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The Impact of Corporate Social Responsibility on Firm Value and Financial Performance: An Empirical Study on Companies Listed in Egyptian Stock Exchange

Abstract

The empirical link between corporate social responsibility (CSR) and corporate financial performance (CFP) has been steadily investigated for 35 years. The purpose of this study is to examine the relationship between corporate social responsibility (CSR) and its effect on firm performance, taking into consideration firm value and financial performance in Egypt. The paper uses content analysis to extract data from78 non-financial companies listed in Egyptian Stock Exchange for the years 2010-2015.

CSR indexes and financial performance measures were calculated in order to allow the estimation of regression analysis directed to examine the relationship between CSR and CFP. The paper found a negative relation between CSR and firm value, and it did not identify any significant relation of CSR on financial performance, except for the relationship with employees was a negative effect. Also, the study found no effect of financial performance on CSR.

1-Introduction

The impact of companies on society represents a growing global concern; where's the expectations of consumers, employees, investors, and local communities on the role of businesses in society are increasing. Governments and non-governmental organisations (NGOs) are demanding increased transparency and accountability about both company's daily operations and the impact of these operations on society. Also, Professional organisations carry out social audits, governments legislate for mandatory social reports, rating agencies rank corporations, and companies themselves publish an increasing number of reports on their social performance. This focus towards the impact of companies on society has led to the emergence of an important concept in business literature over the last three decades, i.e., corporate social responsibility (CSR).

Most definitions of corporate social responsibility describe it as constituting actions whereby companies integrate societal concerns into their business policies and operations. These societal concerns include environmental, economic, and social concerns. For companies to survive and grow, they have to undertake various socially desirable actions, and it is important that society recognises the compatibility of the behaviour of companies with its own ethical values. If companies fail to operate according to the boundaries set by the social norms, they face a threat for their survival.

Corporate social responsibility (CSR) refers to business practices involving initiatives that benefit society. A business's CSR can encompass a wide variety of tactics, ranging from giving away a portion of a company's proceeds to charity, to implement "greener" business operations. It also a business approaches that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders. While financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues, this term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry, and it's the level of performance of a business over a specified period of time, expressed in terms of overall profits and losses during that time.

The CSR concept is closely related to the concept of sustainable development which depends on three key components: environmental protection; economic growth; and social equity. If, on the other hand, this study reached to a positive relationship between CSR and CFP, then management might be encouraged to pursue such activities with increased vigor or to investigate the underlying causes of this relationship(Cochran and Wood 1984). So, the focus of this paper is on the question of whether these two factors (CSR and CFP) are related.

This paper aims at addressing the impact of corporate social responsibility (CSR) on corporate financial performance (CFP) by examining the relationship between CSR and its effect on firm performance, taking into consideration firm value and financial performance for companies listed on Egyptian Stock Exchange for the years 2010-2015.

The rest of this paper is organizing as follows: section 2 shows Definition of corporate social responsibility (CSR) and corporate financial performance (CFP), section 3 surveys the associated literature review conducted on CSR and CFP studies, section 4 shows hypotheses development, section 5 displays variables measurement and models development, section 6 reports the obtained results, while section 7 presents the conclusions.

2. Definition of corporate social responsibility (CSR) and corporate financial performance (CFP)

In the Stakeholder Theory framework, argument is given that attention to the interests of the various stakeholders of the corporation may improve firm paying and reputation, and that firm's concerns about such interests are able to affect positively firm's productivity, financial performance and value creation (Hillman and Keim 2001), (Donaldson and Preston 1995), , (Wood 1991).

On the other hand, Friedman (1970), despite recognizing the importance of clients and employees as legitimate and important stakeholders of corporations, argues that CSR is not able to increase firm value.

2.1 corporate social responsibilities (CSR)

CSR is a concept with many definitions and practices and a very broad concept that addresses many and various topics such as human

rights, corporate governance, health and safety, environmental effects, working conditions and contribution to economic development.

Corporate social responsibility (CSR) refers to business practices involving initiatives that benefit society. A business's CSR can encompass a wide variety of tactics, from giving away a portion of a company's proceeds to charity, to implement "greener" business operations(Dobers and Halme 2009, Carroll 2015).

While, (McWilliams 2000) definition of CSR is a business approach that contributes to sustainable development by delivering economic, social and environmental benefits for all stakeholders. CSR is a corporation's initiatives that assess and take responsibility for the company's effects on environmental and social wellbeing. The term generally applies to efforts that go beyond what may be required by regulators or environmental protection groups.

CSR may also be referred to as "corporate citizenship" and can involve incurring short-term costs that do not provide an immediate financial benefit to the company, but instead promote positive social and environmental change (Allouche and Laroche 2005).

However, (Visser 2008) showed that corporate social responsibility (also called corporate conscience, corporate citizenship or responsible business) is a form of corporate self-regulation integrated into a business model. CSR policy functions as a self-regulatory mechanism whereby a business monitors and ensures its active compliance with the spirit of the law, ethical standards and national.

A firm's implementation of CSR goes beyond compliance and engages in "actions that appear to further some social good, beyond the interests of the firm and that is required by law (Carroll 1979, Lin, Yang et al. 2009, Tai and Chuang 2014). So, CSR strategies encourage the company to make a positive impact on the environment and stakeholders including consumers, employees, investors, communities, and others.

While, (Lima Crisóstomo, de Souza Freire et al. 2011)showed that Corporate Social Responsibility (CSR) is associated to an ample spectrum of relations among the corporation and its various stakeholders, as well as to the environment. Firm relations with several stakeholders, clients and with the society in general, and even with shareholders, are part of the CSR scope. So, CSR is considered as a response of social pressures, relative to stakeholders' demands and expectations,

environmental concerns, and social demands which characterize the dimensions of CSR. The stakeholder dimension relates to for example, how the firm interacts with its employees, suppliers and customers. The environmental dimension refers to how business operations worries about natural environment. While the social dimension of CSR is related to how the enterprise contributes to a better society by integrating its business with social concerns.

Moreover, Corporate Social Responsibility (CSR) is the responsibility of an organization resulted from the impacts of its decisions and activities on society, the environment and its own prosperity, known as the "triple bottom line" of *people, planet, and profit*.

In general there are two accepted methods for measuring CSR. The first method is the reputation index. This method knowledgeable observer's rate firms on the basis of one or more dimensions of social performance.

The second method is content analysis. Usually, in content analysis the extent of the reporting of CSR activities in various firm publications and especially in the annual report is measured. This can be consisted of simply noting whether or not a particular item (such as pollution control) is discussed either qualitatively or numerically, or it can mean actually counting a number of items(Cochran and Wood 1984). This study will use the first method, reputation index, to measure CSR.

2.2 financial performances

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business to generate revenues. This term is also used as a general measure of a firm's overall *financial health* over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or *sectors* in *aggregation*. The firms use monetary terms to measure the results of a firm's policies and operations such as return on investments, return on assets, and value added (Tsoutsoura 2004, Jain, Vyas et al. 2016).

Cochran and Wood (1984) said that although one might have expected a certain diversity of measures of CSR, there is no real consensus on the proper measure of financial performance. However, most measures of financial performance fall into two broad categories: investor returns and accounting returns.

The level of performance of a business over a specified period of time, can be expressed in terms of overall profits and losses during that time. Evaluating the financial performance of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms (Van de Velde, Vermeir et al. 2005).

Financial performance analysis is the process of determining the operating and financial characteristics of a firm from financial statements. The goal of such analysis is to determine the efficiency and performance of firm's management, as reflected in the financial records and reports. The analyst attempts to measure the firm's liquidity, profitability and other indicators that the business was showed in a rational and normal way; ensuring enough returns to the shareholders to maintain at least its market value.

Moreover, (Roman, Hayibor et al. 1999) showed that Financial Performance in broader sense refers to the degree to which financial objectives being or has been accomplished and is an important aspect of *finance risk management*. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

3. Literature review

Stakeholder theory is considered as the core side for corporate social performance (CSP). It provides a framework for investigating the relationship between corporate social performance (CSP) and corporate financial performance. This relationship is investigated by examining how change in CSP is related to change in financial accounting measures. The findings of the previous studies provide some support for a tenet in stakeholder theory which asserts that the dominant stakeholder group, shareholders, financially benefit when management meets the demands of multiple stakeholders.

The introduction of stakeholder theory allows these seemingly opposing views of management's responsibility to be combined (Freeman, 1984). Stakeholder theory places shareholders as one of the multiple stakeholder groups managers must consider in their decision making process (Donaldson and Preston 1995, Wood and Jones 1995)**.** These stakeholder groups include internal, external, and environmen-

tal constituents. From a stakeholder theory perspective, corporate social performance is assessed in terms of the extent to which a company meeting the demands of multiple stakeholders. Firms must, at some level, satisfy stakeholder demands as an unavoidable cost of doing business.

Moreover, stakeholder theory can be complemented by both Transaction Cost Economics and the Resource Based View of the firm (Barney 1991), (Wernerfelt 1984) . From a Transaction Cost Economics perspective, firms that satisfy stakeholder demands or accurately signal their willingness to cooperate can often avoid higher costs that result from more formalized contractual compliance mechanisms (e.g., government regulation, union contracts). From a Resource-Based View perspective, firms view meeting stakeholder demands as a strategic investment, requiring commitments beyond the minimum necessary to satisfy stakeholders. By strategically investing in stakeholders' demands, firms gain a competitive advantage by developing additional, complementary skills that competitors find nearly impossible to imitate (Russo and Fouts 1997). From either perspective, improving CSP should lead to higher financial performance, whether it is due to reduced costs or increased revenues.

According to (Ruf, Muralidhar et al. 2001), Stakeholder theory posits that firms possess both explicit and implicit contracts with various constituents, and are responsible for honouring all contracts (Donaldson and Preston, 1995; Jones, 1995). As a result of honouring contracts, a company develops a reputation that helps determining the terms of trade it can negotiate with various stakeholders. While explicit contracts legally define the relationship between a firm and its stakeholders, implicit contracts have no legal standing and are referred to in the economic literature as self-enforcing relational contracts. Since implicit contracts can be breached at any time, Telser (1980)argues that implicit contracts become self-enforcing when the present value of a firm's gains from maintaining its reputation (and, therefore, future terms of trade) is greater than the loss if the firm reneges on its implied contracts.

There are many previous studies examined the relationship between SCR and firm performances. McGuire, Sundgren et al. (1988) found a relationship between perception of firm's corporate social responsibility and measures of their financial performance, and a closed relation-

ship between stock-market returns and CSR. While Cochran and Wood (1984), (Servaes and Tamayo 2013) found a relationship be-tween CSR and financial performance. Using a new methodology, they found that the average age of corporate assets are highly correlat-ed with social responsibilities ranking.

Van de Velde, Vermeir et al. (2005) investigated the interaction be-tween sustainability and financial performance and found that inves-tors, especially sustainable investors, could exploit this sustainable ef-fect in order to create out- performance. Also the results reached by the same authors indicated that it was a necessary condition to manage style biases because these biases tend to outweigh the impact of the sustainability factor. They showed that high- sustainability portfolios tend to have a higher market and large- cap exposure.

According to Wahba (2008) showed the relationship between cor-porate environmental responsibility and profitability using different theoretical perspectives. The results appeared that the market compen-sates the corporations that care about the environment because they have environmental responsibilities, so they are considered as a posi-tive and significant factor and have a high percentage of the market value that measured by Tobin's Q ratio (1). Also, the same study found that most investors are attracted to firms that invest in environ-ment and the relationship between investors and corporate environ-mental responsibility are a monotonic relationship that doesn't vary with firm financial performance. Moreover, by classifying firms into two sub-groups, according to their financial performance, environ-mental responsibility was found to have a positive and significant im-pact on institutional ownership only when financial performance is high.

On the other hand, Elsayed and Paton (2005) examined the influ-ence of corporate environmental performance on firm's financial per-formance, and they found that the relationship between them varied with firm life cycle and the environmental performance had the strongest impact on financial performance in the maturity stage life cycle and weakest impact in the rapid growth stage.

There are some studies tested the relationship between CSR and fi-nancial performance in different countries. For example Lin, Yang et al. (2009) found a positive relation between the two variables in Tai-wan. In Brazil Lima Crisóstomo, de Souza Freire et al. (2011) used a

set of econometric models to test the relationship between CSR and firm performance, they found a negative effect of CSR on firm value. This negative influence appeared to be strongly influenced by social action related to employees and environmental concern taking into account firm value and financial performance.

Longo, Mura et al. (2005) tested the relationship between two variables in Italy and they found a positive impact on corporate performance and this impact becomes more significant with the passage of time. Moreover, they found that CSR of any firm impacts its performance positively but with very low intensity, whereas it affects overall enterprise value with much greater intensity. Companies engaged in CSR activities lead to reducing environmental impact, increasing employee satisfaction, retaining talent, enhancing the company's reputation, and playing a positive role in community(Longo, Mura et al. 2005).

Aupperle, Carroll et al. (1985) found no relationship between CSR and profitability, especially varying levels of social orientation were not found to organize with financial performance differences.

While Stanwick and Stanwick (1998) examined the relationship between the corporate social performance of an organization and three variables: the size of the organization, the financial performance of the organization, and the environmental performance of the organization. They found that a firm's corporate social performance was indeed impacted by the size of the firm, the level of profitability of the firm, and the amount of pollution emissions released by the firm.

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(1) Tobin's Q ratio is a measure of firm assets in relation to a firm's market value. Tobin's Q=total market value of firm/total assets value of firm. a low Q (between 0 and 1) means that the cost to replace a firm's assets is greater than the value of its stock. This implies that the stock is undervalued. Conversely, a high Q (greater than 1) implies that a firm's stock is more expensive than the replacement cost of its assets, which implies that the stock is overvalued. This measure of stock valuation is the driving factor behind investment decisions in Tobin's model.

The most recent study of Jain, Vyas et al. (2016) found a relationship between CSR (defined through multi-stakeholder's framework) and financial performance in the context of small and medium enterprises(SMEs). Their study was conducted based on data collected using structured questionnaire based on pretested scale items, from 384 SMEs and structural equation modelling. The statistical results showed the overall model fit, and the findings indicate a significant weak positive relationship between CSR and financial performance.

4-Hypotheses development

All previous studies which tested the relationship between CSR and CFP found three directions: a positive, a negative or a neutral relation between them. The analysis of the works examining this relation reveals that the research concentrated in well-developed markets. In these markets, the stakeholders' activism is more mature than in developing and emerging markets such as Egypt. There are shareholders, managers, and creditors that they are very interested in a firm's financial performance and, on the other hand, several other stakeholders exist which they are interested in a possible social action on the part of the corporation.

In the developing countries such as Egypt, capital market has faced the growth of investors and also the volume of investments. In Egyptian capital market, there is a motion to support capital market and companies by adoption of corporate governance practices.
Murcia, Rover et al. (2009) Found a signal that the market is starting to pay attention to corporate governance and social action variables. Because the allocation of firm's funds to social actions is not an easy process, so the paper expected that a positive effect on financial performance arising from CSR related expenses will occur as long as the market becomes sensitive to take them into consideration when it comes to its investment decisions.
Accordingly, the following hypothesis can be developed:
Hypothesis 1: there is a negative relationship between CSR and firm value.

The study follows the financial line of thought that considers that the expenditure with CSR is a misapplication of resources considering firm's main activities.

In Egypt, there isn't yet a full-fledged research on external stakeholders' behavior, like consumers, so as to understand their sensitivity

to corporate CSR. Maignan (2001) is an example of an international social study, which found evidence of a higher sensitivity to CSR of German and French consumers as compared to the American ones.

So the above leads us to formulate another hypothesis which indicates that Egyptian firms have its financial performance negatively affected by CSR.

Hypothesis 2: there is a negative effect of CSR on firm's financial performance measured by accounting numbers.

The possible effect of the financial performance on the CSR is also tested at the present study, since there is no final answer yet about the direction of the causality in the relationship between CSR and CFP. Is it the CSR that drives the CFP or is the CSR a consequence of better CFP? As regarded as the possible effect of the CFP on CSR, the paper considers that CSR can be motivated by a non-compromised cash flow as a result of excess profitability, since only in this situation it would be possible for a corporation to justify CSR expenses to its shareholders and creditors(Visser 2008).

Also, the researcher can observe the reality of strong pressure of shareholders for results. Shareholders are essentially focusing on capital gains as well as dividend pay-out, while creditors care about the return of their funds reflected by interests. It is expected that management will only decide for the expenditure in social action as long as there is a strong demand for this type of activity and prospective of returns to the firm Godfrey, Merrill et al. (2009). Moreover, it is reasonable to expect that pressure for social action will only be successful if corporations can expect some benefits arising from that allocation of resources which would facilitate shareholders accordance to CSR activities.

Considering such social pressure as still not relevant in Egypt and taking into consideration the powerful demand for results from shareholders and creditors, the researcher believes that the social action of the Egyptian corporation would only occur in case of the existence of excess cash flows. This reasoning makes us expect a positive or neutral relationship between a company's CFP and CSR in Egypt which leads us to propose another hypothesis.

Hypothesis 3: **there is a positive effect of firm's financial performance on CSR, consider that CSR may result from the existence of excess cash flow**

5-Variables Measurement and models development

The difficulties in measuring CSR, as frequently reported in the international literature, are yet more severe in markets in which the question is still incipient, as it is the case with emerging markets. Egyptian firms are not compelled to disclose information about their social action. So, firms that decide to do this will act freely with no standard of format or data disclosed. Voluntarily, some firms have started doing it. Nevertheless, such absence of uniformity on format and specific data to be disclosed adds difficulty to this kind of research. To have this study feasible, the paper needed to collect data from the annual reports of Egyptian financial companies. In this context, the firms have proposed a model for Corporate Social Responsibility disclosure and also served voluntarily as a data repository of firm social information for the firms interested.

As highlighted by other authors, CSR measurement is a constant problem in CSR research. This has probably been the reason for the lack of uniformity and great variety of measures used in the literature. Such difficulty in measuring CSR may be due to the deficiency in obtaining data as is the case in Egypt.

This study uses a CSR index based on relative amounts spent on social action. The CSR index adopted in this study is based on voluntary information which the firms may disclose it, it contains information regarding the **three corporate social action segments**: the relationship with **employees, external social action, and environmental action.**

The data, which of being quantitative in nature, indicates the ratio between the amount of funds spent by the company in each social action segment and its net sales**.** The CSR index (Corporate Social Responsibility Index – CSR_I) used in this study takes into account the three segments. In our work, the CSR_I refers to the mean of all social expenses over the company's net sales. Likewise, for each social action segment of the company (relationship with employees, external social action and environmental action) a specific index was created in order to check the possible relation between each social action factor and the company's performance. Each index is the calculated by the

mean of the amounts of each expense related to each corporative so-cial action area: index of social action related to internal stakeholders, named employees (ER_I), index of external social action (ESA_I), and index of environmental action (ENV_I). These three dimensions of CSR have been used as proxies for CSR in a number of distinct previous works(Lima Crisóstomo, de Souza Freire et al. 2011).

As is common in the financial literature, Tobin's Q is used to proxy for firm value, which is defined as the ratio between the company's market value and its accounting value(book value). company's market value corresponds to the sum of market value of shared and debt (Dowell, Hart et al. 2000, Maury and Pajuste 2005, Villalonga and Amit 2006). This paper assumes return on assets (ROA) and return on equity (ROE) as financial accounting performance measures.

Control variables are added to the model so that the results can be moderate for an infinite number of factors. Previous studies frequently controls for firm size, risk and sector. Firm size is an important control variable meanwhile size may influence firm capacity to undertake CSR actions. Smaller companies may face lower capacity of sustain-ing a more active behavior regarding social action compared to bigger ones which usually have more infra-structure as well as higher cash flow levels. At the same time, as a firm grows, it becomes more visi-ble and more responsible with different stakeholders' demands. This study uses the log of the total assets as a proxy of the company's size (SIZE) .

The company's risk is another factor that may influence company's social activities. As social actions are not strictly connected to the main business of the company firm direction's risk tolerance might affect its attitude toward CSR once they use funds that would other-wise be used in the main activities of the company. The study uses company's leverage (LEV), which is measured by the ratio of total liabilities to total assets, as a proxy for risk.

Other studies take the industry factor into account, considering that some sectors usually may have more intense social activity. To control for sector effect on social performance, sector dummies (SD) have been incorporated into the models.

The model that deals with the effect of CSR on firm value can be expressed by the following equation (1):

Q_t = CSR_I_t + CSR_I_{t-1} + LEV_t + $SIZE_t$ + SD_t + ε_t (1).

In the model**, Q** is the above mentioned Tobin's Q ratio that proxies for firm value. **CSR_I** represents the Corporate Social Responsibility Index that captures the three segments of CSR,relationship with employees, external social action and environmental action. **CSR_It-1** represents CSR_I of the previous year and was combined in the model in order to capture possible delayed effects. This is acceptable since the social action of today may be not be noticed by stakeholders immediately and, in fact, there is a possibility that the positive effect of such actions on firm value will happen with a lag.

LEV is the firm's indebtedness **and SIZE** represents firm size. Industry dummy variables **(SD)** were also included as explanatory variables to control also for sector effect. **ε** is the random error term that accounts for model specification errors.

Another model has been proposed to assess the effect of CSR on financial accounting performance. Such model is expressed by the following equation (2):

$$\text{ROA}t = \text{CSR\_I}t + \text{CSR\_I}t\text{-}1 + \text{LEV}t + \text{SIZE}t + \text{SD}t + \text{εt (2)}.$$

ROA (return on assets) is the measure of a firm's financial performance. As in model (1), CSR_I is the Corporate Social Responsibility Index that captures the three segments of CSR. The possibility of delayed influence of CSR on financial performance is taken into account with the inclusion of the lagged variable CSR_It-1. This chance is due to the rationale that CSR may cause better financial return as society sees more favourably the firm taking such actions into account in its decisions. Positive effects of it in financial terms may happen with some delay. LEV stands for the firm's leverage and SIZE proxies for firm size. SD represents sector dummy variables, and, **ε** is the random error term that accounts for model specification errors.

Then, the model associated with equation (3) assesses the reversal possible effects of CFP on CSR and has the following format:

$$\text{CSR\_I}t = \text{ROA}t + \text{ROA}t\text{-}1 + \text{LEV}t + \text{SIZE}t + \text{εt (3)}.$$

Similarly to previous models, CSR_I stands for firm social action that captures the three segments of CSR. ROA is the measure for firm's financial performance. In a similar way, to take into account the possibility that the decision to undertake social actions in function of financial results may be associated to current and past results, a lagged financial performance variable (ROAt-1) has been introduced in the model. Equivalently, LEV stands for firm's debt and SIZE proxies for

firm size. Sector dummy variables (SD) measure industry effects on CSR. Finally, **ε**, the random error term, accounts for model specification errors. Additionally, for sensitivity analysis reasons, the models of equations (2) and (3) were also estimated using ROE as a proxy for CFP.

6-Results

The descriptive values of CSR in Table 1 represent the relation between the expenses in each one of the social action segments and the net sales. The examination of these numbers reveals that the segments that receive the most attention from the Egyptian companies are the relationship with employees (ER_I) and environmental actions (ENV_I). The study considers that the values of all variables are within acceptable limits for each one of them since there is no standard value related to such CSR indicators and the other variables.

Table 1. Descriptive Statistics of the model variables

	N	Mean	Standard Deviation	Median	Minimum	Maximum
Q	296	0.95	0.97	0.76	0.03	9.38
ROA	296	5.85%	9.56%	4.60%	-39.18%	38.40%
ROE	296	13.67%	17.51%	14.08%	-37.11%	50.81%
CSR_I	296	0.67%	0.99%	0.46%	0.00%	11.94%
ER_I	295	0.71%	0.56%	0.52%	0.06%	2.33%
ESA_I	263	0.25%	0.59%	0.06%	0.00%	4.61%
ENV_I	266	0.76%	1.10%	0.28%	0.00%	6.69%
LEV	257	25.54%	17.56%	24.96%	0.00%	94.98%
SIZE	296	14.47	1.63	14.26	10.01	18.77

Information provided in Table 2 shows that there is a significant negative correlation between corporate value(Q) and CSR_I as well as with the two specific indexes of CSR, employee relation (ER_I) and external social action (ESA_I). This correlation is also negative but not significant for environmental action (ENV_I). No significant correlation was detected between the variables indicating financial performance (ROA and ROE) and any of the social action indicators. However, regression analysis of the model is necessary so as to have a better understanding of such possible relationships.

Table2 . Correlation matrix between CSR
and performance indices

	Q	ROA	ROE	CSR_I	ER_I	ESA_I
ROA	0.549***					
p-value	0.000					
ROE	0.313***	0.653***				
p-values	0.000	0.000				
CSR_I	-0.102†	-0.025	0.011			
p-values	0.081	0.667	0.857			
ER_I	-0.120**	-0.044	0.038	0.622***		
p-values	0.039	0.449	0.516	0.000		
ESA_I	-0.111†	-0.052	0.056	0.318***	0.016	
p-values	0.073	0.398	0.370	0.000	0.796	
ENV_I	-0.083	0.031	-0.019	0.199**	-0.045	0.111†
p-values	0.175	0.614	0.763	0.001	0.469	0.088

* The table shows the correlation coefficients and p-values. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$.

Tables 3 to 5 show the results of the 3 models in which ordinary least squares were used. For each model proposed, more detailed ones were estimated. Column (iii) of each panel table presents estimations that correspond exactly to the model proposed while columns (i) and (ii) of each contains estimations of models that incorporate the present independent variable (i) and the previous one (ii), respectively, in order to account for possible lagged effects. The coefficients of the industry dummy variables were omitted in virtue of space priority.

The results of table 3 allow us to verify the existence of a negative effect of CSR_I on firm value, which support hypothesis 1. Current CSR (CSR_It) presents this negative influence in two models of Panel A (columns i and iii) showing the strong negative effect of current social expenses on firm value. Assessing the models that were estimated separately for each social action segment, it is shown that this effect is influenced by the relationship with employees (ER_I) (Panel B) and the environmental action (ENV_I) (Panel D). Both of these social actions dimensions have also revealed a significant negative impact on firm value. Note that these two are the strongest Egyptian corporations' social action indicators (Table 1). Hence, their individual negative effects corroborate the negative effect of CSR on firm value in Egypt.

While R^2 which means the percentage of independent variables that explain the variance in dependent variable (the level of risk disclosure), in other words, (the variance percentage in dependent variable due to the variance percentage in independent variables) R^2, ranges approximately from 18% to 20% for all panels, is not a respectable result because it less than 75% (the begging percentage to accept the R^2 result for any model). While the best R^2 is 23.7% for the Panel D (columns iii), implies that independent variables explain 23.7% percentage of the variance in the firm value. In other words, there is a variation in the firm value (Q), 23.7% of it was due to the model (or due to change in –independent variables) and 76.3% was due to error or some unexplained factor.

Table 3. Analysis of the explanatory power of the CSR over company value (Q)

Panel A - Dependent variable: Q		
	i	ii	iii
CSR_I	-8.826*		-9.497**
CSR_It-1		-13.592	-9.272
LEV	-0.563	-0.886†	-0.944†
SIZE	-0.141*	-0.174†	-0.186†
N	257	189	189
F	5.020***	3.760***	4.140***
R^2	0.189	0.201	0.209

Panel B - Dependent variable: Q		
	i	ii	iii
ER_I	-28.112**		-25.844†
ER_It-1		-13.981	-2.932
LEV	-0.578	-0.878†	-0.919†
SIZE	-0.144*	-0.175†	-0.182†
N	256	189	188
F	5.620***	3.700***	3.680***
R^2	0.194	0.201	0.208

Panel C - Dependent variable: Q

	i	ii	iii
ESA_I	-4.715		-5.246
ESA_It-1		-2.235	-10.817
LEV	-0.471	-0.842	-0.723
SIZE	-0.180†	-0.163	-0.176
N	224	164	156
F	4.060***	3.890***	5.460***
R^2	0.203	0.201	0.216

Panel D - Dependent variable: Q

	i	ii	iii
ENV_I	-8.211*		-8.573†
ENV_It-1		-7.622†	-2.013
LEV	-0.498	-0.862†	-0.783†
SIZE	-0.086	-0.176†	-0.119
N	235	189	174
F	5.490***	4.180***	4.330***
R^2	0.208	0.205	0.237

*The table presents estimated coefficients concerning models derived from the equation (1). Standard errors (not reported) are robust to heteroskedasticity. Q is the dependent variable in all models, CSR indicators are the independent ones. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$.

The results exhibited in table 4 demonstrate the inexistence of the explanatory capacity of the social action variable (CSR_I) over the corporate financial performance measured by ROA (Panel A), which does not support hypothesis 2 that predicted a negative effect of CSR_I over CFP. Looking on each dimension of CSR separately, one can see that the internal social action relative to employees (ER_I) (Panel B) has a negative impact on financial performance which is in the direction of the hypothesis proposed. Nevertheless, the neutrality in the CSR-CFP relation is verified in relation to the external social action (ESA_I) and environmental action (ENV_I) dimensions (Panels C and D). These findings emphasize the neutral effect of CSR on CFP in the Egyptian firms. Additionally, leverage (LEV), used as proxy for firm risk, as predicted, has confirmed its negative impact on CSR.

That may also signal external control from creditors in monitoring managers.

R^2, ranges approximately from 22% to 34% for all panels, is not a re-spectable result because it less than 75% (the begging percentage to accept the R^2 result for any model). While the best R^2 is 34.2% for the Panel B (columns iii), implies that independent variables explain 34.2% percentage of the variance in the firm's financial performance. In other words, there is a variation in return on assets (ROA), 34.2% of it was due to the model (or due to change in –independent varia-bles) and 65.8% was due to error or some unexplained factor.

Table 4. Analysis of the explanatory power of the CSR over financial performance (ROA)

Panel A - Dependent variable: ROA			
	i	**ii**	**iii**
CSR_I	-0.680		-0.673
CSR_It-1		0.785	1.091
LEV	-0.213***	-0.234***	-0.238***
SIZE	-0.000	0.002	0.001
N	257	189	189
F	7.690***	6.430***	5.880***
R^2	0.261	0.305	0.310

Panel B - Dependent variable: ROA			
	i	**ii**	**iii**
ER_I	-4.594*		-5.637†
ER_It-1		-0.391	1.926
LEV	-0.219***	-0.236***	-0.245***
SIZE	-0.001	0.001	0.001
N	256	189	188
F	7.970***	6.750***	6.550***
R^2	0.287	0.305	0.342

Panel C - Dependent variable: ROA

	i	ii	iii
ESA_I	0.096		-0.884
ESA_It-1		1.362	1.338
LEV	-0.198***	-0.244***	-0.238***
SIZE	-0.001	0.002	0.003
N	224	164	156
F	6.840***	5.020***	4.230***
R^2	0.224	0.300	0.286

Panel D - Dependent variable: ROA

	i	ii	iii
ENV_I	-0.261		-0.515
ENV_It-1		-0.086	0.167
LEV	0.214***	-0.236***	-0.245***
SIZE	0.003	0.002	0.005
N	235	189	174
F	7.530***	7.000***	5.720***
R^2	0.262	0.305	0.311

*The table presents estimated coefficients concerning models derived from the equation (2). Standard errors (not reported) are robust to heteroskedasticity. ROA is the dependent variable in all models, CSR indicators are the independent ones. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$.

The results exhibited in table 5 stand for the possible effect of CFP on CSR. Such results do not allow us to confirm hypothesis 3, which predicted a positive effect of CFP on CSR considering that excess cash flow could be directed to CSR. The results are also in the direction of a neutral impact of CFP on CSR. Except for the internal social action (ER_I) (column i of panel B), no significant explanatory capacity of CFP over CSR has been observed. In the only exception aforesaid a negative effect was detected in the opposite direction of the hypothesis proposed. This can be an indication of a really low concern of companies to expend cash in social action.

R^2, ranges approximately from 7% to 22% for all panels, is not a respectable result because it less than 75% (the begging percentage to accept the R^2 result for any model). While the best R^2 is 22.5% for the Panel B (columns iii), implies that independent variables explain

22.5% percentage of the variance in corporate social responsibility. In other words, there is a variation in (CSR), 22.5% of it was due to the model (or due to change in –independent variables) and 77.5% was due to error or some unexplained factor.

Tabel 5. Analysis of the explanatory power of financial performance (ROA) over CSR

Panel A - Dependent variable: CSR_I

	i	ii	iii
ROA	-0.007		-0.006
ROAt-1		-0.011	-0.009
LEV	-0.007*	-0.009†	-0.010†
SIZE	-0.001†	-0.001	-0.001
N	257	189	189
F	5.660***	3.300***	3.250***
R^2	0.077	0.089	0.091

Panel B - Dependent variable: ER_I

	i	ii	iii
ROA	-0.008*		-0.008
ROAt-1		-0.006*	-0.004
LEV	-0.004*	-0.003*	-0.005*
SIZE	-0.000**	-0.000*	-0.000*
N	256	188	188
F	12.910***	11.850***	10.070***
R^2	0.223	0.201	0.225

Panel C - Dependent variable: ESA_I

	i	ii	iii
ROA	0.000		0.000
ROAt-1		0.002	0.002
LEV	-0.003	-0.003	-0.003
SIZE	0.000	-0.000	-0.000
N	224	167	167
F	3.830***	2.940**	2.660**
R^2	0.145	0.175	0.175

Panel D – Dependent variable: ENV_I

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	i	ii	iii
ROA	-0.003		-0.007
ROAt-1		0.002	0.004
LEV	0.004	-0.004	0.004
SIZE	-0.001	-0.001	-0.005
N	235	174	174
F	12.110***	6.970***	6.520***
R^2	0.193	0.187	0.190

The table presents estimated coefficients concerning models derived from the equation (3). Standard errors (not reported) are robust to heteroskedasticity. CSR indexes (CSR_I, ER_I, ESA_I and ENV_I) as dependent variables in each panel, and the performance (ROA) the explanatory variable. † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$.

7. Conclusions

Growing research about Corporate Social Responsibility has found in the study of the relationship between CSR and business perfor-mance an important field since, recently, a broader set of stakeholders seems to be able to influence firm strategic management. However, no conclusive answers have yet been found so as to clarify if CSR affects business performance or vice-versa, and, research on the topic has been concentrated in developed economies.

This work has analyzed the CSR-CFP relationship in Egypt using financial and CSR data of 78 non-financial listed companies in the pe-riod 2010-2015. Three aspects of CSR have been considered separate-ly and were used to create a three dimensional measure of CSR which, together with the use of different business performance measures, al-lowed finding of important results about the CSR-CFP relationship in Egypt.

The estimation of a set of models has provided results that exhibit a trend toward a negative effect of CSR on firm value in Egypt. This negative influence appears to be strongly influenced by social action relative to the relation with employees and environmental concerns.

Additionally, considering specifically the financial accounting per-formance, the study did not identify any significant material effect of CSR on financial performance, except for the relationship with em-ployees on which a negative effect was observed. Also, no effect of financial performance on CSR was observed. Additionally, there also

seems to be sectors that are more inclined to undertake social action, as is the case of the financial sector.

This work considers as a contribution to CSR literature since it presents an investigation of the CSR-CFP relationship in Egypt, an emerging market with increasing international visibility, where such kind of research is still few.

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