The relationship between Corporate Social Responsibility and Corporate Financial Performance in developing countries. Case of Egypt

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Abstract
This study explores and tests the relationship between corporate social responsibility (CSR) and corporate financial performance (CFP) in developing countries, focusing mainly to examine the financial aspects of high vs low-ranked firms in the CSR Index in Egypt for eight consecutive years (excluding 2011 because of its special situation due to instability caused by the revolution). Moreover, this study empirically examines different financial ratios for 18 firms listed in Egyptian Stock Exchange EGX 30 for eight years, 2007 – 2015. Using the Standard and Poor’s index (S&P/EGX ESG Index) to measure the CSR, and using accounting based measures (from Egypt for information Dissemination (EGID) database and the Cairo and Alexandria Stock Exchange Disclosure book). This study’s purpose is to find the suitable measures of the CFP along with CSR, as well as, the relationship between them, to conclude whether CSR is beneficial for companies or not. The main question here is: What is the type and significance of the relationship between CSR and the CFP in Egypt? the ANOVA analysis was chosen and used on both company’s CSR and CFP variables, also constructed a Pearson Correlation between CSR and CFP variables and examined the multiple regression model to discriminate between the CFP of high and low-ranked firms in the CSR Index and recognize the type and significance of the relationship between CSR and CFP. The results show that CSR has a positive significant relation with the CFP. The paper has implications for enhancing the understanding of performance management by understanding the relationship between CSR and CFP.

1. Introduction
The unprecedented increase in expenditure to enhance the CSR in the past decade suggests managers find an economic benefit from CSR programs, especially considering the financial objective of a corporation is to maximize shareholder’s wealth. The numerous factors affecting the organizational profitability, one of the most important factors is CSR. Where CSR can help a company be more profitable (by the creation of reputational capital that may help the company obtain more favorable terms of trade in negotiations with stakeholders, customer satisfaction and retention, as well as, Providing access to new investment and funding opportunities) or help in cost saving opportunities (through decreasing risk and positively affecting the workers’ productivity and retention). Now that the CSR is vital to the sustainable operations of corporations; similarly, financial performance is undoubtedly fundamental to continue the effective operating of any corporation. This paper tries to examine the type and strength of the relationship between CSR and CFP in Egypt. Many tools are used to measure the CFP (ex: profitability ratios), while those of the CSR used to be relationship unreliable or insufficient, until recently. There are three possible results for the between CSR and CFP: negative association, no relation and positive association.

A particular definition of CSR was presented at the World Business Council for Sustainable Development: ‘CSR is the continuing commitment by business to behave ethically and contribute to economic development, while improving the quality of life of the workforce and their families as of the local community at large’ (Holme &Watts, 1999).CSR concerns everyone such as customers, em-
employees, suppliers, community groups, governments, and even some stockholders as stated by (McWilliams & Siegel, 2001).

As for corporate financial performance, the definition of CFP is not debated in the literature, nevertheless there is a disagreement with respect of the best way to measure CFP (Cochran & Wood, 1984). According to (Orlitzky, et al., 2003) there are three broad subdivisions of CFP consist of market-based (investor returns, reflects the degree of satisfaction of the shareholders), accounting-based (accounting returns, captures an idea of the internal efficiency of the company, as well as, a descriptive outline for its financial performance), and perceptual (survey, provides a subjective estimation of its financial performance) measures. Accounting-based indicators, such as the firm’s return on assets (ROA), return on equity (ROE), or earnings per share (EPS), capture a firm’s internal efficiency in some way (Cochran & Wood, 1984).

In empirical studies of CSR and CFP, with the goal of measuring CFP, researchers have resorted to the use of various types of variables. Examples of the variables employed for this purpose are the following: return on assets (ROA) (Berman, et al., 1999) & (Choi & Wang, 2009), return on equity (ROE) (Preston & O’Bannon, 1997) & (Agle, et al., 1999), return on sales (ROS) (Graves & Waddock, 1999) & (Callan & Thomas, 2009) and EPS (Simionescu & Gherghina, 2014) & (Ahmed, et al., 2012). In order to capture corporate financial performance, we used accounting-based measures, specifically profitability ratios such as ROE, ROA and EPS.

2. Theoretical Framework

Financial Performance is probably the most important matter that the stakeholders in developing/emerging economies are concerned about. In the past, investors were easily able to get excess returns in emerging markets, so they didn’t consider long-term sustainability and CSR in these markets. Now investors, even in the developing economies, are concerned with sustainability and CSR to reach a satisfying or even the targeted return. Thus, it is critical to identify how to measure the CFP, along with, CSR. The second critical argument is concerned with the existence and type of the relationship between CSR and CFP. The following section explores the existing theoretical framework of CSR and CFR, by identifying and analyzing the most remarkable theories and the results of previously related empirical studies. Through understanding these theories, we can have a better perspective and a clearer view for choosing which theories to use in this study in order to measure, analysis and achieve accurate results.

2.1. Corporate Social Responsibility (CSR)

The shareholder theory (proposed by Milton Friedman in 1970), where it states that only the owners or shareholders of the company are important, and the company has a binding duty to put their needs first, to increase value for them. Relatively, comes a problem, the agency theory. Agency theory is concerned with resolving problems that can exist in agency relationships due to unaligned goals or different aversion levels to risk. The most common agency relationship in finance occurs between shareholders (principal) and company executives (agents). Shifting away from the old profit only mentality, the stakeholder’s theory presented by (Freeman, 1988) states that a company owes a responsibility to a wider group called the stakeholders, other than just shareholders. A stakeholder is defined as any person/group which can affect/be affected by the actions of a business. It includes employees, customers, suppliers, creditors, wider community, governmental bodies, political groups and even the competitors are sometimes counted as stakeholders, where their status being derived from their capacity to affect the firm and its stakeholders.

Some dimensions are attributed to stakeholder theory. According to (Donaldson & Preston, 1995) this theory exhibits three dimensions: a normative (this dimension was based on (Clarkson, 1988, who indicated that the purpose of a company is creating and distributing wealth to the primary stakeholders.), a descriptive (this dimension is revealed when the company uses the model to represent and understand its relationships and roles in external and internal environments) and an instrumental dimension (This dimension states that better financial performance can be achieved
from implementing good stakeholder management.). (Waddock & Graves, 1997) & (Dean, 1999) who support a causal relationship between CSR and CFP, put forward two theories for CSR. The slack resource theory (According to this theory, financial performance comes first) and the good management theory (According to this theory holds that social performance comes first).

Further comes two new approaches, the Enlightened Shareholder Value (ESV) Theory and the Instrumental Stakeholders Theory (IST). The ESV (Williams, 2010) states that “corporations should pursue shareholder wealth with a long-run orientation that seeks sustainable growth and profits based on responsible attention to the full range of relevant stakeholder interests”. This theory is broader than the shareholder theory. The IST (Donaldson & Preston, 1995) is formed from two theories, and suggests there is a positive relationship between CSR and CFP. First, the instrumental theory is an economic theory that predicts what results will occur because of management decisions. The second theory, the stakeholder theory, is an ethical theory that proposes managers have a duty to put stakeholders’ needs first to increase the value of the firm. This makes managers use CSR as a management tool for achieving good financial performance.

2.2. Corporate Financial Performance (CFP)

The researches on CFP use a wide variety of measures of firm financial performance. The greater portion of the measures is the firm’s performance is either from the accounting or market based measures. Among 95 studies that (Margolis & Walsh, 2001) reviewed, 49 used accounting based measures, 12 used market based measures and the rest used a mixed set. Studies that used both the accounting based measures and market based measures to measure financial performance include (Simionescu & Gherghina, 2014) & (Ahmed, et al., 2012). In terms of accounting based measures: return on assets (ROA), return on equity (ROE), return on sales (ROS) and earnings per share (EPS) are the most used.

3. Literature review

Corporations do not operate in isolation, but as part of a broader ecosystem consisting of the society as a whole and the environment. The larger a company is, the more diverse of the range of stakeholders that are affected by its operations and the more pressure they will apply to satisfy their needs. With the rapid expansion of access to information in the last years, it is increasingly difficult for corporations to indulge in activities that could harm people, communities or the environment without attracting negative attention. This negative attention could damage a company’s reputation and brand name, in addition to, decreasing its social capital. Now that most companies’ market capitalizations are more than double the value of their tangible assets, a loss of reputational or brand value could prove to be damaging to its financial performance.

3.1. Corporate Social Responsibility (CSR)

According to (Porter & Kramer, 2006), four issues for organization to be engaged in CSR, which are: moral obligation, sustainability, license to operate, and reputation. They described the Moral appeal as doing the right thing which appears more in the non-profitable business. Sustainable Development is defined as "Meeting the needs of the present without compromising the ability of future generations to meet their own needs". While the license to operate can be represented in the governments and the communities' regulations and other stakeholders to do business. Finally, reputation is used by many companies to improve a company's image, and gain customer's loyalty, build a strong brand and have a higher value of its stock.

3.1.1. CSR in Egypt

Until recently, CSR was the term used to define and refer to corporate engagement in society. Within the Egyptian context, CSR was widely used to refer exclusively to a company’s community engagement in the form of charitable donations to non-profit or public-sector organizations (sayeh, 2016). It is important to note that there have been international shifts in how CSR is defined and practiced.
Moreover, The Egyptian Institute of Directors (EIOD), Egyptian Corporate Responsibility Center (ECRC), Standard& Poor’s (S&P) and the Credit Rating Information Services of India Limited (CRISIL) created an Environment, Social and Governance Index for Egypt, called the S&P/EGX ESG Index. The S&P/EGX ESG Index that was launched on March 22nd, 2010 is the first of its kind in the MENA region and the 2nd in the world. The purpose of S&P/EGX parameters of environmental, social and corporate governance, when compared to ESG index is to raise the profile of those companies that perform well along the three their market peers, together with, trying to redefine the CSR and shift away from its traditional definition. The Index was named “The Egyptian environmental, social and governance Index” and it measures and ranks the top performing companies on the volume of information companies make available concerning their corporate governance, environment and social responsibility.

Another approach to enhance the CSR perspective in Egypt is when Arab African International Bank (AAIB), in cooperation with the United Nations Development Program (UNDP) and the Egyptian Corporate Responsibility Center (ECRC), launched Mostadam in 2013. Its aim was to improve the banking sectors sustainable performance. Where Sustainable performance refers to inspiring the connection between economic, environmental, social and governance (EESG) aspects within the banking sector’s core businesses, operations, policies and practices. It was a huge step and a unique proposal dedicated to the promotion of sustainable performance in Egypt and the MENA region.

In September 2014, Renewable Energy Law No 203 was enforced by the Egyptian Ministry of Electricity and Energy announced specific feed-in-tariffs for electricity generated by distributed solar and wind sources (Davies, et al., 2014). A new Electricity Law was also passed Electricity Law No. 87 of the year 2015, which completely reforms the electric utility. Generally, it establishes a competitive electricity market that encourages private sector involvement (through project companies set up in Egypt in the form of joint stock companies) in the generation and distribution of electricity, by creating an atmosphere which attracts investments to the clean energy sector. This gives the public an impression that both concepts CSR and sustainability are now highly demanded and supported, even by the government.

Metro and Kheir Zaman successfully adopt 100% biodegradable Plastic bags starting 2013. They began by looking at the use of plastic bags at all 97 Metro and Kheir Zaman stores. The stores, located in eleven governorates, use approximately 80 million plastic bags per year. Accordingly, work began to convert all plastic bags to recyclable plastic bags. In cooperation with Symphony Environmental Ltd., located in the UK, the D2W technology was adopted to convert old-fashioned plastic bags into 100% biodegradable plastic bags. The D2W was a mark on all plastic bags to encourage competitors to adopt the same technology to reduce the harmful effects that plastics have on the environment. The Egyptian weaving companies, led by Oriental Weavers, now resort to environmental awareness as a means of gaining competitive edge allowing them to compete on the international market with their environmentally friendly products. Egyptian Cement Company, which is a heavy user of natural gas because of its minimal pollution effects and costs, is constantly seeking newer sources of energy that are even more environmentally friendly. Etisalat the big telecommunication company is helping by delivering clean water to homes at urban areas in Egypt. Lean manufacturing deployed to reduce cost thus result in an increase of productivity and efficiency of operations in the engineering sector and safety initiatives in cement companies in Egypt. L’Oréal Egypt has been awarded by the Federation of Egyptian Industries 2016 “Top CSR Industrial Leaders Award”. The Cairo factory is one of the first LEED (Leadership in Energy and Environment Design) certified factory in Egypt and has been built following LEED requirements. Their increasing efforts paid off with 29% reduction in energy consumption, 32% reduction on waste, 27% reduction in water versus 2015 consumption, and zero waste to landfill.
3.2. Corporate financial performance (CFP)

The CFP can be measured by either accounting based measures or market based measures. (Ullmann, 1985) used EPS growth, stock price change, price per share change, ROE, average ROE, ROA, P/E ratio, net income, net profit margin, operating earnings/assets, operating earnings/sales were all determined as some of the variables to measure CFP. (McGuire, et al., 1988) & (Ahmed, et al., 2012) used both accounting and market-based measures. The accounting based measures employed by these studies were ROA, ROE, EPS, total assets, sales growth, asset growth and operating income growth, where the market based measure PER (price to earnings ratio), and PBV (price to book value).

ROA was used as an accounting measure to be one of the measurements of CFP as we observed in the following literature ;(Waddock & Graves, 1997), (D’Arcimoles & Trebucq, 2002), (Mahoney & Roberts, 2007), (Hull & Rothenberg, 2008), (Lee & A., 2009) & (Aras & Aybars, 2010). According to (Hull & Rothenberg, 2008) ROA “represents the profitability of the firm with respect to the total set of resources, or assets, under its control. While, ROE was used as an accounting measure for CFP in our examining literature, (Waddock & Graves, 1997), (D’Arcimoles & Trebucq, 2002), (Mahoney & Roberts, 2007), (Lee & A., 2009), and (Aras & Aybars, 2010). It is defined as is the amount of net income returned as a percentage of shareholders equity. ROEmeasures a corporation’s profitability by revealing how much profit a company generates with the money shareholders have invested. The EPS is benchmark used to measure of firm profitability. (G, 2007). EPS is an accounting based measure where it represents a portion of a company’s profit that is allocated to one share of stock. Therefore, if you were to multiply the EPS by the total number of shares a company has, you’d calculate the company’s net income.

3.3. Relationship between corporate social responsibility and corporate financial performance

Over the last 40 years, the growing debate about the financial implications of CSR is far from being resolved. It is important to analyze the effect of CSR on organizations profitability and to determine whether CSR can have a positive impact on the CFP or not. A significant amount of research has already been completed on the linkage between them. The interest in this topic has exploded as the willingness of firms to engage in CSR activates has grown tremendously. Furthermore, there have been many theoretical and empirical debates about the relationship between CSR and CFP for example, (Aras & Crowther, 2007). (McWilliams & Siegel, 2000) Stated that a lot of empirical studies showed that CSR and CFP can be engaged in a positive, negative or even neutral relationship. (Margolis, et al., 2003) investigated the empirical evidence of the CSR-CFP relationship from 127 empirical articles with different measurement methods published between 1972 and 2002 only. Of these articles, 109 assume that CFP is dependent on CSR, and 54 of these reveal a positive relationship, 7 a negative relationship, 48 non-significant relationships.

3.3.1. Negative relationship

The first group has documented negative relationships between CSR and CFP. (Friedman, 1970), in the New York Times, ignited a robust debate with this quote “There is one and only one so-

3.3.2. Positive relationship

The second group has documented a positive relationship between CSR and CFP; due to increasing profitability through: the improved boosting of the Companies reputation, customer satis-
faction and being exposed to new investing opportunities, or by cost savings through: employee satisfaction & retention, reducing risk and generating positive publicity and media opportunities. The common understanding is that CSR involves the firms’ undertaking a set of actions that have the potential to increase costs, therefore to be economically sustainable, the sources of additional costs need to be offset by some potential benefits. However, there has been a major shift away from this profit-only mentality over the past two to three decades. (Allouche & Laroche, 2005) identified 82 studies, of which 75 showed a positive relationship, a trend that has since been confirmed (Waddock & Graves, 1997); (Griffin & Mahon, 1997); (Preston & O’Bannon, 1997); (Stanwick, 1998); (McWilliams & Siegel, 2001) and (Orlitzky et al., 2003)).

Examples of the benefits are represented by increasing profitability: first, the creation of reputational capital that may help the company obtain more favorable terms of trade in negotiations with stakeholders (Cornell & Shapiro, 1987), (Stroup & R.L., 1987) and (Cacioppe, et al., 2008). The second benefit, customer satisfaction and retention as supported by (Foote, et al., 2010), (Valenzuela, et al., 2010) & (Cacioppe, et al., 2008). The third benefit is providing access to new investment and funding opportunities (Orlitzky, et al., 2003), (Porter & Kramer, 2006), (Mathis, 2007) and (Peloza, 2006). The fourth benefit (cost saving) considers that CSR may positively affect workers’ productivity (Agell & Lundberg, 2003), (Akerlof, 1982), (Bewley, 1999), (Fehr & Schmidt, 2006), (Fehr & Falk, 2002) and (Sobel, 2002). The fifth benefit (Cost saving) is decreasing risk, the study on the relationship between CSR and financial risk has been conducted by some researchers (Moore, 2001), (Itkonen, 2003), (Benjamin, 2001) and (Mathis, 2007).

The most comprehensive study with positive results was a meta-analysis conducted by (Orlitzky, et al., 2003). A meta-analysis is a strong method of research because it weighs the parameters of individual studies, as opposed to aggregating studies. This specific meta-analysis examined 52 studies with a 33,878-sample size over a 30-year span. (Orlitzky, et al., 2003) Concluded that not only does CSR have a positive influence on CFP, but vice versa as well, hinting that a bidirectional relationship exists between the two variables. This conclusion supports the instrumental stakeholder theory because managers reap financial benefits by meeting the needs of stakeholders. Due to reciprocal benefits of the relationship between stakeholders and the organization, this study supports the position that CSR programs are associated with multiple tangible financial benefits in the long-run.

3.3.3. Neutral/insignificant relationship

The third group has documented neutral relationships/no relationship between CSR and CFP, one question remains: how can no relationship exist between CSR and CFP? A theoretical study conducted by (Ullmann, 1985) attempts to answer this question. (Ullmann, 1985) Evaluated 13 empirical studies, including case and quantitative studies, published between 1970 and 1984, and did not find a trend in the results of the analyzed studies. According to (Ullmann, 1985), the reasons for this result were the following: the lack of a theoretical foundation, an inappropriate definition of terms, and deficiencies in the empirical data. Ten years later, (Wood & Jones, 1995) analyzed 50 empirical studies, including case and qualitative studies, published between 1970 and 1994. According to (Wood & Jones, 1995), many empirical studies lacked a theoretical foundation, with problems occurring with stakeholder mismatching (a mismatch between the relevant studied stakeholder and the respective measurement variable) and an apparently ambiguous relationship between CSR and CFP. (DeMaCarty, 2009) Pointed out that the CSR doesn't necessarily provide a stronger financial return nor does it produce weaker return, it depends on the techniques that are used to increase the financial.

3.4 Hypothesis

While there is plenty of research on CSR and CFP, no study has examined and looked specifically at CSR’s impact on the different measures of net-income. Through profitability ratios generated from net-income (ROE, ROA, EPS), we can measure the CFP. We choose accounting-based measure because it captures an idea of the internal efficiency of the company, as well as, offering a descriptive
outline for its financial performance. Also taking into consideration for the measurement of CSR is the S&P/EGX ESG Index. Based on the analysis for each of the three possible associations in the Literature Review between the variables, there is a greater support for a positive association between CSR and CFP. Accordingly, I structure my hypothesis to support a positive association between CSR and CFP.

H1: when the firms CSR ranking increase, its ROE performance improves.
H2: when the firms CSR ranking increase, its ROA performance improves.
H3: when the firms CSR ranking increase, its EPS performance improves.

4. Data and Methodology
Before I can justifiably test my hypotheses, based on the literature previously revised, most studies on CSR made in developing countries use accounting based measures for CFP. Hence, I replicate my data with the methodology used by a previous study concerning CSR and CFP to ensure that CSR has a positive relation with CFP. As for the CSR measurement, we will use the S&P/EGX ESG Index to measure the CSR.

4.1 Measurement of CSR in Egypt
In our case, we use the S&P/EGX ESG Index. Where the EIOD conducts the ESG (Environmental, Social and Governance) research for scoring, under the guidance of Standard & Poor’s and CRISIL, and with the assistance of the Egyptian Exchange, where they also test historical data for consistence. The index measures the volume of information companies make available concerning their corporate governance, environment and social responsibility. It also ensures a selection of securities which are representatives of the Egyptian equity markets based on size and liquidity.

Linking stock market performance to ESG is, perhaps, the most effective way to highlight the concept of corporate level in the Environmental, Social and Governance responsibilities. More and more indices are being used to create derivative products, exchange traded funds (ETFs), over the counter (OTC) products and structured products, all of which provide liquidity and inevitability to specific market segments. Investors, in turn, have access to an investable tool which matches their investment preferences. As investment in ESG products increases, it will become imperative for companies to investigate into their business practices and strive to improve them.

4.2 Corporate financial performance (CFP)
The three most used measurements for financial performance are ROA, EPS, and ROE. To parallel most of studies, this study will focus on accounting-based measures to measure CFP. Net income is directly related to profitability, whereas the higher the net income the higher the profitability, therefore better financial performance. Profitability is simply the capacity to make a profit, a profit is what is left over from income earned after you have deducted all costs and expenses related to earning of that income. This study chooses these three variables (ROA, ROE and EPS) because they are all net income based rules. The formulas below can be used to judge a company's financial performance and to compare its financial performance against other similarly-situated companies. As measures of financial performance, we include the accounting based measures of ROE, ROA and EPS. These variables are ways to measure the organizations profitability, ultimately to measure the CFP. Where the ROA is equal: Net Income / Total Assets, ROE is equal: Net Income / owners’ equity, and the EPS is equal: net income / Number of Common Shares Outstanding.

4.3 Variables and research design:
Variables: To measure our hypothesis; this paper choose the dependent variable as the CFP measured with accounting based measures, using the following ROA, ROE and EPS. Where the independent variable will be the CSR Ranking, and we measure it by using the S&P/EGX ESG Index.
**Research design and scope:** A quantitative technique will be needed to measure the effect of CSR on CFP. We first collect the S&P/EGX ESG Index ratings, as our sample, of the largest 30 publicly traded companies from the database over 2007-2015, excluding 2011, in order to study the causal relationship between CSR and CFP. The research is planned to analyze data within eight years’ period for each of the companies and, the period can be considered long, to be able to analyse the effect of CSR and compare it with the financial performance of the organizations. This study selects 2007 as a starting point for this research because it was the first year the S&P/EGX ESG index was issued. In the beginning, this study selected the top 30 enterprises with the most influence on the S&P/EGX ESG Index and Egypt’s stock market during the years. Then continue till it totals up to 64 companies in 2015. Eliminating 46 companies, with 1, 2 or 3 years only of CSR ratings, only 18 companies were left that were the most active in CSR ranking during this time frame due to missing CSR or financial data. We preferred to include in our sample only the companies which disclosed CSR reports for more than half of the period (min. 5 years of CSR ranking) instead of companies which reported CSR information for one, two or three years only, although that in this case we would achieve a larger sample. A compound CSR score is also generated and constitutes our main independent variable. Concerning the financial performance, the analysis will check financial performance through financial documents; such documents may include financial statements, balance sheets, income statements, financial ratios and cash flow. Figures in accounting books should be analyzed to measure profitability. ROA, ROE and EPS will be used as measures of profitability, where it will be representing the CFP. ROA shows how efficient the management is as regards the usage of its assets in order to generate earnings, ROE underlines the firm’s efficiency as regards the usage of shareholders’ funds to generate profits, EPS determines how many dollars of net income have been earned by each share of common stock (Simionescu & Gherghina, 2014). The sources of financial data, for measuring the CFP, are from the Egypt for information Dissemination (EGID) database and the Cairo and Alexandria Stock Exchange Disclosure book from 2007 to 2015, excluding 2011 for the previously stated reasons. Companies used in this study as a sample are shown in the table below.

### Table 1: companies sample

<table>
<thead>
<tr>
<th>Companies used in this study:</th>
<th>Sidi Kerir Petrochemicals</th>
<th>Medinet Nasr Housing</th>
<th>GB AUTO</th>
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<tbody>
<tr>
<td>Telecom Egypt</td>
<td>Alexandria mineral OLs company</td>
<td>Egyptian Kuwaiti Holding</td>
<td>T M G Holding</td>
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<tr>
<td>Egyptian company for mobile service (Mobinil)</td>
<td>Six of October Development &amp; Investment (SODIC)</td>
<td>Raya Holding For Technology &amp; Communications</td>
<td>Commercial International Bank (CIB)</td>
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<tr>
<td>Oriental weavers</td>
<td>Egyptian Transport (EGYTRANS)</td>
<td>El Ezz Steel</td>
<td>Jecico Egypt</td>
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<tr>
<td>Egyptian Financial Group-Hermes holding company</td>
<td>Palm Hills development Company</td>
<td>Orascom Construction Industries (OGI)</td>
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### 4.4 Model estimation

<table>
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<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CSR ranking weights</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Between companies</td>
<td>17</td>
<td>1005.45</td>
<td>59.14</td>
<td>2.49*</td>
<td>0.00</td>
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<tr>
<td>Within companies</td>
<td>126</td>
<td>2996.88</td>
<td>23.78</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>4002.33</td>
<td></td>
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<td></td>
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<tr>
<td><strong>ROA</strong></td>
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<tr>
<td>Between companies</td>
<td>17</td>
<td>1.96</td>
<td>0.12</td>
<td>7.83*</td>
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<td>Within companies</td>
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<td>1.86</td>
<td>0.01</td>
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<tr>
<td>Total</td>
<td>143</td>
<td>3.82</td>
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<tr>
<td><strong>ROE</strong></td>
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<tr>
<td>Between companies</td>
<td>17</td>
<td>13.16</td>
<td>0.77</td>
<td>4.67*</td>
<td>0.00</td>
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<tr>
<td>Within companies</td>
<td>126</td>
<td>20.88</td>
<td>0.17</td>
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<tr>
<td>Total</td>
<td>143</td>
<td>34.03</td>
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<tr>
<td><strong>EPS</strong></td>
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</tr>
<tr>
<td>Between companies</td>
<td>17</td>
<td>1498.25</td>
<td>88.13</td>
<td>3.06*</td>
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<td>Within companies</td>
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<td>3626.63</td>
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<tr>
<td>Total</td>
<td>143</td>
<td>5124.88</td>
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</table>

*F significant at the 0.05 level = 1.72

Table 2: ANOVA analysis for the companies between its variables.
The one-way analysis of variance (ANOVA) is used to determine whether there are any statistically significant differences between the means of three or more independent groups. This analysis was mainly done to examine and extract that significant change in CSR ranking in the companies through the years, and also to determine any significant change in CSR ranking in the companies through the years. As seen from the table above, the (ANOVA) was conducted between the company’s variables, CSR ranking weights representing the CSR, and ROA, ROE, and EPS representing the CFP. The results implied that there are significant differences in all the variables between companies, as the value of (F) ranged between (2.49 to 7.83) and this is greater than the value of the significant value of F critical = 1.72, structured at the 95% level. This shows that the overall model was positive and significant. This demonstrates that changes made in CSR can have an impact on the performance of the CFP. Moreover, these results support the following theories: the stakeholder’s theory, the good management theory, the enlightened shareholder’s theory, and the instrumental stakeholder theory supported by the following authors: (Freeman, 1988), (Clarkson, 1988), (Evan & Freeman, 1993), (Donaldson & Preston, 1995), (Mitchell et al., 1997), (Campbell, 1997), (Waddock & Graves, 1997), and (Dean, 1999).

<table>
<thead>
<tr>
<th>Variables for CFP</th>
<th>CSR ranking weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0.177*</td>
</tr>
<tr>
<td>ROE</td>
<td>0.167*</td>
</tr>
<tr>
<td>EPS</td>
<td>0.132*</td>
</tr>
</tbody>
</table>

Table 3: Pearson Correlation between CSR and CFP variables of the companies.

The Pearson correlation coefficient is a measure of the strength of a linear association between two variables. It attempts to draw a line that best fits through the data of two variables. According to Kumar (2005), the aim of a correlational research design is to establish or explore a relationship, association, or interdependence between at least two variables in a situation or a phenomenon. In our case, the results imply that there is a significant positive relationship between CSR ranking weights and all the CFP variables as shown in Table 3. CSR ranking weights affecting the CFP variables with significance of 17.7% in ROA, 16.7% in ROE, and 13.2% in EPS respectively at the 95% level. This supports our hypothesis (H1, H2 & H3) where a significant positive relation exists between CSR and CFP (ROA, ROE, and EPS). These results are paralleled with previous research like: (Simionescu & Gherghina, 2014), (Ahmed et al., 2012), (Waddock & Graves, 1997), (Griffin & Mahon, 1997), (Preston & O’Bannon, 1997), (Stanwick, 1998), (McWilliams & Siegel, 2001), (Orlitzky et al., 2003), and (Allouche & Laroche, 2005). Where these three variables were used to measure CFP, and resulted with a significant positive relationship with CSR. Moreover, our results show that it supports the stakeholder’s theory, the good management theory, the enlightened shareholder value theory, and the instrumental stakeholder theory. Where CSR can increase profitability by improving the company’s reputation, customer satisfaction and having new investing opportunities, or through cost savings by achieving employee satisfaction and retention, reducing risk, and generating positive publicity and media opportunities.

<table>
<thead>
<tr>
<th>Icon forecasting and regression variable</th>
<th>Multiple correlation coefficient R</th>
<th>Total contribution of the variables R²</th>
<th>The percentage of contribution</th>
<th>Partial regression coefficient</th>
<th>In addition to the value of t</th>
<th>ANOVA Value F</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR ranking weights</td>
<td>0.177*</td>
<td>0.031</td>
<td>3.133</td>
<td>0.005</td>
<td>2.370*</td>
<td>7.83*</td>
<td>0.034</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Correlation is significant at 0.05

Table 4: Multiple regression model equation between CSR and ROA.
To test the relationship between corporate financial performance and corporate social responsibility, we also conducted regression analysis, where Regression estimates the significance of the impacts of the CSR on the CFP in Egyptian companies. Useful conclusions can be extracted from the Table 4 about our econometric model. The results illustrate that the multiple correlation coefficient between CSR and ROA is \( R = 0.177 \) 17.7%, which implicates a positive relation between CSR and ROA, supporting our hypothesis. The model explains that CSR had only 3.1% contribution \( (R^2 = 0.031) \) on the variation of ROA. Moreover, the Standard Error of the Estimate is 0.034 which is lower than the standard deviation of ROA, as it must be. The model appears to be statistically significant at the 95% level and so, the independent variables predict significantly the dependent variable, therefore supporting our first hypothesis H1. This is an equation to predict ROA taking CSR weights into consideration: \( \text{ROA} = 0.047 + (0.005 \times \text{CSR ranking weight}) \).

This findings were backed up by the following authors (Hull & Rothenberg, 2008), (Mahoney & Roberts, 2007), (Waddock & Graves, 1997), (Lee & A., 2009), (D’Arcimoles & Trebucq, 2002), (Aras & Aybars, 2010), (Bhagat & Bolton, 2009) & (Sotorrio & Sánchez, 2008), where they used the ROA as an accounting based measure to represent the CFP, and concluded that CSR contributes positively to CFP, where it is financially beneficial for the company to invest in CSR. Our findings also support the following theories the stakeholder’s theory, the good management theory, the enlightened shareholder value theory and the instrumental stakeholder theory.

To further test the relationship between ROE and CSR. Conclusions extracted from the Table 5 show that the multiple correlation coefficient between CSR and ROE is \( R = 0.167 \) 16.7%, which implies a positive relation between CSR and ROE, supporting the theoretical framework, our literature review and past empirical studies. The model explains that CSR had only 2.8% of contribution \( (R^2 = 0.028) \) on the variation of ROE. Moreover, the Standard Error of the Estimate is 0.041 which is lower than the standard deviation of ROE. The model appears to be statistically significant at the 95% level and so, the independent variables predict significantly the dependent variable, therefore supporting our second hypothesis H2. This is an equation to predict ROE taking CSR weights into consideration: \( \text{ROE} = 0.166 + (0.007 \times \text{CSR ranking weight}) \). This outcome was supported by the following authors (Waddock & Graves, 1997), (D’Arcimoles & Trebucq, 2002), (Mahoney & Roberts, 2007), (Lee & A., 2009) and (Aras & Aybars, 2010), where they used the ROE as an accounting based measure to represent the CFP, and concluded that CSR contributes positively to CFP, where it is financially beneficial for the company to invest in CSR. Our findings also support the following theories the stakeholder’s theory, the good management theory, the enlightened shareholder value theory and the instrumental stakeholder theory, as they direct in the same ideology with these results.

Table 5: Multiple regression model equation between CSR and ROE

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple correlation coefficient R</th>
<th>Total contribution of the variables R²</th>
<th>The percentage of contribution</th>
<th>Partial regression coefficient</th>
<th>In addition to the value of t</th>
<th>ANOVA Value F</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR ranking weights</td>
<td>0.167*</td>
<td>0.028</td>
<td>2.789</td>
<td>0.007</td>
<td>2.210*</td>
<td>4.67*</td>
<td>0.041</td>
</tr>
<tr>
<td>Constant</td>
<td>0.166</td>
<td>0.000</td>
<td>1.000</td>
<td>0.000</td>
<td>1.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Correlation is significant at the 0.05

Table 6: Multiple regression model equation between CSR and EPS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple correlation coefficient R</th>
<th>Total contribution of the variables R²</th>
<th>The percentage of contribution</th>
<th>Partial regression coefficient</th>
<th>In addition to the value of t</th>
<th>ANOVA Value F</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR ranking weights</td>
<td>0.132*</td>
<td>0.017</td>
<td>1.742</td>
<td>0.036</td>
<td>2.090*</td>
<td>3.066*</td>
<td>0.049</td>
</tr>
<tr>
<td>Constant</td>
<td>1.911</td>
<td>0.000</td>
<td>1.000</td>
<td>0.000</td>
<td>1.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>
Moreover, testing the relationship between EPS and CSR, conclusions can be extracted from the Table 6, where the multiple correlation coefficient between CSR and EPS is \( R=0.132 \) or 13.2%, which implicates a positive relation between CSR and ROA, supporting the theoretical framework, our literature review of past empirical studies. The model explains that CSR contributes only 1.7% \( (R^2=0.017) \) on the variation of EPS. Moreover, the Standard Error of the Estimate is 0.049 which is lower than the standard deviation of EPS, as it must be. The model appears to be statistically significant at the 95% level and so, the independent variables predict significantly the dependent variable, therefore supporting our third hypothesis H3. An equation to predict EPS taking CSR weights into consideration: 

\[ EPS = 1.911 + (0.036 \times \text{CSR ranking weight}). \]

This outcome were supported by the following authors (Fiori, et al., 2009), (Muhammad.Z.J, et al., 2014), (Simionescu & Gherghina, 2014) & (Ahmed, et al., 2012), where they used the EPS as an accounting based measure to represent the CFP, and concluded that CSR adds positively to CFP, where it is financially beneficial for the company to invest in CSR. our findings also support the following theories the stakeholder’s theory, the good management theory, the enlightened shareholder value theory and the instrumental stakeholder theory, as they are aligned perfectly with these results.

4.5. Limitations

It is necessarily to state that this paper is limited by the size of the sample and the difficulty to access and capture proper, accurate and genuine data about both the firms’ CSR programs and CFP reporting. The study contributes to the literature in terms of providing practical insights on the CSR strategies that help support effective financial performance in Egypt.

5. Conclusions and recommendations

Conclusion

Corporate responsibility is a multifaceted, complex phenomenon that involves a set of actions that significantly affect several dimensions of financial performance. We found out that improvements can result on CFP from better CSR actions. The ultimate target is to emphasize on the financial determinants that reflect corporate aspects of environmental, social and good governance activities. Those three dimensions constitute the newly Corporate Responsibility Index in Egypt. This study supports the positive relationship of CSR on CFP as previous studies like: (Freeman, 1988), (Pava & Krausz, 1996), (Preston &O’Bannon, 1997), (Solomon & Hansen, 1985), (Stanwick, 1998)(Ruf, et al., 2001), (Simpson & Kohers, 2002), (Backhaus, et al., 2002), (El Ghoul, et al., 2011), (Harjoto & Jo, 2011), (Jo & Harjoto, 2012), (Bouslah, et al., 2010), (Choa, et al., 2012) and(Cheng, et al., 2014) as mentioned previously in the literature, also supporting the following theories: the stakeholder’s theory, the good management theory, the enlightened shareholder value theory and the instrumental stakeholder theory as mentioned previously in the theoretical framework.

The CSR concept is rather new in the Egyptian business environment, compared to other developed countries, where the success for CSR programs takes time to show significant results. Moreover, it can be observed from the results in this research that companies CSR activities are mostly increasing in the years 2007-2015. Also, efficient CSR programs must be implemented in the right manner to get the ultimate results of these CSR programs. In the developed countries, companies choose to be socially responsible not only because of the CSR benefits, but also because of the social, political and consumer pressures where they demand responsible products and services delivered by the companies; pressures come also from NGOs, investors, industry codes of conduct, rankings of social performance. External pressures and CSR benefits push corporations to become socially responsible.

Reviewing the research result of investigating the relationship between CSR and financial performance in large Egyptian publicly traded companies, this study concludes that highly ranked firms in terms of environmental, social and governance aspects are characterized financially as follows: we can conclude that there exists a positive relationship that can be observed for the sample during the time period 2007-2015 between the CFP variables and CSR variable, with significance of
17.7% in ROA, 16.7% in ROE and 13.2% EPS respectively with CSR ranking weights at the 95% level, which implicates a positive relation between CSR and CFP, supporting the theoretical framework, our literature review, past empirical studies and our hypothesis. This can be the effect of the indirect relationship between the two variables (CSR and CFP), where the main outcome of CSR is establishing a good reputation, good management practices, lowering risk and cost and increasing customer satisfaction, which in turn improve financial performance on the long term.

**Recommendations**

The results however are based on three different financial variables only and future research should utilize a larger number of financial parameters to test for significance in the relationship in publicly traded companies on the Egyptian market. This can be done by use of a more financial variable (like using a mixture of both accounting and market based measures) could also offer a wider scope of insight into how CSR performance affects different financial parameters. Another suggestion for future research is to utilize a larger sample than the one observed in this research. Due to the panel data study design, the sample was only able to include 18 companies that were scored in the S&P/EGX ESG Index due to missing or unreliable sources of both financial and CSR data.

Another suggestion for future research is companies should further finance the CSR departments to find better approaches and CSR programs, resulting in having effective programs that can directly generate profits or cost savings. Conducting CSR research, focusing the efforts of the various stakeholders on sustainable development and not charity, launching promotional campaign, and encouraging transparency and reporting on activity-focused CSR. Moreover, the improvement of the true definition and understanding of CSR must take place in the Egyptian community (moving away from the philanthropic ideology) as a whole to get better CSR action, consequently better CFP outcomes. This can be achieved by reaching the final stage of CSR, which is the instrumentality and sustainability, which shows the adoption of CSR as a strategic tool in achieving organizational objectives.

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