations regarding environmental issues (Wehba 2008). In 2001, the Capital Market Authority issued new disclosure requirements for listed companies. However, neither the laws nor the new listing requirements mandated the public disclosure of corporate reports on social and environmental issues (Rizk et al. 2008).

2.2 Corporate Governance in the Egyptian context

Until the late 1990s and early 2000s the Egyptian companies were not assessed in terms of CG practices (Eldomiaty et al. 2016). However, CG in Egypt has witnessed remarkable changes over the last two decades. For instance, a joint project between the World Bank and the Ministry of Foreign Trade was undertaken in 2001 to benchmark Egyptian CG practices against the CG principles of the Organization of Economic Cooperation and Development (OECD). In 2002, to encourage Egyptian companies to comply with the OECD Principles of Corporate Governance, new listing rules went into effect, which increased the disclosure and corporate governance requirements for listed firms. Then, the Egyptian Institute of Directors (EIoD) was established to provide the Egyptian executives with the required knowledge and skills needed to enhance the social and governance activities of their companies. Recognizing the need to increase the level of confidence of foreign investors in the Egyptian capital market, the Ministry of Investment, through the EIoD, introduced a corporate governance code in 2005 as a set of guidelines and standards for the companies listed in the stock market (Ebaid 2011). The code was later reviewed by experts from the OECD, the World Bank, and the International Finance Corporation (Samaha et al. 2012). In 2006, an additional code was issued for state-owned enterprises. In 2009, the Capital Markets Authority of Egypt created a special corporate governance department, and the Egyptian Stock Exchange began to enforce its listing rules consistently. By then, the number of listed companies fell from 1,148 in early 2002 to 333 by mid-2009 (Eldomiaty et al. 2016).

At the end of 2016, the Egyptian Financial Supervisory Authority (EFSA) issued a decision replacing the corporate governance rules applicable on Egyptian companies. The new rules apply to both listed and unlisted companies, with unlisted companies being subjected to additional corporate governance rules. The revised CG rules emphasize the importance of the role of the board of directors and the disclosure of material nonfinancial information. The

new version is also more comprehensive, providing detailed guidelines on the best practices to achieve balance between the interests of various involved parties and emphasizing the necessity of the “comply or explain” approach (EFSA 2016).

2.3 The Egyptian Environmental, Social and Governance index

A sustainability index called the S&P/EGX ESG index was launched in 2007. This index is an important landmark in the effort to enhance ESG disclosures in Egypt. Developed as the premier index in Egypt to address the concern of investors about environmental, social and governance issues, it measures the quality of information that companies make available regarding their corporate governance, environment, and social responsibility. The index is overseen by a committee composed of the Egyptian Institute of Directors, the Egyptian Corporate Responsibility Center, and Standard & Poor’s (S&P).

The Egyptian ESG index tracks the performance of the top 100 listed companies in the Egypt Stock Exchange in terms of their environmental, social and corporate governance ratings. These 100 EGX-listed companies are evaluated annually to select the top 30 that can be listed on the ESG index. Thus, the index reports to investors the 30 best performing stocks in the Egyptian market as measured by environmental, social, and governance parameters (S&P Dow Jones Indices).

The listed companies are ranked through two screening processes. The first process focuses on environmental and social parameters, and the other on corporate governance parameters. The evaluation of companies is done in two stages. The first stage involves evaluating the disclosure practices of the company based on the information it provides to the public through its annual report, website, press releases, or disclosures made to the Egyptian Stock Exchange. The second stage involves evaluating the company practices by checking the news available in the newspapers, specialized magazines and CSR reports, as well as by contacting regulatory agencies, ministries, and nongovernmental organizations to find out if there is any adverse information on or any violation made by the company (Aboud and Diab, 2018; S&P Dow Jones Indices).

The social and environmental variables in the index are based on outputs obtained from the mapping of the Global Reporting Initiative, the Global Compact, and the Millennium Development Goal. However, the governance variables are an adaptation of the existing corporate governance methodology of the S&P Dow Jones indices to suit the Egyptian market. The companies are evaluated in relation to the following key areas: ownership

structure and shareholder rights, financial and operational information, board and management structure and process, corporate governance and corruption, business ethics and corporate responsibility, environment, employees, community, and customers/product (Aboud and Diab, 2018; S&P Dow Jones Indices).

A quantitative score is calculated for each company so as to determine the weight it will be given in the index. This quantitative ranking is based on three factors: transparency and disclosure of corporate governance, environmental practices, and social practices. Then, each company is assigned a qualitative score. Here, independent sources of information, news stories, websites and CSR filings are used to evaluate the actual performance of the company on a scale from 5 to 1. Finally, a composite score is calculated for each company by combining the qualitative and quantitative scores (Aboud and Diab, 2018; S&P Dow Jones Indices).

By using this index, the present work investigates whether firms with a high ESG rating enjoy higher economic performance as measured by their stock liquidity and volume. This relationship is further discussed in Section 4.2. It is also interesting to investigate the impact of community-specific and political events on these relationships, as discussed in the next section.

2.4 Recent political changes in Egypt

Since late 2010, there have been significant mobilizations of people across the Arab region demanding democracy and wide-ranging change after long decades under authoritarian and autocratic rule. The media refer to these mobilizations as “Arab uprisings” or the “Arab spring” (Lynch 2011). The Arab Spring brought in new politics: some new democracies, some retrenched dictatorships, and some reformed monarchies (Lynch 2014).

Along with these changes in the region, the political situation in Egypt has been volatile for the last seven years or so, a period that witnessed change in the form of three different political regimes. The first was President Hosni Mubarak’s regime, which lasted for thirty years (1981–2011) and ended with the outbreak of the revolution on 25 January 2011. The second regime was headed by the leader of the Muslim Brotherhood, Mohamed Morsi, who ruled Egypt for one year. The third regime is that of the current president, Abdel Fattah el-Sisi.

The Mubarak regime of three decades was marked by a sociopolitical and economic climate that was both stifling and disappointing. This gradually intensified public frustration and impatience with the regime, which finally exploded into the subsequent massive protests, which filled the streets of Egypt during an eighteen-day uprising (El-Tantawy and Wiest 2011):

The dizzying changes that have toppled two of the world's most entrenched leaders in the space of weeks this winter have already fundamentally challenged assumptions about the region, not to mention reshape[d] politics for decades to come⁴ (Lynch et al. 2011).

In just 18 days, a ragtag youth army overthrew one of the Arab world's most entrenched and brutal dictatorships, overcoming their own fears, the regime's considerable tools of oppression⁵ (Hounshell 2011, in Foreign Policy).

A revolutionary movement then began on 25 January 2011 and did not cease until the president stepped down on 12 February 2011. After the revolution, people imagined a different state, not reformed but remade according to the principles of the January uprising: this was to be a state that stood for freedom, social justice and human dignity (Alexander and Bassiouny 2014).

Islamists, the Muslim Brotherhood party in particular, then ruled the country for one year (2012–2013). The Muslim Brotherhood is a political, religious, charitable and educational group. While the Brotherhood movement claimed to stand for democracy and freedom, it did so within an Islamic framework.

During the two or three years that followed the revolution of 25 January, most Egyptians still dreamed of a better state than the one before the revolution. Unfortunately, however, this rosy dream did not last long. Soon after the revolution, the social and economic situation worsened. As a result, on 30 June 2013, huge protests broke out again. People were angered by the worsening economic conditions, the alleged misuse of religion in politics (Farah 2009: 95-8) by the Muslim Brotherhood, and the politics brought about by the revolution (Kirkpatrick et al. 2013; Armbrust 2013). Thus, in response to civil unrest across the country,

⁴ The “leaders” alluded to in the quote are ex-President Mubarak of Egypt and ex-President Zine el-Abidine Ben Ali of Tunisia, “this winter” referred to late 2010 and early 2011, and the “region” is the Arab region and the Middle East.

⁵ The dictatorship alluded to in the quote is the Mubarak regime.

the Brotherhood was deposed only a year after their election. President Sisi has been ruling the country since then.

The new regime sought to gain control over the country by following policies which many commentators considered as counter-revolution movements. That is, it worked to stabilize the country after years of turmoil following the launch of the revolution in early 2011. This is because the revolution and the ensuing events have significantly worsened the economy raising inflation rate in the country to unprecedented levels.

3. Literature review and hypotheses development

3.1 The impact of ESG ratings on corporate market and financial performance

The question of how ESG ratings affect the financial and market performance of companies has been the subject of contentious debate; that is, ESG ratings are reported to have not only various but also conflicting influences on corporate performance (e.g., Aboud and Diab, 2018; Arayssi et al. 2016; Fatemi et al. 2017; Plumlee et al. 2015; Horvathova 2010; Peiris and Evans 2010; Jo and Harjoto 2011; Dawkins and Fraas 2008)

A stream of research has reported that ESG ratings have a positive impact on corporate performance. For example, Peiris and Evans (2010) suggested that ESG factors have an impact on corporate financial performance and therefore are relevant for consideration by investment decision-makers. Devalle et al. (2017) suggested that ESG performance affects the credit ratings of Italian and Spanish public firms (see also Li et al. 2017; Lo and Kwan, 2017; Tarmuji et al. 2016). By examining the liquidity implication of voluntary CSR reporting on the Malaysian Capital Market, Subramaniam et al. (2014) showed that the greater the level of CSR disclosures, the higher the liquidity of the company, particularly in terms of the price impact. By examining Egyptian firms listed in the EGX30 for four fiscal years (2007-2010), Eldomiaty et al. (2016) showed that corporate governance and CSR are positively related to the financial performance of firms in terms of sales turnover and customer loyalty. Likewise, Arayssi et al. (2016) found that ESG reporting has a positive effect on risk-adjusted and buy-and-hold abnormal returns and reduces firm risks when firms enjoy an effective and gender-diverse board structure. In a similar study, Arayssi and Jizi (2018), using ROA and ROE as financial performance measures, revealed a significant impact of CG's adoption on financial performance in the companies that are listed in the

MENA region. Aboud and Diab (2018) documented that ESG practices has a favourable impact on firm value in the Egyptian context.

Nevertheless, some studies have reported a nonsignificant association between ESG practices and corporate performance (e.g. Horvathova 2010; McWilliams and Siegel 2000; Plumlee et al. 2015). For example, Limkriangkrai et al. (2017) found no significant difference in risk-adjusted returns for portfolios based on ESG ratings. Other studies have reported a negative relationship between both CSR and CG and corporate performance. Fatemi et al. (2017), for example, found that ESG disclosures per se decrease the firm valuation (see also Brammer et al. 2006; De Villiers and van Staden 2011; Dhaliwal et al. 2014). This view is mainly rooted in neoclassical theory (Vance 1975; Wright and Ferris 1997). The argument here is that the maximization of owners' profits is the only social responsibility of the firm. The underlying assumption is that the payoffs of ESG activities do not exceed their costs (Friedman 2007). For example, Brammer et al. (2006) found that firms with higher social performance scores tend to achieve lower returns, whereas firms with the lowest possible CSP score of zero outperformed the market. Manescu (2011) investigated the effect of ESG attributes on risk-adjusted stock returns and found that only community relations had a positive effect on risk-adjusted stock returns and that the effect was not a compensation for risk but could be due to mispricing. Further, a weak negative effect of human rights and product safety indicators on risk-adjusted stock returns was found to be likely due to mispricing.

Considering the above-noted association between social and governance practices, as well as the mixed results regarding stock market reactions to ESG ratings, the authors of the present work believe that more evidence is needed, especially one that takes into consideration the implications of the sociopolitical context in which ESG practices are applied. We extend the previous research by addressing the financial and market consequences of ESG practices (i.e. the implications of ESG practices for liquidity, trading volumes, and profitability). We also investigate the impact of political volatility/changes at the state level on the relationship between ESG ratings and corporate market and financial performance. Firms that are engaged in ESG practices and are rated by the stock market authority (i.e., those that are included in the ESG index) are argued to be more likely to gain a competitive advantage and to be perceived more positively by investors. This is investigated by testing the following hypotheses:

H1: There are financial and market benefits associated with ESG ratings.

H1a: There is a positive association between ESG ratings and stock liquidity.

H1b: There is a positive association between ESG ratings and stock trading activities.

H1c: There is a positive association between ESG ratings and financial performance.

3.2 The impacts of ESG ratings in the context of political volatility

A large portion of the literature has addressed the economic implications of ESG ratings in developed-country context (e.g. Cornett et al., 2016; Islam and Staden, 2017). However, there is limited research on the implications of ESG practices in emerging markets in general (e.g., Aboud and Diab, 2018; Malarvizhi and Matta 2016; Siagian et al. 2013; Weber, 2017) and in African markets in particular (e.g., Barako and Brown 2008; Bernardi and Stark, 2016; Villiers and Van Staden 2006). Focusing on African emerging markets, with their peculiar political nature, enables the researchers to attend to the implication of the political context for ESG performance.

Sociopolitical theories consistently suggest that the level of environmental and governance disclosures is a function of a firm's exposure to social and political pressure (see Gray et al. 1995; Neu et al. 1998; Parker 2005; Clarkson et al. 2008). For example, firms are expected to increase environmental disclosures in response to triggering events, such as large spills or accidents, which expose them to increased public pressure regarding environmental issues (e.g., Patten 1992; Walden and Schwartz 1997). That is, corporate reporting in general and ESG in particular are greatly influenced by social, political, cultural, legal, economic and technological factors (Rizk et al. 2008).

The legitimacy theory framework, in particular, sees CG and CSR as related concepts. It defines the interaction between the firm and its socio-political environment (Van den Berghe and Louche 2005). On one hand, the business legitimacy is derived from the perceived legitimacy of CG practices. The aim is to ensure that corporate power is wielded for the benefit of the society to gain public confidence (Stanfield and Carroll 2004; Wilson 2004). On the other hand, environmental and social disclosures rely on the notion of a "social contract" between the company and the society (Mathews 1993; Deegan et al. 2000; Patten 1991). This perspective highlights the appropriate role of corporations in the society (Palazzo and Scherer 2006) and the shift from firm-individuals relationship to firm-society integration (Groenewegen 2004). It supports the argument that multiple institutions interact to influence the perceived legitimacy of CG and social practices within a nation (Aguilera and Jackson

2003). Thus, it is important to study the institutional determinants of CSR and governance because firms are embedded in a broad set of political and economic institutions that affect their behaviour (Campbell 2007).

Focusing on the Egyptian context, the last few years witnessed the change of three different political regimes. This was the result of the uprisings which broke out since January 2011. These uprisings and the concomitant political or revolutionary changes were observed to have significant political and social implications at the country level (Section 2). Indeed, the events that Egypt witnessed throughout and after the revolutions represent a state of mind that resulted in mind-set changes, grabbing the interest and attention of all parties (El Hebeishy 2011). Then, following the resultant political unrest, the Egyptian economy faced difficult circumstances which had implications for corporate performance, regulations and policies. We believe that these political changes could also have implications for ESG practices.

After the recent political changes, ESG practices were expected to shift more toward the social duty and religious responsibility of corporations toward their communities. In this respect, Darrag and Crowther (2017) showed that the socioeconomic and political changes that Egypt faced could have implications for CSR disclosures. They argued that before the last revolutions, CSR practices had been undertaken by corporations with a high philanthropic direction and low governmental intervention to manage corporate practices. The revolutionary events played a role in heightening the social, religious and political perspectives versus the earlier philanthropic one as a definition of ESG practices in Egypt (Ararat 2008). This shifted the definition of ESG performance to embed a sense of social duties and responsibilities and religious perspectives (Darrag and Crowther 2017). Similarly, Ibrahim (2011) argued that: “[c]ontemporary philanthropy in the Arab region grapples with the need for appropriate measures of self-governance and codes of practice, especially in the wake of recent reform movements” (p. 3).

Considering the above, this study suggests that the association between ESG practices and financial performance after the latest political changes could be different from the situation before these changes. In particular, we expect a more impact of ESG disclosures on firm performance after the revolutions compared to the situation before the revolutions. This is because ESG disclosures are now (following the revolutions) expected to be positively influenced by the ideologies or the social and democratic values brought about by these political/revolutionary changes. In other words, the impact of ESG ratings on corporate

performance is argued to be more pronounced after the recent political changes than the situation before the changes. This question is investigated by testing the following hypotheses:

H2: The relationships between ESG ratings and corporate financial and market performance are more positive after the revolutionary changes than before the changes.

H2a: The positive relationship between ESG ratings and stock liquidity is more dominant after the revolutionary changes than before the changes.

H2b: The positive relationship between ESG ratings and stock trading activities is more dominant after the revolutionary changes than before the changes.

H2c: The positive relationship between ESG ratings and financial performance is more dominant after the revolutionary changes than before the changes.

4. Research design

4.1 Sample construction

This study investigates the economic consequences of ESG ratings in the Egyptian context. The sample includes the 100 most active Egyptian companies in the Egyptian Stock Exchange as measured by the EGX 100 index in the financial year that ended in 2016. The sample begins in 2007, concurrent with the start of the ESG index, and ends in 2016⁶. The period from 2007 to 2010 represents the pre-revolution period, and the period from 2012 to 2016 is the post-revolution period. Table 1 shows the number of observations used in the regression analysis.

[Insert Table 1 here]

4.2 Research model and measurement of variables

The following regression model, estimated at the firm-year level, is used to test the economic and financial consequences of ESG ratings:

$$EconCon/FinCon = \alpha + \beta_{it} ESGRatings + \beta_{it} PostRev + \beta_{it} PostRev * ESGRatings + \sum Controls + \varepsilon$$

⁶ This study excludes 2011 due to the intense political and economic unrest and the abnormal behavior of the Egyptian Stock Market during that time.

EconCon stands for the liquidity and trading volume, FinCon denotes the ROA as a measure of financial performance, ESGRatings is a proxy for the quality of ESG practices and PostRev is an indicator for the revolutionary situation which broke out in 25 January 2011. The main variables of interest here are the ESG rating and its interaction with PostRev.

The independent variables represent the economic and financial consequences of ESG ratings at the firm level. Stock liquidity and trading volume are used to determine the capital-market effects of ESG practices, and return on assets is applied to determine the effects on financial performance. The yearly average bid-ask spread is used to measure the stock liquidity in this study. The bid-ask spread indicates the difference between the ask and bid prices divided by the average of both prices (Healy et al. 1999; Leuz and Verrecchia 2000; Daske et al. 2008). The trading volume is computed as the value of common shares traded annually. Finally, the ROA is obtained as the operating profit divided by the total assets. All data were collected from the DataStream database.

For ESG measurement, the three commonly used proxies of ESG practices are Thomson Reuters, Bloomberg ESG ratings and KLD sustainability scores (Fatemi et al. 2017; Ioannou and Serafeim 2012). However, the Egyptian data is not available on these platforms: a limitation which also applies to other developing countries. Therefore, this study uses the scores initiated by the S&P/EGX ESG index to gauge ESG practices. As previously mentioned, the S&P/EGX ESG index ranks Egyptian companies in terms of the quality of their environmental, social and corporate governance disclosures. It includes 30 firms from a pool of 100 Egyptian firms, which are ranked by applying an innovative score-weighting scheme. Thus, two proxies are used to measure the ESG ratings. The first proxy, ESGR1, is a dummy variable that is coded as 1 if the firm is included in the ESG index; it is coded as zero otherwise. The other proxy, ESGR2, is the relative score based on the ESG index rankings. Because the index includes the top 30 firms, the ranking was converted into a relative score; the maximum score of 30 is given to the best firm in the index, the second-best company is scored as 29, and so on. In other words, the top firm in the index (i.e., the one that is ranked as first) gets a score of 30 out of 30, the second-ranked firm gets 29 out of 30, and so on⁷. This ranking is revised annually.

⁷ As an alternative procedure, the companies were ranked according to a scoring scheme in which the maximum score of 100 is given to the best company in the index, the second-best company gets a score of 99, and so on; the same results were obtained.

The model controls for a set of variables that are related to the dependent variables, including Volatility, Firm Size, Leverage, Growth, Loss, Capital Intensity, Industry, and Year Effects (Chen et al. 2017; Daske et al. 2008; Greenstein and Sami 1994; Healy et al. 1999; Leuz and Verrecchia 2000; Pástor and Stambaugh 2003; Siew et al 2016). Table 2 provides a summary of the measurement of variables.

[Insert Table 2 here]

5. Results

5.1 Descriptive analysis

Table 3 shows the descriptive analysis of all variables, expressed as means, maximum and minimum values, and standard deviations. The mean ESG rating is 27% and ranges from zero to one. According to the data in Table 3, 80% of the sample consists of profit-making firms with an average ROA of 8% and a maximum ROA of 69.6%. Furthermore, the average leverage of the sample is 51%. Table 4 presents the correlation between all variables. The two proxies of the ESG ratings are found to be significantly positively correlated at 1%. Moreover, none of the correlations are higher than 50%, except for the two proxies of the ESG ratings, which are not used in the same regression models⁸.

[Insert Tables 3 and 4 here]

5.2 Regression analysis

5.2.1 The market and financial reaction to ESG ratings

As previously mentioned, this study investigates the economic and financial consequences of ESG ratings. In the main analyses, the pooled regression (OLS) coefficient estimates are tabulated, and the t-statistics based on robust standard errors clustered by firm and controlled for the year effects are given in parentheses. Three dependent variables and two proxies of the ESG ratings are used. The first proxy is the bid-ask spread; negative coefficients of both ESGR1 and ESGR2 are expected. The second proxy is the trading volume; positive coefficients of both ESGR1 and ESGR2 are expected. Finally, ROA is used as a proxy of the financial performance, for which positive signs are expected. Tables 5 to 7 present the regression analysis results for the three dependent variables.

[Insert Table 5, 6 and 7]

⁸ The values of the VIFs are less than 3; thus, there is no multicollinearity issue.

Our findings report reasonable R-squares across all the models. The R-squares are around 44% and 68 % for market-based measures (i.e. ask bid spread and trading volume respectively) and around 12 % for financial performance (ROA), suggesting that these models explain a reasonable amount of the variation in market and financial performance of firms and that they are also consistent with the results of prior studies (Al-Tuwaijri et al 2004; Daske et. al 2008; Clarkson et. al 2013; Plumlee et. al 2015; Qiu et. al 2016; Platonova et. al 2018). For instance, Al-Tuwaijri (2004) examined the market reaction to environmental disclosure and report adjusted R square 58 % and Greenstein and Sami (1994) found that the adjusted R² is 59%. Likewise, Qie et al (2016) report adjusted R-square 69%, when examined the market reactions to environmental and social disclosures and 16 % when tested the accounting-based measure (ROA), which is consistent with the reported R squares in our study.

The results across the three dependent variables are consistent with H1 in that there are positive market and financial reactions to environmental, social, and governance practices. As shown in Table 5, the coefficients of ESGR1 and ESGR2 are negative and significant at 5%; this result is consistent with H1a and suggests that the higher the ESG ratings, the higher the level of liquidity with lower spreads and, therefore, the lesser the information asymmetry. Similarly, the data in Table 6 indicate that the coefficients of ESGR1 and ESGR2 are positive and significant at 5%, suggesting that firms with higher ESG ratings have a higher trading volume, as stated in H1b. Consistent with H1c, the results suggest that there is a positive association between ESG ratings and ROA, as indicated in Table 7⁹.

Taken together, the results suggest that environmental, social, and governance practices have positive market and financial consequences. The findings corroborate that ESG ratings have positive impacts on the organization (e.g., Arayssi et al. 2016; Arayssi and Jizi, 2018; Aboud and Diab, 2018; Beltratti, 2005; Bhattacharya et al. 2008; Ramlugun and Raboute, 2015; Pérez and del Bosque, 2015).

This relationship can be explained through the legitimacy perspective; that is, ESG disclosures can enhance the legitimacy of the company in the market (Section 4.2). Thus, a company with a higher ESG rating is more likely to be accepted in the society in general and in the market in particular. Such acceptance translates into a better economic and market performance, as observed in the positive stock market reactions to the ESG performance in

⁹ We have used ROE as alternative proxy for financial performance and results remain the same.

terms of higher stock liquidity and trading volume. However, this relation between ESG practices and corporate performance cannot be fully accepted without considering the social and political events around the organization or the sociopolitical context in which the organization operates. Thus, in the next section, this study determines if and how the mega political events at the state level influence the impact of ESG on corporate performance.

Regarding the control variables, the coefficients of trading volume (LOGTV) and the capital expenditure ratio (LOGCAX) are negative and significant at 1% and 5%, respectively, whereas the coefficients of PRICE are positive and significant at 1% in the bid-ask spread models, which are consistent with prior studies (Chen, Hung and Wang 2017; Siew et al 2016; Greenstein and Sami, Leuz and Verrecchia 2000, Daske et al. 2008; Pástor & Stambaugh 2003). In the trading volume models, whereas the coefficients of bid-ask spread are negative and significant, the coefficients of size (LOGTA), leverage (LEV), industry (INDUSTRY), and growth (SALESGRROW) are positive and significant (Leuz and Verrecchia 2000, Daske et al. 2008; Pástor & Stambaugh 2003). For example, Pástor & Stambaugh (2003) documented that liquidity is associated with volume related return reversal. Finally, in the ROA models, the coefficients of expenditure ratio (LOGCAX) are negative and significant (Qiu et. al 2016; Platonova et. al 2018).

5.2.2 The market and financial reactions to ESG performance after the Revolutions

This study further examines the effects of ESG practices on financial and market performance after the revolutions, as outlined in Section 4.2. The effects of ESG ratings on financial and market performance after the revolution are expected to be different from those before the revolution. This is based on the argument that the socioeconomic and political changes that Egypt faced in recent years mediate the association between ESG ratings and corporate performance or, in particular, the positive implications of ESG ratings on the financial and market performance of companies.

To test H2, the dummy variable POSTRev is created, which takes the value of 1 for the years after the 25 January Revolution (2012-2016)¹⁰. Then, an interaction term is introduced between the quality of ESG and POSTRev. This interaction is expected to be significant across the three dependent variables. Tables 5 to 7 show the results, which indicate that the coefficients of interactions are significant at 5% only for the ROA as a dependent variable, as expected in H2c. However, none of the other interactions are significant.

¹⁰ The sample period is from 2007 to 2016, excluding 2011.

These findings are consistent with our expectation in H2c in that the effect of the ESG ratings on financial performance is more obvious after the recent revolutionary changes in the country. However, as the results indicate, the political changes have little to do with the market consequences of ESG ratings. Although the market implications of ESG ratings remained positive after the revolution, they are not significant, as expected in H2a and H2b. Thus, the findings suggest that the shift in ESG ratings after the revolution, in which they became based on political and ideological motives (see Darrag and Crowther, 2017), contributes to a higher financial performance. However, this is a modest evidence given that the political changes have little to do with the market consequences of ESG ratings.

6. Robustness Analysis

We performed some additional analyses to check the robustness of our results. Firstly, potential endogenous relation is a concern when examine the relationship between ESG and EconCon/FinCon. Therefore, consistent with Mallin et al. (2014) and Garcia-Castro et al. (2010) and Eesley and Lenox (2006), we used Hausman (1978) test to detect the presence of any endogenous relations between EconCon/FinCon and ESG. The findings suggested that OLS estimators are potentially biased. Therefore, following prior studies (i.e. Mallin et al. 2014; Garcia-Castro et al. 2010 and Kim et al. 2014), we use the instrumental variables method. Consistent with Garcia-Castro et al. (2010) and Kim et al. (2014), we employ Industry as Instrumental variable and the findings remain the same, although main variables are now significant at only 10 % (not tabulated).

Secondly, another concern is whether it is necessary to include the top 100 companies since the ESG index only cover 30 companies. Although the ESG index only covers 30 companies, the Egyptian ESG index is designed to track the performance of the top 100 listed companies. Therefore, we use the 100 companies as the main sample. However, to deal with this issue, we confine the sample to include the 30 companies selected to be listed on the ESG index. Although this procedure will diminish the sample size to 175 observations in trading volume and ask bid spread analyses and 227 observations in ROA analysis, it provides useful insight about the importance of the relative ranking of ESG disclosures. Using the new sample, the main coefficients of interest remain significant, which are consistent with our main results (not tabulated).

7. Conclusion

This study investigates the market and financial impacts of ESG practices in the largest firms in Egypt during the period of 2007 to 2016. In particular, the impact of ESG ratings on market performance, as measured by the stock liquidity and trading activities, and on financial performance, as measured by the return on assets, were examined. The analyses further determined how the impact of ESG ratings on the market and financial performance of firms changed **after the latest situation of political volatility in Egypt**. Consistent with our expectation, the findings for the three dependent variables show that there is a positive relationship between ESG ratings and both the market and the financial performance of firms. Moreover, we found some evidence that the association between financial performance and ESG ratings is more noticeable **after latest situation of political volatility**.

Our findings suggest that the Egyptian stock market fosters and facilitates more sustainable business practices by introducing the ESG index. It is also consistent with the argument that financial market participants increasingly integrate environmental, social, and governance (ESG) criteria into their investment decisions (Busch et al. 2015). These results suggest that the shift in ESG performance after the revolution, in which they became based on political and ideological motives (Darrag and Crowther 2017), contributes to a higher financial performance.

This study contributes to the literature in various respects. First, it provides an inclusive view of ESG practices by focusing on the combined effects of environmental, social and governance ratings. The term “ESG ratings” was mostly used to refer to this broader view. A large portion of the literature addresses the market and financial consequences of CSR disclosures per se (e.g., Brammer et al. 2006; Clarkson et al. 2013; De Villiers and van Staden 2011), whereas other studies focus on the consequences of CG per se (Durnev and Kim 2005; Gompers et al. 2003). In this study, the concepts of CSR and CG are regarded as closely related because they both address converging problems and concerns. The present investigation of the combined effects of ESG ratings adds to the few studies that have examined the consequences of disclosures of both CSR and CG practices (e.g., Fatemi et al. 2017; Jo and Harjoto 2011; Peiris and Evans 2010; Plumlee et al. 2015).

Second, this study provides a wider view of the consequences of ESG practices. Although previous works have reported on the consequences of ESG ratings, most of them addressed the impact on financial performance (e.g., Eldomiaty et al. 2016; Peiris and Evans 2010) or

market performance (e.g., Subramaniam et al. 2014). However, to provide a more comprehensive view of these consequences, both the financial and the market implications need to be addressed together. Moreover, many studies have reported conflicting results regarding the influence of ESG ratings on corporate performance. For example, Brammer et al. (2006) and Dhaliwal et al. (2014) found a negative relationship between ESG and corporate financial performance, whereas Horvathova (2010) and McWilliams and Siegel (2000) reported a nonsignificant association between ESG performance disclosures and financial performance. This study contributes to the discussion by investigating the impact of ESG practices in a different context and reporting positive financial and market implications of ESG ratings (e.g., Peiris and Evans 2010; Subramaniam et al. 2015).

Third, this study contributes to the few works that have addressed the economic implications of ESG ratings in emerging markets, rather than developed-country context (e.g. Cornett et al., 2016; Islam and Staden, 2017). There is limited research on the implications of ESG practices in emerging markets in general (e.g., Aboud and Diab, 2018; Malarvizhi and Matta 2016; Siagian et al. 2013; Weber, 2017) and in African markets in particular (e.g., Barako and Brown 2008; Bernardi and Stark, 2016; Villiers and Van Staden 2006). Regarding the Egyptian market, most of the studies on Egyptian corporate governance and social practices have focused more on the level of adherence to standards and codes (Eldomiaty et al. 2016); the economic and financial consequences of ESG ratings and the impact of political events at the state level have remained unclear.

Finally, this study provides insights for the Middle East region regarding the impact of political events on the market. Despite its increasing economic and political importance, this region still suffers from inadequate attention in the literature. The present work investigates the **variances that evolved out of the latest situation of political volatility** and the implications of these events on the market (Darrag and Crowther 2017).

A limitation of this study is not attending in detail to the separate effects of the particular events or political regimes that composed the present situation of political volatility; rather, we tried to capture the general influence of this situation. We believe that this particular investigation needs more interpretative work, and – considering the scope of the present work – this could be the subject of a future study. For example, a future study could investigate if and how a social and political group such as Muslim Brotherhood – that ruled the country in 2012-2013 – might have influences on ESG performance in Egypt.

The results of this study have implications for regulators and investors in the Egyptian stock market. The authors believe that the relatively new S&P/EGX ESG index provides a way to enhance ESG ratings in Egypt. As explained in Section 2.3, this index was developed as the primary index in Egypt to address the concerns of investors about environmental, social, and governance issues. That is, the index enables investors to more accurately evaluate companies based on environmental, social, and governance indicators. The results of the present study provide insights for policy makers regarding the usefulness of the index. Further, by linking ESG practices to corporate performance, the index can enable investors to take a leading role in inducing firms to enhance their transparency and disclosure practices and, as a result, their reporting standards. This can ultimately improve sustainability and governance practices in Egypt. Finally, the study turns the attention of policy makers to an important usually overlooked factor in addressing sustainability related issues which is political instability or intense political changes at the state level. The results of this study suggest that policy makers need to look at macro political events as intermediary forces influencing sustainability performance and its economic implications.

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Tables

Table 1: Sample size

Items	No. of observations	Sample Percentage
Initial number of observations	900	100%
Missing observations	149	13.6%
Number of observation used in regression ¹¹	777	86.4%

¹¹ The number of observation used in to examine the market reaction is 505 observations.

Table 2: Summary of variables measurement

Variables	Definitions
<i>Dependent variables</i>	
BID-ASK SPREAD (LOGSPREAD)	The natural log of the difference between ask price and the bid price divided by the average of both prices
TRADING VOLUME (LOGTV)	The natural log of the value of common shares traded annual
ROA	Operating profit divide by total assets
<i>Independent variables</i>	
ESG RATING (ESGR1)	A dummy variable coded as 1 if the firm is listed in the ESG index; it is coded as zero otherwise
ESG RATINGS (ESGR2)	The relative score based on the ESG index ranking
SIZE (LOGTA)	The natural logarithm of total assets
LOSS	A dummy variable coded as 1 if the firm is loss making; it is coded as zero otherwise.
LEVERAGE (LEV)	The total debt divided by total assets
CAPITAL EXPENDITURE RATIO (LOGCAX)	The natural log of the ratio of capital expenditure to total assets
INDUSTRY	A dummy variable coded as 1 if the firm is from manufacturing; it is coded as zero otherwise
PRICE (LOGPRICE)	The natural log of the market price at the end of the year
SALES GROWTH (SALESGROW)	The annual growth in net sales or revenues
POST REVOLUTION (POSTRev)	A dummy variable coded as 1 if the year is after the 25 January 2011 revolution; it is coded as zero otherwise

Table 3: Descriptive statistics for variables used in regression analyses

Variable	Mean	Max	Min	SD
ESGR1	27%	100%	0%	45%
ESGR2	57.1%	100%	0%	29%
SPREAD	6%	25%	0%	5%
LOGTV	10.8	16.1	0.182	3.52
ROA	8%	69.6%	-63%	38%
LOGPRICE	2.98	7.1	2.31	0.662
LEV	51%	412%	0%	33%
SALESGROW	21%	147%	-45%	45%
LOGTA	14.2	19.4	8.8	1.96
INDUSTRY	79%	100%	0%	41%
LOGCAX	4%	47%	0%	7%
LOSS	80%	100%	0%	40%

See table 2 for variable definitions

Table 4: Correlation analysis for variables used in regression analyses

	ESGR1	ESGR2	LOGSPREAD	LOGTV	ROA	LOGPRICE	LEV	SALESGROW	LOGTA	INDUSTRY	LOGCAX	LOSS
ESGR1	1											
ESGR2	0.97***	1										
SPREAD	-0.1334***	-0.1542***	1									
LOGTV	0.177***	0.1948***	0.1567***	1								
ROA	0.1326***	0.1354***	-0.0689	-0.0261	1							
LOGPRICE	0.0365	0.043	-0.1047**	-0.159***	0.2225	1						
LEV	0.0851*	0.1064**	0.039	0.0672	-0.1179***	0.1005**	1					
SALESGROW	-0.0253	-0.0264	-0.0116	0.0924**	0.1616***	-0.0359	0.0986**	1				
LOGTA	0.3143***	0.3457***	-0.0596	0.2024***	-0.0397	0.2024***	0.4098***	0.0708	1			
INDUSTRY	-0.0749*	-0.0997**	-0.0178	0.0136	0.2934***	0.1435***	-0.2444***	-0.1073***	-0.3253***	1		
LOGCAX	0.1007**	0.1056***	-0.1008**	-0.0284	0.2108***	0.0902**	-0.0585	-0.0058	0.0374	0.2596***	1	
LOSS	0.0805*	0.0876**	-0.0556	-0.0173	-0.6876***	0.1387***	0.0218	0.2061***	0.1625***	0.0692	0.073	1

See table 2 for variable definitions

Table 5: Regression analysis of the effects of ESG quality on bid-ask Spread

	LOGSPREAD(1)	LOGSPREAD (2)	LOGSPREAD(3)	LOGSPREAD(4)
ESGR1	-0.0101** (-2.29)	-0.00522 (-1.05)		
ESGR2			-0.0120** (-2.40)	-0.0878* (-1.93)
LOGTV	-0.00280*** (4.60)	-0.00236*** (-3.02)	-0.00205*** (-2.64)	-0.00206*** (-2.65)
LOGPRICE	-0.000666 (-0.51)	0.00292*** (2.80)	0.00285*** (2.76)	0.00285*** (2.75)
LEV	0.00401 (0.71)	0.00402 (1.00)	0.00364 (0.94)	0.00354 (0.91)
SALESGROW	0.0000177 (0.23)	0.00000339 (0.06)	0.00000464 (0.08)	0.00000549 (0.10)
LOGTA	-0.00107 (-0.75)	-0.00175 (-1.64)	-0.00136 (-1.25)	-0.00136 (-1.25)
INDUSTRY	-0.00107 (-0.19)	-0.00322 (-0.81)	-0.00371 (-0.94)	-0.00389 (-0.97)
LOGCAX	-0.00249** (-2.01)	-0.00214** (-2.20)	-0.00195** (-2.04)	-0.00191** (-1.97)
LOSS	0.00120 (0.23)	0.00288 (0.70)	0.00295 (0.71)	0.00281 (0.67)
POSTRev		0.0754*** (9.16)		0.0755*** (9.41)
ESGR1 * POST		0.00314 (0.49)		
ESGR2* POST				-0.00496 (-0.61)
Cons	0.149 (7.97)	0.0915*** (6.21)	0.142*** (7.53)	0.0677*** (3.95)
N.of Observation	505	505	505	505
adj. R-sq	.438	0.449	.445	.448
Time Effect	YES	YES	YES	YES
Firm Clustered SE	YES	YES	YES	YES

Table 5 presents the regression analysis of the effects of ESG quality on bid-ask Spread suing the following model:
Bid-ask Spread (LOGSPREAD) = α + β it ESGRatings+ β it PostRev + β it PostRev* ESGRatings + \sum Controls + ε .
Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1. See table 2 for variable definitions.

Table 6: Regression analysis of the effects of ESG quality on Trading Volume

	LOGTV(1)	LOGTV(2)	LOGTV(3)	LOGTV(3)
ESGR1	0.964*** (4.99)	0.879** (2.20)		
ESGR2			1.680*** (5.94)	1.887*** (3.51)
LOGSPREAD	-7.517*** (-3.29)	-7.533** (-3.28)	-6.523*** (-2.83)	-6.550*** (-2.85)
LOGPRICE	-0.111 (-1.63)	-0.111 (-1.63)	-0.111 (-1.66)	-0.111 (-1.65)
LEV	0.373 (1.73)*	0.384 (1.76)	0.401* (1.81)	0.395* (1.79)
SALESGROW	0.00379** (2.62)	0.00376** (2.65)	0.00344** (2.40)	0.00349** (2.35)
LOGTA	0.299*** (5.14)	0.298*** (5.07)	0.276*** (4.66)	0.276*** (4.64)
INDUSTRY	0.669*** (2.72)	0.670** (2.72)	0.723*** (2.96)	0.712*** (2.90)
LOGCAX	-0.0414 (-0.83)	-0.0425 (-0.86)	-0.0494 (-1.00)	-0.0472 (-0.96)
LOSS	-0.166 (-0.71)	-0.162 (-0.69)	-0.170 (-0.73)	-0.179 (-0.77)
POST	7.948*** (7.89)	5.253*** (10.71)		5.287*** (10.82)
ESGR1 * POST		0.132 (0.30)		
ESGR2* POST				-0.318 (-0.54)
Cons	7.948*** (7.89)	2.683** (2.67)	8.110*** (8.02)	2.882** (2.92)
N. of Observations	505	505	505	505
adj. R-sq	.68	.68	.684	.684
Time Effect	Yes	Yes	Yes	Yes
Firm Clustered SE	Yes	Yes	Yes	Yes

Table 6 presents the regression analysis of the effects of ESG quality on trading volume using the following model:
Trading Volume (LOGTV) = $\alpha + \beta_{it}$ ESGRatings + β_{it} PostRev + β_{it} PostRev* ESGRatings + \sum Controls + ε
Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1. See table 2 for variable definitions.

Table 7: Regression analysis of the effects of ESG quality on return on assets

	ROA(1)	ROA(2)	ROA(3)	ROA(3)
ESGR1	0.147** (2.53)	0.0475* (1.77)		
ESGR2			0.229** (2.24)	0.0755* (1.79)
LEV	-0.0951 (-1.56)	-0.0819 (-1.35)	-0.0877 (-1.44)	-0.0836 (-1.37)
SALESGROW	0.000217 (1.30)	0.000200 (1.18)	0.000190 (1.17)	0.000160 (0.96)
LOGTA	-0.0275 (-1.55)	-0.0280 (-1.58)	-0.0285 (-1.54)	-0.0281 (-1.55)
INDUSTRY	-0.00317 (-0.12)	-0.000532 (-0.02)	0.000456 (0.02)	0.00942 (0.43)
LOGCAX	0.0469*** (2.61)	0.0451*** (2.62)	0.0463*** (2.64)	0.0444*** (2.67)
POSTRev	0.00642 (0.24)	-0.0414 (-1.87)	-0.0110 (-0.38)	-0.0564** (-2.28)
ESGR1 * POST		0.166** (2.51)		
ESGR2* POST				0.259* (2.18)
Cons	0.665* (2.11)	0.685* (2.14)	0.694* (2.15)	0.700* (2.17)
N. of Observations	770	770	770	770
Adj. R-sq	.114	0.123	.115	.125
Time Effect	Yes	Yes	Yes	Yes
Firm Clustered SE	Yes	Yes	Yes	Yes

Table 7 presents the regression analysis of the effects of ESG quality on ROA using the following model:
Return on Assets (ROA) = $\alpha + \beta_{it} \text{ESGRatings} + \beta_{it} \text{PostRev} + \beta_{it} \text{PostRev} * \text{ESGRatings} + \sum \text{Controls} + \varepsilon$
Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.1. See table 2 for variable definitions.