Corporate Social Responsibility And Financial Performance Relationship: The Case Of Turkey

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ABSTRACT

Having an increased attention from researchers corporate social responsibility is the starting point of this study. There several studies in the literature regarding the linkage between CSR and firm performance, however this study examines the situation of a developing country; Turkey. The main aim of this study is to investigate corporate social performance and financial performance relationship with accounting based performance measures. The results seem to support CSR causes better financial performance.

Keywords: *Corporate Social Responsibility, Turkey, Financial Performance, PrincipalCcomponentAanalysis*

Jel Classification: *M21, M41.*

Kurumsal Sosyal Sorumluluk ve Firma Performansı Arasındaki İlişki : Türkiye Örneği

ÖZET

Son yıllarda araştırmacıların yoğun ilgisini çeken kurumsal sosyal sorumluluk bu çalışmanın başlangıç noktasını oluşturmaktadır. Ilgili literaturde kurumsal sosyal sorumluluk ve firma performansını konu alan çeşitli araştırmalar mevcuttur, ancak bu çalışmada gelişmekte olan bir ülkenin, Türkiye'nin durumu incelenmektedir. Bu çalışmanın ana amacı muhasebe bazlı performans ölçütleri yardımıyla kurumsal sosyal sorumluluk ve finansal performans arasındaki ilişkiyi sorgulamaktır. Çalışmada ulaşılan sonuçlar, kurumsal sosyal sorumluluğun daha iyi finansal performansa yol açtığını desteklemektedir.

Anahtar Kelimeler: *Kurumsal sosyal sorumluluk, Türkiye, finansal performans, ana bileşen analizi*

JEL Sınıflaması: *M21, M41.*

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1.Introduction

An area that has recently received an increased focus of attention is the corporate social performance (CSP) of organizations (Carroll, 1979; Wartick and Cochran, 1985; Wood, 1991a;Wood, 1991b). Corporate social responsibility (policy, programme or process) is strategic when it yields substantial business-related benefits to the firm, in particular by supporting core business activities and thus contributing to the firm's effectiveness in accomplishing its mission. Strategy theorists such as Andrews (1980) identified the relationship between corporate strategy and *"the economic and noneconomic contribution [the firm] intends to make to its shareholders, employees, customers, and communities"*. Ansoff (1983) articulated the need for firms to develop societal strategies for strategy formulation (Camillus and Data 1991; Lenz and Engledow 1987). Thus it is important for firms to jointly serve for their own strategic business interests and the societal interests of their stakeholders. Corporate social responsibility (CSR) can be generally defined as the organization's responsiveness to the needs of its stakeholders (Wood, 1991). Corporate social performance (CSP) is a critical factor to consider for all organizations since CSP components such as: *"social issues, environmental pressures, stakeholder concerns are sure to affect corporate decision making and behavior far into the future"*(Wood, 1991b, p. 400). Thus recently, scholars have attempted to investigate links between organizations' fulfillment of social responsibilities and various forms of competitive advantage. One of the main benefits of CSP to organizations is to their positive linkage with financial performance. (Anderson and Frankle, 1980; Ingram and Frazier, 1983; McGuire, Sundgren and Schneeweiss, 1988).

Under the resource based theory, acceptable corporate social responsibility performance offers better financial performance(CFP) to firms thus CFP subsequent of CSP or some of the authors claim that better financial performance provides socially and industrially valued social performance. In this framework researchers have been implemented several field study in order to examine concepts relationships empirically.

Some researches reported positive correlations between CSP and CFP On the other hand some sort of studies mentioned that there were a negative relationship between CSP and financial performance (Ingram and Frazier, 1983; Freedman and Jaggi, 1982). Those who have suggested a negative relation between social responsibility and financial performance have argued that high responsibility results in additional costs that put a firm at an economic disadvantage compared to other, less socially responsible firms. (McGuire, Sundgren and Schneeweiss 1988: 855) as also Wright and Frerris (1997)who were assess the *short-run* financial impact when firms engage in socially responsible or irresponsible acts report that found a negative relationship existing between CSP and financial performance). On the other hand some of the research reported that there isn't any relationship between CSP and profitability (Teoh, Welch and Wazzan, 1999). Besides those arguments about CSP and financial performance relationship, some authors enforced this debate with accounting -based performance variables and they were reported that accounting-based performance measures

have generally found positive correlations with CSP(Bragdon and Marlin 1972, Bowman and Haire 1975, and Parket and Eibert 1975).

Thus corporate social responsibility performance and financial performance causal linkage are still polemical issues in related literature. Some researchers claim that CSP will provide better financial performance(Anderson and Frankle, 1980; Ingram and Frazier, 1983; McGuire, Sundgren and Schneeweiss, 1988) on the other hand some of them mentioned that cost of social responsibility activities reducing expected advantages of corporate social responsibility (Ingram and Frazier, 1983; Freedman and Jaggi, 1982)where others did not found any relationship between variables (Teoh, Welch and Wazzan, 1999). In this scope we are posit that measurement method of corporate social responsibility and firm's financial indicators have considerable influence on concepts interactions. Authors Orlitzy and his friends(2003) highlight in their meta analysis which is conduct 52 studies on corporate social responsibility and financial performance relationship, some factors such as theoretical approaches (good management theory, resource theory, instrumental stakeholder theory etc.), stakeholder mismatch, general neglect of contingency factors and measurement errors may explain inconsistent findings of related researches (Orlitzy et. al 2003:404).

As it known in corporate responsibility literature there are several and unarranged methods have been used for measuring concept in order to set firms responsibility score such as content analysis of annual reports, letters to shareholders, reputation indexes or KLD index. On the other hand firms financial performance mostly measured with market-based like investors returns, stock price or market value or evaluate with accounting- based measures [return on equity(ROE) , return on assets(ROA) etc] such as internal financial indicators used for policy making decisions. In this framework sample size of the researches is a different problem of related researches which problem constitutes statistical problems in analysis sections. As also we thought that economical development (underdevelopment or development country) of the country will effects the results of the research. Researchers select their sample in domestic country and domestic economical conditions determine the firm's social performance and financial indicators. In related literature up until now researchers implementing their researches' in developed countries and form their samples with developed industries firms. However in undeveloped countries cause of uncertainty in social and economical issues social responsibility and financial indicators relationship will constitute differ than developed ones. Thus it is important, interesting and lack of related literature that investigates corporate social responsibility and financial performance interaction within context of underdevelopment economy. In this frame work this study is to examine the relationship between the firms' corporate social performance and the financial performance among the companies which were located in developing country; Turkey.

2. Literature Review:

Corporate social responsibility (CSR) can be generally defined as the organization's responsiveness to the needs of its stakeholders (Wood, 1991). A stakeholder in an

organization is any group or individual who can affect or is affected by the achievement of the organization's objectives (Freeman 1984). CSR is significant for companies because it influences all aspects of a company's operations and its relationships with stakeholders. Crowther and Rayman-Bacchus (2004) supports this argument by indicating that an organization should be accountable to a wider audience than simply its shareholders. Another definition of SCR by Werther and Chandler (2011) is that a view of the corporation and it role in society that assumes a responsibility among firms to pursue goals in addition to profit maximization and a responsibility among a firm's stakeholders to hold the firm accountable for its actions. Corporate social responsibility (CSR) can be generally defined as the organization's responsiveness to the needs of its stakeholders (Wood, 1991).

CSP is a critical factor to consider for all organizations since CSP components such as: *"social issues, environmental pressures, stakeholder concerns are sure to affect corporate decision making and behavior far into the future"*(Wood, 1991b, : 400). Thus there are several studies have been implementing for examining CSP influence on corporate strategies, routine activities or it is necessary for firms to investigate on it.

Various arguments have been made regarding the relationship between firms' social responsibility and their financial performance. One view is that firms face a trade-off between social responsibility and financial performance. Those holding this view propose that firms incur costs from socially responsible actions that put them at an economic disadvantage compared to other, less responsible, firms (Aupperle, Carroll, & Hatfield, 1985; Ullmann, 1985; Vance, 1975). A second, contrasting viewpoint is that the explicit costs of corporate social responsibility are minimal and that firms may actually benefit from socially responsible actions in terms of employee morale and productivity (Moskowitz, 1972; Parket & Eibert, 1975). The classic literature in business and society asserted that while CSR might entail short-term costs, it paid off for the firm in the long run.(Davis 1977, Steiner 1980) These scholars argued that firms would benefit from greater social legitimacy with less government regulation, and that a better society was simply good for long-term profitability. Thus it is assumed that CSP and financial performance has positive association. third perspective is that the costs of socially responsible actions are significant but are offset by a reduction in other firm costs.

On the other some sort of studies reported that social responsibility and accounting-based performance measures have generally found positive correlations. Bragdon and Marlin (1972), Bowman and Haire (1975), and Parket and Eibert (1975) found generally positive associations between corporate social responsibility and accounting-based measures of performance. As also in their meta analysis focus on corporate social performance and financial performance, Orlitzky et. al (2003) reported that CSP appears to be more highly correlated with accounting –based measures of CFP than market-based indicators. (Orlitzky et.al 2003:403) Stanwick and Stanwick's (1998)the results of the study show that a firm's

corporate social performance is indeed impacted by the size of the firm, the level of profitability of the firm.

Cochran and Wood (1984) found a positive correlation between social responsibility and accounting performance after controlling for the age of assets. In contrast, Aupperle and colleagues (1985) found no significant relationships between social responsibility and a firm's ROA adjusted by its ranking in the Value Line Safety Index. Waddock and Graves found significant positive relationships between an index of CSP and performance measures such as ROA.

The main aim of this study is to investigate corporate social performance and financial performance relationship with accounting based performance measures. Thus we postulated that there is a positive relationship between corporate social responsibility and financial performance of the firms.

3. Methodology

Principal component analysis (PCA) is a basic multivariate statistical analysis and it aims to derive a small number of independent linear combinations of a set of variables that retain as much information as possible in the original set of variables. If number of k principle components account for the most of the variance in the number of p original variables (p > k) then the dimension of the data set can be reduced from p correlated dimensions to k uncorrelated dimensions. Hence objective of the PCA is parsimony (Duntemann, 1989, 8).

PCA is performed on the covariance matrix of the data matrix or it is performed on the correlation matrix of standardized data matrix. One should standardize the data matrix, if the variances of variables differ from each other or if the units of measurement of the variables differ. This is necessary because if one variable has a much larger variance than all other variables, it will dominate the principal component scores regardless of the covariance structure of the original variables. Therefore, choosing to analyze standardized data matrix (studying with the correlation matrix rather than covariance matrix i.e.) involves deciding that all of the variables are equally important (Johnson, 1998, 108).

Under some important constraints, the main target in PCA is to find the transformation, which is given in equation 1,

$$Y = T'Z \qquad (1)$$

where, p denotes number of variables and n represents number of observations, Y is pxn dimension principal component matrix, T is pxp dimension transformation matrix and Z is pxn dimension standardized data matrix. More obviously, equation 1 can be rewritten as (2)

$$Y_1 = t_{11}Z_{11} + t_{12}Z_{21} + ... + t_{1p}Z_{p1}$$

$$Y_2 = t_{21}Z_{11} + t_{22}Z_{21} + ... + t_{2p}Z_{p1}$$

. . . . . (2)

. . . . .

$$Y_p = t_{p1}Z_{11} + t_{12}Z_{21} + ... + t_{pp}Z_{p1}$$

The first constraint is that i[th] component (i[th] column vector in Y matrix which is equal to $t_i'Z$) corresponds to the i[th] largest portion of the total response variance. In other words, first principal component has as largest variance as possible and second principal component has as second largest variance as possible and so on. This constraint implies that $\text{var}(t_1'Z) > \text{var}(t_2'Z) > ..... > \text{var}(t_p'Z)$. The second constraint is that each one of the components is linearly independent from others. That implies covariance between each of two components is equal to zero ($\text{cov}[t_i'Z, t_k'Z] = 0$ for $i \neq k$). Finally the last constraint is that each vector in the transformation matrix (T) is unit normal vector. That means,

$$t_1't_1 = 1 \qquad (3)$$

and this constraint is to rescale to make sure that the vectors are unique.

Let us X represents pxn dimension data matrix, S represents covariance matrix of X and μ denotes the mean for each of the variables in X. By using (4), one can get standardized data matrix:

$$Z = diag(S^{1/2})^{-1}(X - \mu) \qquad (4)$$

To get principal components matrix, in the first step one should compute pxp dimension R matrix, which denotes the correlation matrix of Z. Since in our case, Z is standardized matrix, its sample covariance matrix and its correlation matrix are the same. Therefore, R can be computed by using equation 5,

$$R = ZZ' \qquad (5)$$

In order to derive first principal component, the vector t_1 maximizes $\text{var}(t_1'Z)$. Moreover, $t_1't_1$ must be equal to 1. This is a maximization procedure of $t_1'ZZ't_1$ subject to $t_1't_1 = 1$. By using the technique of Lagrange multipliers, it is possible to write,

$$t_1'ZZ't_1 - \lambda(t_1't_1 - 1) = 0 \qquad (6)$$

and differentiating with respect to t_1 yields

$$ZZ't_1 - \lambda t_1 = 0 \qquad (7)$$

or

$$(ZZ't_1 - \lambda I)t_1 = 0 \qquad (8)$$

where, I represents pxp dimension identity matrix.

To derive the second principal component, $t_2'Z$ maximizes $t_2'ZZ't_2$ subject to $t_2't_2 = 1$ and $corr[t_1'Z, t_2'Z] = 0$. Therefore, in order to find second principal component, the quantity to be maximized is,

$$t_2'ZZ't_2 - \lambda(t_2't_2 - 1) - \delta(t_2't_1) = 0 \qquad (9)$$

Differentiating with respect to t_2 yields

$$ZZ't_2 - \lambda t_2 - \delta t_1 = 0 \qquad (10)$$

or

$$t_1'ZZ't_2 - \lambda t_1't_2 - \delta t_1't_1 = 0 \qquad (11)$$

$t_1'ZZ't_2$ and $t_1't_2$ are equal to zero because of $corr[t_1'Z, t_2'Z] = 0$ and δ must be equal to zero since $t_1't_1 = 1$. Therefore,

$$ZZ't_2 - \lambda t_2 = 0 \qquad (12)$$

or

$$(ZZ' - \lambda I)t_2 = 0 \qquad (13)$$

Repeating the same procedure, it can be shown that one can derive 3., 4., …., p^{th} principal components by using the vector of coefficients t_3, t_4,…….t_p which are the eigenvectors of R and corresponding values of $\lambda_3\ \lambda_4$ …… λ_p which are third biggest, fourth biggest, ……. p^{th} biggest (that is smallest) eigenvalue, respectively (Jolliffe, 2002, 6).

Consequently, it is possible to say that, principle components are independent from each others, each principal component has a variance which is equal to corresponding eigenvalue (λ) of R, the weights of original variables in each principal component is equal to corresponding eigenvector (t_i) of R, total variance of original variables is equal to total variance of principal components. Finally, explained variance ratio from i^{th} principal component (δ_i) is equal to

$$\delta_i = \frac{\lambda_i}{\lambda_1 + \lambda_2 + ...\lambda_p} \quad \text{for i =1, 2, ….,p} \qquad (14)$$

Although there are some different measures to decide how many numbers of principal components should be used in order to achieve desired explained variance, the common belief is that one looks for eigenvalues are greater than 1, when correlation matrix is used. Because a principal component cannot account for more variation than a single variable can by itself then it is probably not important (Johnson, 1998, 110). Therefore, principal components whose eigenvalues are less than 1 are often ignored[1].

[1] When the analysis is being done on standardized data, the variance of each standardized variable is equal to one.

PCA is often used in exploratory analysis of data and for developing predictive, data based models. There is a respectable amount of study on using PCA for constructing an index in different disciplines. For example, by using PCA, Vyas and Kumaranayake (2006) constructed a socio-economic status index, Cahill and Sanchez (2001) produced an index for economic and social development to Latin America and U.S., Khenari et all (2010) constructed an index for assessment of eutrophication in southern part of Caspian sea, Tatlıdil and Unal (2010) constructed sustainable development score for Turkish economy.

When constructing an index, there are some problems that have to be solved by researchers. The primary problem is choosing the component indicators. Most indices use only a few variables. However, it is often necessary to use more variables. Second problem, to produce a single index, underlying variables must be converted to the compatible scales in order to be combined. The third problem is the choice of weights for each of the original variables. This issue is not only implies to find appropriate weights for each original variable but also indicates that the value of correlation between original variables must be embraced by these weights[2]. From this viewpoint, PCA seems an appropriate technique. Since, it allows both for a large number of variables to be employed and to use correlation matrix, if it is needed instead of covariance matrix.

In order to get an index from principal component scores, firstly important principal components are to be decided. In the second step, these principal components (let say number of k principal components) are weighted, as sum of their variance explanation ratio is equal to one. Then sum of these weighted principal components yields related index. That means,

$$I = \sum_{i=1}^{k} \left[\frac{\delta_i}{\sum_{i=1}^{k} \delta_i} Y_i \right] \qquad (15)$$

where, I represents index scores. Finally, one use following equation 16 then I can be expressed over hundred[3] (Atabek, 2005, 9).

$$Index = \frac{(I - mean(I))}{(\sum |I - mean(I)| / T} + 100 \qquad (16)$$

[2] Detailed information can be found in Cahill and Shanchez, 2001.
[3] Here, *mean (I)* is equal to 0, because principal component scores are used.

4. Data Set and Findings

This study consist on *Istanbul Stock Exchange Corporate Governance Index* listed 28 companies which are ranked according to their corporate governance rating scores as companies that have high social responsibility scores. We include those companies return on asset, return on sales, Dept/asset ratio, total sales, number of employees and equity variables into the analysis in order to measure their financial performance.

The CSR construct has evolved from Bowen's (1953) early work on the social responsibility of the businessman and Davis's (1973) essay on the pros and cons of corporate social responsibility (CSR); to Carroll's (1979) CSR model of economic, legal, ethical, and discretionary domains; to Wartick and Cochran's (1985) addition of "issues management"; to Wood's (1991) seminal, multilevel, theoretical framework of the principles, processes, and outcomes of CSR. More recently, Mitchell et al. (1997) looked at one of Wood's (1991) three processes of CSR (i.e., stakeholder management) and suggested that power, legitimacy, and urgency are associated with the "salience" of firm stakeholders. Rowley (1997) advanced our thinking to include a network perspective on stakeholder management as part of Wood's larger CSR model. In consequence based on different multi dimensional approaches about corporate social responsibility conceptualizations, various measures have been used for measuring CSR(Carroll 2000). Rowley and Berman (2000) reported that corporate social responsibility have been measuring at least fourteen different way thus it was difficult to find out consistent and comparable results among research findings.(Rowley and Berman 2000)

CSR disclosure measurement consists of content analysis of annual reports, letters to shareholders, 10Ks,and a number of other corporate disclosures to the public as surrogates of CSR. Content analysis is employed to compare units of text against particular CSR themes in order to draw inferences about the organization's underlying social responsibility performance (Orlitzky et.al 2003, Abbott and Monsen 1979)A second approach to measuring CSR is the use of ratings such as F*ortune* magazine ratings of a corporation's 'responsibility to the community and environment' (for example, Conine and Madden 1987; Fombrun and Shanley 1990; Gatewood et.al 1993) ,Kinder, Lydenberg, Domini (KLD) ratings (Berman et al.,1999; Greening & Turban, 2000; Johnson & Greening, 1999; Turban & Greening, 1997) or CEP ratings (Chen and Metcalf 1980). On examining those researches we could notice that most research focuses on only 5 (employee relations, the natural environment, product quality, treatment of women and minorities, and community relations). Although these 5 dimensions are the ones most commonly used in CSR research, no empirical evidence has been presented to support the inclusion of these 5 dimensions over any others.

In this framework if we examining researches which were focused on CSR and financial performance relationship it was remarkable that authors accepted KLD index as social responsibility indexes. (Turban & Greening, 1997, 2000, Luce, Barber & Hillman 2001, Backhaus, Stone & Heiner 2002). KLD collects information regarding firms on five

primary corporate social responsibility dimensions: community relations, employee relations, diversity issues, product issues, and environment issues. The KLD rating scheme has been tested for construct validity by Sharfman (1996) and has been found to be one of the best measures of corporate social responsibility to date.

On the other hand, no academically or practically acceptable social responsibility ratings like in foreign countries exist in Turkey. Thus we accepted *Istanbul Stock Exchange Corporate Governance Index* listed companies (28 companies) which are ranked according to their corporate governance rating scores as companies that have high social responsibility scores.

"ISE Corporate Governance Index (XKURY) is the index in which companies applying Corporate Governance Principles are included. XKURY aims to measure the price and return performances of ISE listed companies with a corporate governance rating of minimum 7 over 10. the corporate governance rating is determined by the rating institutions incorporated by Capital Market Board in its list of rating agencies as a result of their assessment of the company's compliance with the corporate governance principles as a whole.

Unfortunately in Turkey a social responsibility and sustainability index does not exist like KLD ratings. For this reason we accepted the stakeholder sub-section *(which includes social responsibility performance)* score of the companies as social responsibility ranking scores. ISE Corporate Governance Indexs' (XKURY) stakeholder sub- section covered by 7 parameters such as companies policies about stakeholder, stakeholders participation on corporate management, conserve company assets, human resource policies, consumer and supplier relations, ethic rules and social responsibility performance. Than we were implementing content analysis on KLD ratings and ISE Corporate Governance Indexs' (XKURY) stakeholder sub- section parameters. Based on content analysis we noticed that stakeholder sub- sections' seven parameters mostly covered KLD ratings five diementions. Thus we accepted and used ISE Corporate Governance Indexs' (XKURY) stakeholder sub-section scores as 28 companies CSR scores than we rate them according to their scores for reaching CSR ratings.

In order to assess firms financial performance we used each 28 companies return on asset, return on sales, Dept/asset ratio, total sales, number of employees and equity variables into the analysis in order to accept their financial performance.

The Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO) is a measure for comparing the magnitudes of observed correlation coefficients with the magnitudes of partial correlation coefficients. The value of the KMO is equal to 0.751 which good to warrant interpretation of results. Moreover, Bartlett's Test of Sphericity is used in order to test the null hypothesis that whether the correlation matrix is an identity matrix. Bartlett's Test of

Sphericity with associated probability is less than 0.05 indicates that the correlation matrix is not an identity matrix.

Table 1: KMO and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.751
Bartlett's Test of Sphericity Approx. Chi-Square	150.96
df	36
p value	0.00

The communality for a given variable can be interpreted as the proportion of variation in that variable explained by the important principal components. Results in Table 2 indicate that variance explained by principal components for each one of the original variable is bigger than 0.50 seems appropriate the interpretation of PCA.

Table 2: Communalities

Variables	Variance
Return on Assets	0.731
Return on Equity	0.824
Return on Sales	0.784
Debt/Asset Ratio	0.749
Total Sales	0.691
Total Assets	0.807
Number of Employees	0.737
Equity	0.923
Profit	0.828

Table 3 shows the explained variance by principal components. According to Table 3, the first principal component accounts for 39% of the total variance. Second and third principal components explain 21% and 13% of total variance, respectively.

Table 3: Variance Explained by Principal Components

Component	Eigenvalues		
	Total	% of Variance	Cumulative %
1	**3.51**	**38.96**	**38.96**
2	**1.93**	**21.48**	**60.44**
3	**1.14**	**12.62**	**73.06**
4	0.83	9.20	82.26
5	0.66	7.37	89.62
6	0.45	5.03	94.65
7	0.29	3.22	97.88
8	0.18	1.96	99.83
9	0.02	0.17	100.00

In general, first three principal components explain 73% of total variance, whereas the other six principal components explain remaining total variation which is equal to 27% of total variance. According to these results, it is possible to say that first three principle components are important components whose eigenvalues are bigger than one and they explain enough variation in order to achieve remarkable dimensional reduction.

Table 4: Component Matrix

	Component		
Variables	1	2	3
Return on Assets	0.03	**0.77**	-0.20
Return on Equity	0.44	**0.76**	0.25
Return on Sales	-0.07	**0.73**	0.23
Debt/Asset Ratio	**0.79**	-0.26	0.21
Total Sales	-0.24	-0.03	**0.80**
Total Assets	**0.69**	-0.34	0.47
Number of Employees	-0.23	-0.07	**0.82**
Equity	**0.92**	-0.24	0.14
Profit	0.26	**0.76**	-0.34

The first principle component has three large loadings which are Debt / Assets Ratio (0.79), Total Assets (0.69) and Equity (0.92) and it reflects financial structure. The second principle component has four large loadings which are Return on Assets (0.77), Return on Equity (0.76), Return on Sales (0.73) and Profit (0.76). This component seems to reflect profitability. The third principal component has three large loadings which are Total Sales (0.80) and Number of Employees (0.82). It is clear that it reflects firm size.

Table 5: Components Scores

	Component Scores			Weighted Total		Component Scores			Weighted Total
	1	2	3			1	2	3	
ANADOLU EFES	0.67	0.57	-0.43	**0.45**	PRYSMIAN KABLO	-0.81	-0.46	-0.53	**-0.66**
ALBARAKA TÜRK	-0.17	-0.37	0.69	**-0.08**	PARK ELEK.MADEN.	-0.89	0.19	0.17	**-0.39**
ARÇELİK	0.89	0.43	-0.57	**0.50**	ŞEKERBANK	0.02	-0.51	0.46	**-0.06**
ASYA KATILIM BANK	0.24	-0.19	0.77	**0.20**	TAV HAVA LİMAN.	0.13	-0.42	-0.06	**-0.07**
AYGAZ	-0.03	0.69	-0.30	**0.13**	TOFAŞ OTO. FAB.	0.18	-0.10	-0.04	**0.06**
COCA COLA İÇECEK	0.04	0.26	-0.24	**0.06**	TURCAS PETROL	-0.96	0.50	1.01	**-0.19**
DENTAŞ AMBALAJ	-0.65	-0.59	-0.16	**-0.55**	T.S.K.B.	-0.65	1.58	-0.44	**0.04**
DOĞAN HOLDİNG	0.82	-1.58	-0.60	**-0.13**	TÜRK TELEKOM	2.85	1.21	-1.47	**1.62**
DOĞAN YAYIN HOL.	-0.61	-2.47	-0.64	**-1.16**	TÜRK TRAKTÖR	-0.28	1.75	-1.08	**0.18**
HÜRRİYET GZT.	-0.43	-0.79	-0.60	**-0.56**	TÜPRAŞ	1.73	0.57	-0.93	**0.93**
İŞ FİN.KİR.	-0.38	1.10	2.33	**0.52**	VAKIF YAT. ORT.	-1.01	0.80	1.25	**-0.09**
LOGO YAZILIM	-0.83	0.57	0.40	**-0.21**	YAZICILAR HOL.	-0.43	0.28	0.44	**-0.07**
OTOKAR	-0.40	0.54	0.04	**-0.05**	YAPI VE KREDİ BANK.	2.51	-1.65	2.74	**1.33**
PETKİM	-0.42	-0.31	-0.44	**-0.39**	Y VE Y GMYO	-1.13	-1.60	-1.78	**-1.38**

Table 5 shows the scores of first three principle components and their weighted sums according to equation 15. In order to express these weighted sums over hundred equation 16 is used and results presented in Table 6.

Table 6: Social Responsibility Index and Financial Indicators Index

	Social Responsibility Index	Financial Indicators Index
TUPRAS	98.21	102.21
SEKERBANK	97.89	99.86
YAPI VE KREDI BANK.	96.69	103.17
COCA COLA ICECEK	96.43	100.14
TSKB	95.7	100.10
TURK TRAKTOR	95.23	101.19
ARÇELIK	95.23	100.14
TOFAS OTO. FAB.	95.23	100.43
ASYA KATILIM BANKASI	95.13	100.48
PETKIM	92.68	99.07
OTOKAR	92.44	99.88
ANADOLU EFES	92.14	101.07
YAZICILAR HOLDING	91.66	99.83
TURK TELEKOM	91.52	103.86
AYGAZ	90.51	100.31
PARK ELEK.MADENCILIK	89.86	99.07
LOGO YAZILIM	89.21	99.50
DOGAN HOLDING	89.00	99.69
TAV HAVA LIMANLARI	88.80	99.83
IS FIN.KIR.	88.74	101.24
PRYSMIAN KABLO	88.13	98.43
VAKIF YAT. ORT.	83.33	99.79
HURRIYET GZT.	83.20	98.67
ALBARAKA TURK	80.40	99.81
DENTAS AMBALAJ	79.87	98.69
DOGAN YAYIN HOL.	78.18	97.24
TURCAS PETROL	73.33	99.55
Y VE Y GMYO	71.75	96.71

Table 6 also represents social responsibility index scores. To determine the relationship between two indices we used two nonparametric tests namely spearman's rho and runs test. Spearman's rank correlation coefficient is a statistical test for correlation between two rank-ordered scales. The two sets of variables are ranked separately and the differences in rank are calculated for each pair of variables. Table 7 below shows the value of Spearman's rank correlation coefficient, which is equal to 0.69, indicates that there is a positive and nearly strong relationship between two indices.

Table 7: Spearman's Rho

	Financial Indicator Index - Social Responsibility Index
Spearman's rho	0.69
Sig. (2-tailed)	0.00
N	28

Run test is a test of the null hypothesis that the values of given variable come in random order, against the alternative that they do not. The test is based on the number of runs of consecutive values above or below the mean of given variable. We apply run test to two different ordering. Firstly, we order the firms' financial indicator index values by using the social responsibility index order of firms. Secondly, we order the firms' social index values by using the financial index order of firms. Then we apply run test in order to test of the null hypothesis that sequence of the values come in random order. Table 8 shows the results of the test.

Table 8: Results of Run Test

	Financial Indicator Index	Social Responsibility Index
Test Value (Mean)	100.00	89.30
Cases Smaler Than Test Value	16	12
Cases Equal or Bigger Than Test Value	12	16
Total Cases	28	28
Number of Runs	10	6
Z	-1.66	-3.23
Asymp. Sig. (2-tailed)	0.10	0.00

According to Table 8, while the null hypothesis that firms' financial index values which are ordered by firms' social index order has a random sequence can not be rejected, the null hypothesis that firms' social responsibility index values which are ordered by firms' financial indicator index order has a random sequences can be rejected at 5% significance level. That means the bigger financial indicator index values are associated with bigger social responsibility index values. However, there is no statistically significant evidence that the bigger social responsibility index values are associated with bigger financial indicator index values.

4.Conclusion

The main aim of this study is to investigate corporate social responsibility and financial performance relationship with in the context of developing country conditions. Our results show that corporate social responsibility and accounting-based indicator has positive correlations. As also findings denoted there is caused based relationship existing between

variables however way of this relationship is range from financial indicators to social responsibility. In other words in Turkey, financial performance of the firms determine social responsibility performance of the companies.

In general, our analysis indicates that there is a remarkable positive relationship between financial indicators and social responsibility in Turkish context. Furthermore, the firms who have better financial indicator performance; they also have better social responsibility scores.

The limitation of the study is the lower number of the observed firms; however this problem exists as a major shortcoming of similar studies in developing countries.

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