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Does Corporate Social Performance Lead to Better Financial Performance?

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中央财经大学

硕士学位论文

学位论文题目: Does Corporate Social Performance Lead to
Better Financial Performance?

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Abstract: Capital Markets Board of Turkey (CMB) introduced Corporate Governance Principles of Turkey in 2003 in parallel with governance practices worldwide to bolster competitiveness of listed Turkish companies in global arena. As part of “the Principles”, listed companies are encouraged to report, disclose and comply with regulations of CMB with regard to relations with their stakeholder constituents. Despite the regulatory efforts by CMB and efforts on the part of listed companies with regard to compliance, the empirical research investigating whether these efforts are financially rewarding for listed firms or are they simply cost-incurring efforts remained rather scarce in Turkish context. To address that, by drawing on the theoretical insights of the instrumental stakeholder theory introduced first explicitly by Donaldson and Preston (1995) and developed formally by Jones (1995), the research herein is primarily motivated to empirically investigate the impact of corporate social performance (CSP), which is both defined and proxied in terms of establishing good relations with firms’ key stakeholder constituents by responding to their demands (i.e., performing well socially), on the financial performance of 47 publicly listed companies that are constituents of the BIST Corporate Governance Index (XKURY) over the period 2014-2018 under coverage via random effects and fixed effects panel data analysis. On the sample data at first, random effects and fixed effects estimations conducted on the models with ROA and Tobin’s q as the dependent variables respectively as well as CSP as the main independent variable along with control variables for risk, leverage, size and R&D intensity as well as indicators for time and industry. Estimation results clearly demonstrated that CSP positively and significantly affects the financial performance via both ROA and Tobin’s q after accounting for heteroskedasticity, serial correlation and cross-sectional dependence in residuals of the models with Driscoll and Kraay (1998) covariance matrix estimator. Though estimation results with regard to the models with ROA and Tobin’s q as the dependent variables, respectively, confirm both of this research’s hypotheses that CSP influences CFP positively, further check is also performed with the utilized CSP measure herein entered into regressions with lagged structure adopted preceding both CFP measures ROA and Tobin’s q to alleviate the potential endogeneity that might be induced by reverse causality from CFP to CSP as implied by slack resources theory. The estimation results regarding both random and fixed effects estimations performed on the models demonstrated that CSP influences CFP positively and significantly when lagged structure adopted via both ROA and Tobin’s q after correcting residuals for heteroskedasticity, serial correlation and cross-sectional dependence via Driscoll and Kraay (1998) covariance matrix estimator, thereby confirming both of this study’s hypotheses further. Besides, firm size affects ROA and Tobin’s q negatively whereas research and development intensity influences Tobin’s q positively. Furthermore, Leverage is found to have inverse U-shaped

relation with Tobin's q . And indicators for industry turn out to be joint determinants of ROA, corroborating the importance of controlling for industry specific factors. Overall, the obtained results showed that CSP is indeed an instrument for achieving better financial performance in that both short-term and long-term gains exist for select constituents of the sample. The research herein contributes to the literature in Turkish context by utilizing a CSP measure, which is stakeholder subsection scores assigned to the constituents of BIST XKURY index, that better captures both the multi-faceted nature of corporate social performance and the various stakeholder relationships in contrast to previously utilized measures that are either subjective or single-dimensional. While doing so, the empirical rigor is maintained in a way that case with regard to reverse causality from CFP to CSP is taken into account while potential misspecifications in the residuals of the models are dealt with so as to have reliable coefficient estimates of the impact of CSP on CFP by estimating models with Driscoll and Kraay (1998) covariance matrix estimator. Future research that is yet to be conducted on the topic within Turkish context shall focus on role of intangibles such as innovation, reputation, human capital and culture as mediators while investigating the impact of CSP on CFP, as suggested by Surroca et al., (2010), while taking into account endogeneity issues that might occur to improve understanding. While doing so, there should be a gap between accounting data and market values so that the market could fully process the accounting data as suggested by Fama and French (1992) and as in Schreck (2011). Ultimately, when warranted by adequacy of sample size, future research can also target specific industries to further the current state of the research on the topic.

Keywords: Corporate Social Responsibility, Corporate Social Performance, Corporate Financial Performance, Instrumental Stakeholder Theory

摘要

土耳其资本市场委员会（CMB）于 2003 年在全球范围内引入了土耳其公司治理原则，并与全球治理实践相结合，以增强土耳其上市公司在全球舞台上的竞争力。《原则》中某些条款鼓励上市公司遵守 CMB 报告，报告与披露与其利益相关方的关系。尽管 CMB 做了监管方面并且上市公司做了合规方面的努力，实证研究检验这些努力是否真的对土耳其上市公司有利益或则仅仅只是导致成本增加的文献仍然相当匮乏。

为了解决这个问题，本研究借鉴了由唐纳森（Donaldson）和普雷斯顿（Preston）（1995）首次明确提出并由琼斯（Jones）（1995）正式提出的工具性利益相关者理论，采用随机效应和固定效应面板数据，分析实证研究了企业社会绩效（CSP）对 47 家组成了 BIST 公司治理指数（XKURY）的上市公司 2014-2018 年财务业绩的影响。CSP 对于响应企业的重要利益相关者的需求来说，（例如良好的社会影响）既是既定的又是代理的。首先，在样本数据上，对本研究的模型进行随机效应和固定效应估计，分别以 ROA 和托宾 Q 为因变量，以 CSP 为主要自变量，以及风险，杠杆，规模和 R&D 强度的控制变量为时间和行业指标。估计结果清楚地表明，在使用 Driscoll 和 Kraay（1998）协方差矩阵估计器计算出模型的残差、异方差性、序列相关性和横截面相关性后，CSP 会通过 ROA 和托宾 Q 积极且显著地影响财务绩效。尽管本研究分别以 ROA 和托宾 Q 为因变量的模型的估计结果证实了本研究的两个假设，即 CSP 对 CFP 产生了积极影响，但也对本文使用的 CSP 度量进行了进一步的检验，将其纳入回归之前，对两个 CFP 度量采用滞后处理，减缓了从松弛资源理论角度看的从 CFP 到 CSP 反向因果关系可能引起的潜在的内生性问题。本研究模型的随机和固定效应估计的估计结果表明，在通过 Driscoll 和 Kraay（1998）的协方差矩阵估计器校正了异方差、序列相关性和横截面相关性的残差后，通过 ROA 和托宾 Q 采用滞后结构时，CSP 对 CFP 产生了正向显著的影响，从而进一步证实本研究的假设。此外，公司规模对 ROA 和托宾 Q 均具有负面影响，而研发强度对托宾 Q 则具有正向影响。并且，发现杠杆与托宾 Q 呈反 U 形关系。行业的指标也是 ROA 的另一个决定因素，证实了控制行业固定效应的重要性。

总体而言，实证结果表明，CSP 确实是获得更好财务业绩的一种工具，因为本研究样本的选定成分既有短期收益也有长期收益。本文研究通过使用 CSP 度量为土耳其语文献做出贡献，CSP 度量是给 BIST XKURY 指数成分的利益相关者分项打分，可以更好地捕捉企业社会绩效的多维度以及改善各种利益相关者关系以前使用的主观度量或一维度量的度量效率不足的问题。在研究过程中，本研究通过考虑从 CFP 到 CSP 的反向因果关系的情况保证了实证分析的严谨性，同时处理了模型残差中的潜在错误识别问

题，通过使用 Driscoll 和 Kraay（1998）协方差矩阵估计器估计模型，对 CFP 和 CSP 的关系研究可靠的系数。

根据 Surroca 等人（2010）的建议，在土耳其，在研究 CSP 对 CFP 的影响时，无形资产如创新、名誉、人力资本和文化可能是重要的中介变量，同时也要考虑内生性，这样能够增进本研究的理解。如果要这么做，正如 Fama 和 French（1992）以及 Schreck（2011）建议的那样，会计数据和市场价值之间应该有一个差距才能使市场充分处理会计数据。最后，如果有足够的样本量保证的话，将来的研究也可以针对特定的行业，以改进本文研究。

关键词：企业社会责任，企业社会绩效，企业财务绩效，工具性利益相关者理论

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1. Introduction

1.1) The Concept of Corporate Social Responsibility

According to the definition put forward by the European Commission (2019), Corporate Social Responsibility is defined as business enterprises' responsibility for the impacts that their activities create on the society. Businesses can become socially responsible by integrating social, environmental, ethical, consumer and human rights concerns into their day-to-day operations and business strategies, and at the same time by adhering to laws and regulations.

One of the early studies about the topic was Howard R. Bowen's book titled "Social Responsibilities of the Businessman", (Bowen, 1953), which was an initial attempt to examine the relationship between corporations and society. Bowen (1953) created the initial definition of the term CSR, which refers to a businessman's obligations to pursue policies, make decisions and take series of actions that are in line with the values of the society. Due to his early and seminal contribution, Carroll (1999) states that Howard R. Bowen is considered as the father of CSR and his book marked the beginning of the literature on the topic. Right after the publication of the Bowen's book, Heald (1957) mentioned a rising new aspect of American capitalism, which the author called an emergence of corporate conscience in his article, and described it as management's recognition of an obligation to the society not only for maximum economic performance but also for constructive social policies. Their contributions started the beginning of the CSR era and the following decades witnessed an increased focus on CSR.

The 1960s marked a significant growth in attempts to formalize and more clearly explain what CSR means. Among the most prominent writers in that period to define what is meant by CSR was Keith Davis, who continued to write extensively on the topic. Davis (1960) stated that the Social Responsibility¹ is the subtle idea and as such it is defined in various ways, and defined it as decisions and actions made by businessmen at least partially for reasons beyond the firm's direct economic interests. Besides, the author contended that businessmen are given social power which is a byproduct of their influence in the social environment and that the social responsibilities of businessmen need to be commensurate with their social power or otherwise gradual erosion of it will occur. The idea came to be known as the iron law of the CSR later on.

¹ Carroll (1999) posits that in the early writings on CSR, the term was more often referred to as Social Responsibility (SR) than as CSR. The author stated that it might be due to delayed prominence and dominance of the age of the modern corporation.

The 1970s witnessed the proliferation of definitions of CSR and a famous critique of CSR by a widely regarded economist, Milton Friedman. An important report which profoundly contributed to the concept of CSR by the Committee for Economic Development (CED) titled “Social Responsibilities of Business Corporations” came out in 1971. The CED (1971) noted that terms of the social contract between society and business are changing in important and substantial way and stated that business enterprises are asked to assume broader responsibilities to society rather than neglecting it by supplying goods and services, providing jobs, enabling purchasing power and producing majority of the wealth of the nation, as it has traditionally been required of. Then, the aforementioned critique of CSR in The New York Times Magazine on September, 13 by Milton Friedman, who later on was awarded the 1976 Nobel Memorial Prize in Economics, titled “The Social Responsibility of Business is to Increase Its Profits” appeared. Friedman (1970) explicitly posits that in a free enterprise system, a corporate executive² is an employee of owners of the business which makes him or her directly responsible to his employer. And that responsibility is generally to generate as much profit as possible while preserving conformity with the basic rules of the society, both those embodied in law and ethics. Then, the author goes about concluding that in a free society, there is one and only one social responsibility of business and that is to make use of the resources at hand and engage in productive activities designed to increase its profits insofar as it engages in free competition without fraud.

In 1973, Keith Davis again appeared on scenes in his article titled “The Case for and Against Business Assumption of Social Responsibilities”, wherein the author claimed that though the concept of social responsibility is not an easily defined one, the author defined it as firm’s consideration of and response to issues beyond narrow economic, technical and legal requirements of the firm (Davis, 1973). Besides, a landmark study came out in 1979 that proposed a four-part definition of CSR that is embedded in the author’s three-dimensional conceptual model of corporate social performance. Carroll (1979) defined the CSR by stating that the social responsibility of business comprises of economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time and then articulated on each part of the definition by stating that the first and foremost social responsibility of business is economic in nature, being referred to as economic responsibilities. The author argues that before anything else, business is an economic unit in society and as such, it is expected to utilize resources, employ a workforce, produce goods and services that society demands and sells them at a profit. All other responsibilities are predicated on the assumption

² Friedman (1970) contends that most of the discussion surrounding social responsibility (SR) is directed at corporations, so he neglects the individual proprietors and speak of corporate executives who are the agents of stockholders.

and satisfaction of economic responsibilities. Besides, society expects the business to assume and fulfill legal requirements while conducting its operations. In addition to economic and legal responsibilities that businesses should assume, there are ethical and discretionary responsibilities that are not necessarily defined within the law but are expected of business by members of society³.

The 1980s was important in the sense that it paved the way for more research on CSR and alternate themes such as corporate social performance, social responsiveness, stakeholder theory, and business ethics and interest toward empirical studies wherein researches come up with measures of CSR and analyze if it is linked to financial performance of corporation (Carroll, 1999). The considerably important study made by Thomas M. Jones is widely cited in this decade. Jones (1980) defined CSR by stating that CSR is a notion that corporations have an obligation to constituent groups in society besides shareholders and beyond that prescribed by law. And the author further goes about explaining the two facets of the definition by stating that the obligation must be assumed voluntarily rather than force, and the obligation is broad in the sense that it extends beyond shareholders to other groups in society such as customers, employees, suppliers and communities in which a corporation operates. Then, Carroll (1983) made an elaboration on the previously presented four-part definition in Carroll (1979) and explained that CSR involves conducting business in a way that is economically profitable, law-abiding, ethical and socially supportive. The author further states that being socially responsible in his perspective means that profitability and adherence to law are chief conditions before discussing a firm's ethics and the extent to which it contributes to the society with the resources it possesses. Then the author explains that CSR is comprised of four parts: economic, legal, ethical and voluntary or philanthropic⁴.

As mentioned previously, the decade of the 1980s witnessed an increased interest to operationalize CSR⁵ and investigate whether it has an impact on the financial performance of a corporation. Cochran and Wood (1984) and Aupperle et al., (1985) were one of the early and humble attempts. Throughout the decade of the 1990s, research focus diverted to alternative themes such as CSP, stakeholder theory, business ethics theory, and corporate citizenship. Carroll (1999) states that the CSR concept served as the base point for the above-mentioned

³ Carroll (1999) posits that, perhaps, it is inaccurate to call ethical responsibilities and discretionary responsibilities as responsibilities since they are at businesses' own discretion. Nevertheless, society expects businesses to assume and fulfill those responsibilities in addition to economic responsibilities and legal responsibilities.

⁴ At this point, it is worth noting that the author reoriented the discretionary responsibilities in his four-part CSR framework, (Carroll, 1979), as involving voluntarism or philanthropy.

⁵ What is meant by operationalizing is that starting from first half of the 1970s, initial attempts to examine whether it is economically advantageous for a firm to engage in socially responsible activities or not led to different measures of CSR by different writers in different studies. Hence, it herein stands for a measurement of CSR.

themes which embrace CSR thinking. In this decade, Carroll (1991) revisited his early four-part definition of CSR and depicted the previously stated four components of CSR within the “The Pyramid of Corporate Social Responsibility”. Carroll (1991) suggests that four categories of social responsibilities constitute total CSR; economic, legal, ethical and philanthropic. These four categories might as well be portrayed as a pyramid⁶. The below pyramid portrays the four parts of CSR, which taken together constitute the total CSR. It begins with the fundamental idea that economic performance acts as a base upon which other responsibilities are built. Besides, business is expected to obey the law since the law is society’s recognition of what is acceptable and what is not. In addition, the business has a responsibility to be ethical; that is an obligation to do what is right and fair, and avoid harm to its stakeholders such as employees, customers, creditors, environment, etc.

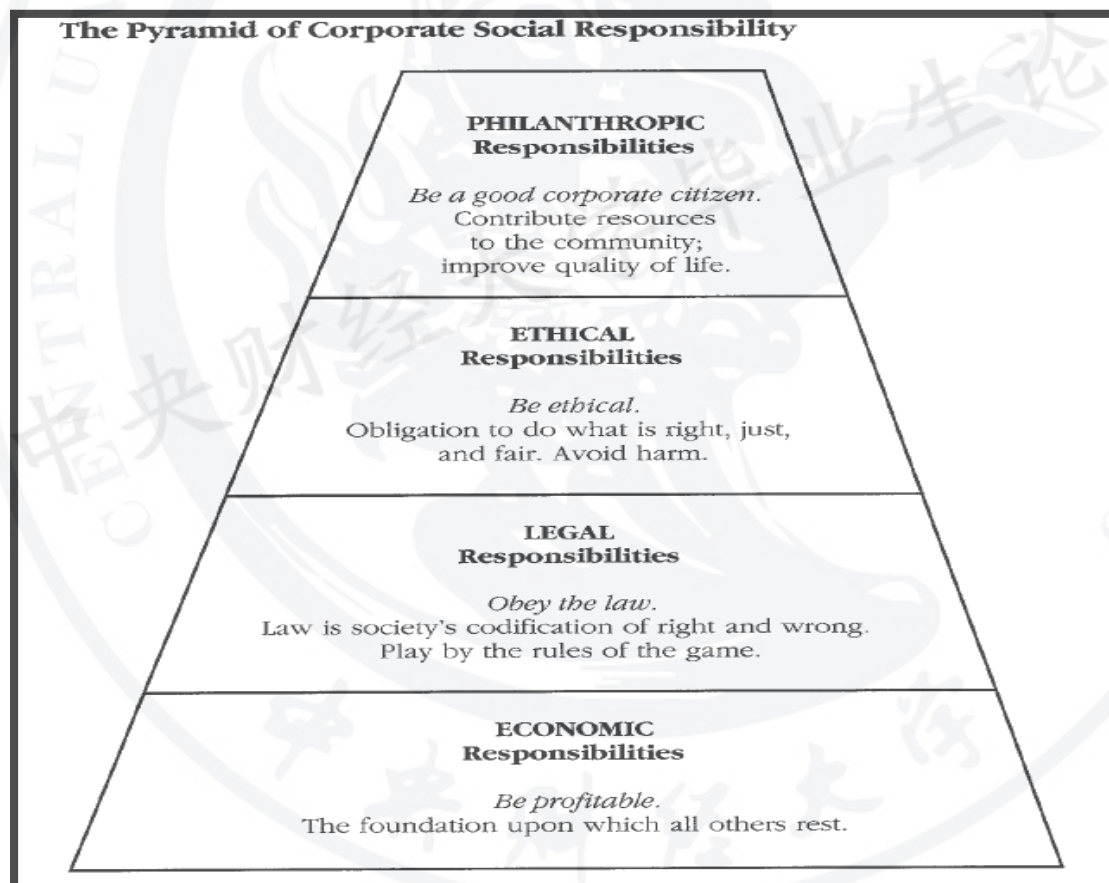


Figure 1: The Pyramid of Social Responsibility, (Carroll, 1991, p.42).

Finally, society expects businesses to be good corporate citizens, whereby devoting financial and human resources to the community for the improvement of quality of life. Additionally, the author integrates the four components of CSR with organizational stakeholders

⁶ The author articulates by stating that though economic responsibilities category serves as a base upon which all other responsibilities are built and businesses should not fulfill these responsibilities sequentially, rather they should be fulfilled simultaneously.

by arguing that there is a natural fit between the idea of corporate social responsibility and the organization's stakeholders. He further contends that the concept of stakeholder helps identify societal responsibilities by clarifying which specific groups business should consider in its CSR orientation.

In the 2000s, attention is mostly given to measurement initiatives of CSR, and more and more empirical studies trying to examine whether socially responsible initiatives of businesses yield financial gains or are they simply cost incurring activities?

1.2) The Concept of Corporate Social Performance

1970s witnessed significant efforts to define and conceptualize the CSP. Carroll (1979) was a notable study that comprehensively describes three essential aspects of corporate social performance model; what is included in social responsibility? what are the social issues that the organization must address? and what is the organizations' philosophy of social responsiveness?

The first aspect of the three-dimensional corporate social performance model that is displayed in below Figure 2 pertains to the definition of social responsibility, which the author defines as having four components; economic responsibilities, legal responsibilities, ethical responsibilities, and discretionary responsibilities. The second aspect concerns the array of social issues such as environment, shareholders, occupational safety, and so on⁷. The author argues that while developing a conceptual model of corporate social performance, one needs not only to think about kinds of responsibilities that business has but also think of social issues to which these responsibilities are tied. However, there is by no means agreement pertaining to what these issues are since they change with time and industry. The final aspect addresses the mode or philosophy of business response to social issues; that is social responsiveness. As evident from Figure 2, the author presents a responsiveness continuum that embodies four different responses; reaction, defense, accommodation and pro-action⁸.

⁷ Social issues presented herein are illustrative since, as pointed out by the author, they vary by industry and tend to change with time.

⁸ Carroll (1979) argues that social responsiveness should not be thought of as alternative to corporate social responsibility. According to the author, it is rather the action phase of management responding to relevant social issues within its environment.

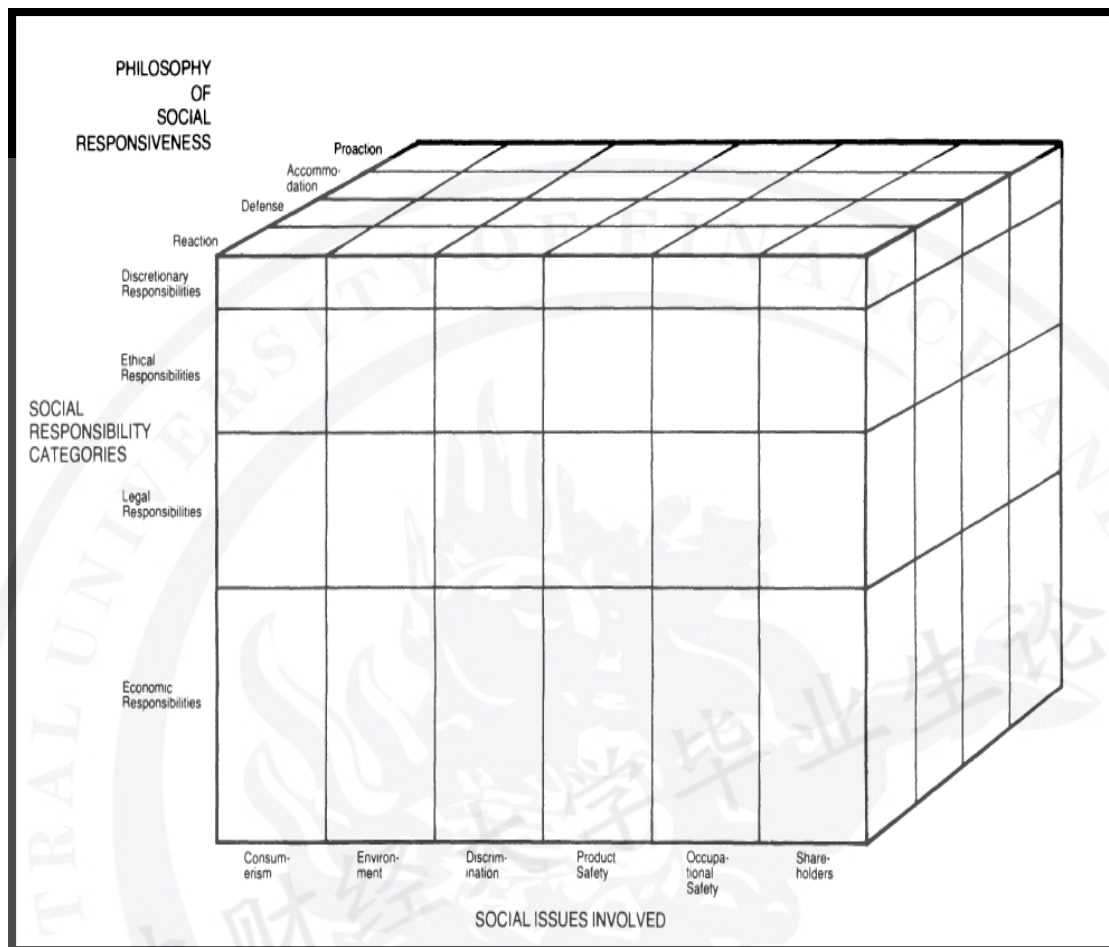


Figure 2: Three-dimensional Corporate Social Performance Model, (Carroll, 1979, p. 503)

Another contribution to the concept of CSP as a more comprehensive theory, under which CSR can be subsumed, is the study conducted by Wartick and Cochran (1985). The authors' corporate social performance model is an extended version of Carroll's (1979) three dimensional CSP model which integrates social responsibility, social issues, and social responsiveness. The distinctive feature of Wartick and Cochran (1985)'s model is that Carroll's (1979) three-dimensional corporate social performance model is viewed through the framework of principles, processes, and policies. What is new in the authors' model is that they introduced the social issues management as a third dimension which the authors call as the final necessary dimension for their CSP model. As evident from below-displayed Figure 3, the authors' CSP model rests on the principles of social responsibility, the processes of corporate social responsiveness and the policies of issues management⁹. The authors explain that issues management is classified into public issues management, strategic issues management, and social issues management. They argue that although the process and purpose of issues management in each area is substantially the same and that is to mitigate the surprises resulting from the turbulent business environment and initiate systematic and interactive responses

⁹ The authors elaborate that each component of the CSP model has its distinctive direction and orientation. Nonetheless, in total, they provide an integrated conceptualization of corporate social involvement.

to environmental change, the process of issues management¹⁰ varies from organization to organization. However, in general, it consists of three stages: issue identification, issues analysis, and response development.

Principles	Processes	Policies
Corporate Social Responsibilities	Corporate Social Responsiveness	Social Issues Management
(1) Economic (2) Legal (3) Ethical (4) Discretionary	(1) Reactive (2) Defensive (3) Accommodative (4) Proactive	(1) Issues Identification (2) Issues Analysis (3) Response Development
Directed at:	Directed at:	Directed at:
(1) The Social Contract of Business (2) Business as a Moral Agent	(1) The Capacity to Respond to Changing Societal Conditions (2) Managerial Approaches to Developing Responses	(1) Minimizing "Surprises" (2) Determining Effective Corporate Social Policies
Philosophical Orientation	Institutional Orientation	Organizational Orientation

Figure 3: The Evolution of Corporate Social Performance Model, (Wartick and Cochran, 1985, p.767).

In the early 1990s, an important study conducted by Wood (1991), which defined and revisited the term CSP, offered a model which is primarily built on Carroll (1979) and Wartick and Cochran (1985)'s model. Wood (1991) argued that the theoretical framework and impact of the CSP concept have not gone much beyond Wartick and Cochran (1985)'s elaboration. The author continues by stating that Wartick and Cochran (1985)'s definition of the CSP model presented conceptual advance in researchers' thinking but it left some issues not addressed. First of all, the author posits that the term performance refers to actions and outcomes instead of integration or interaction. So, unless the definition of the CSP concept includes an action or outcome component, it would not be complete. Secondly, the author affirms that Wartick and Cochran (1985)'s argument that within the CSP model social responsiveness complements but does not replace social responsibility, as emphasized by Carroll (1979). However, the formulations of social responsiveness dimension by Carroll (1979) and Wartick and Cochran (1985) as reactive, defensive, accommodative and proactive might be the characterization of various organizational responses to social pressures but they are not themselves processes Wood (1991). Third, the author considers Wartick and Cochran (1985)'s final CSP component restrictive and argues that relying on policies to address social

¹⁰ The authors argue that issues management is not of proper use in reality because responses, instead of issues, are managed.

issues and to reflect the outcomes of social performance bears the risk that if a policy does not exist, one could not imply that no social performance exists. Finally, the author criticizes that almost entire literature pertaining to the CSP concept takes on connotations such as good or bad. However, these are actually misinterpretations of the concept itself. She bases her critique on the idea that every firm can be evaluated on its social performance and the outcome of evaluation can yield both positive and negative results. By taking heed at aforementioned drawbacks, the researcher takes the CSP concept a step further and proposes a description of CSP as: “a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships” (Wood, 1991, p. 693) and builds a model as portrayed in Figure 4.

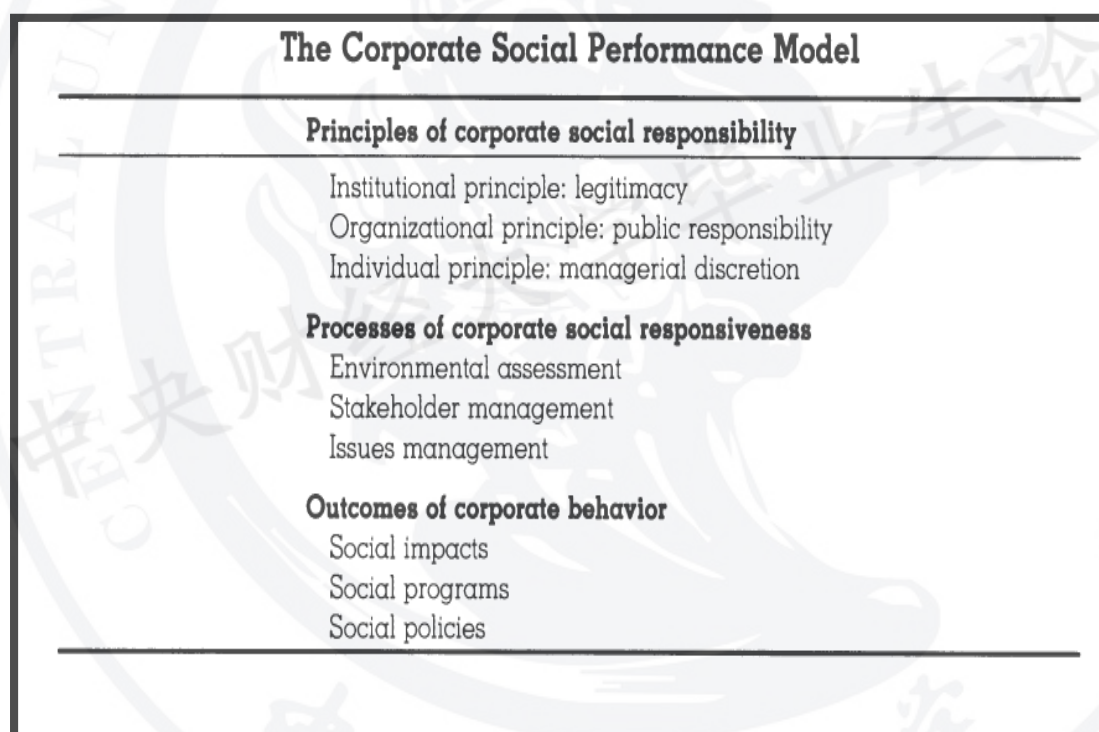


Figure 4: The Corporate Social Performance Model, (Wood 1991, p. 694).

Wood (1991) posits that the basic idea of social responsibility is that business and society are interdependent rather than separate entities. Therefore, society anticipates appropriate business behavior and outcomes. The author further states that Carroll's (1979) categorization of the principles of CSR as economic, legal, ethical and discretionary can be better seen as domains within which principles are implemented but not as principles themselves, and that the previous literature's specification of principles of CSR has not distinguished three conceptually distinct but related phenomena; namely, expectations placed on businesses due to their roles as economic entities at institutional level, expectations placed on particular firms

owning to what they are and what they do at organizational level and expectations placed on managers as moral actors at individual level.

The institutional level principle of legitimacy has its roots in Davis's (1973) iron law of responsibility. As a societal level concept, it describes that businesses' responsibility is to avoid abusing its power or otherwise it would be stripped of it. Additionally, the organizational level principle of public responsibility, which is derived from Preston and Post (1981), explains public responsibility as businesses being responsible for outcomes related to its primary and secondary areas of involvement. The area of primary involvement is defined as the business's own operations and the area of secondary involvement is described as consequences emanating from businesses' own operations. This principle ensures that social responsibilities be relevant to a firm's own operations. Lastly, the individual level principle of managerial discretion explains that managers are moral actors and as such they must direct their discretion toward socially responsible outcomes. This principle is derived from Carroll's (1979) discretionary responsibilities.

The second facet of the CSP model, processes of corporate social responsiveness, consists of three main areas; environmental assessment, stakeholder management, and issues management. Wood (1991) argues that responsiveness is an ecological concept that suggests organizational survival through adaptation to changing conditions within the business's own environment. The idea behind the concept is that firms must have a grip on the external environment so as to better respond or adapt to it. The second area, stakeholder management, owes its root to the Freeman (1984) that defines stakeholders as: "a stakeholder in an organization is any group or individual who can affect or is affected by the achievement of the organization's objectives" (p. 46). Carroll (1999) states that Freeman's (1984) stakeholder concept puts names and faces on societal groups that are prioritized by business and elaborates as to whom business must be responsive. Finally, the third area issues management, which Waddock and Cochran (1985) incorporate as the third dimension to their CSP model, is thought of by the author as one amongst the processes of social responsiveness rather than being a final dimension within the CSP framework.

The final dimension of the author's CSP model, outcomes of corporate behavior, comprises of social impacts of corporate behavior and corporate social programs and policies developed for the purpose of handling relevant social issues and stakeholder demands. The author states that the final dimension of the CSP model is the only part that is observable and measurable since principles and processes might not be easily observable.

Though there exist additional efforts to refine¹¹ the CSP model proposed by Wood (1991), Carroll (1994) finds out through a survey of 50 experts in social issues in management field, also referred to as business and society, that Wood's (1991) mostly cited CSP model, which is built upon and extension of the corporate social performance models developed by Wartick and Cochran (1985) and Carroll (1979), is found to be most sophisticated and promising work at the time for the future work in the field.

After having presented the concepts of CSR and CSP, the remainder of the research is structured as follows; in the next section, the review of the previous literature that analyzes the link between CSP and CFP will be presented along with the literature in the Turkish context, which is reviewed under the separate subsection. In what follows, the main hypotheses subject to testing herein will be presented within cogent theory along with model specifications. Next, the data pertaining to the measures of CSP and CFP will be presented along with the select control variables eloquently. Then in what succeeds, initial diagnostic tests as well as the estimation results will exhaustively be presented, only to end with conclusion, contributions and limitations that will hopefully serve as a useful guide for future research.

¹¹ See the article by Swanson (1995).

2. Literature Review

There have been many studies investigating the relationship between CSP¹² and CFP. This relationship has been subject to continuous inquiry commencing from the early 1970s (Bragdon & Marlin, 1972; Moskowitz, 1972) to date. Nonetheless, the findings of empirical literature lacked any consensus (Beurden & Gössling, 2008; Griffin & Mahon, 1997; Margolis et al., 2009; Orlitzky et al., 2003; Ullmann, 1985). The empirical literature can be sorted into three groups. The first group includes studies that portray the positive relationship between CSP and CFP. The second group comprises of studies that display the negative relationship between CSP and CFP. Lastly, the third group involves studies that show a neutral relation between CSP and CFP.

2.1) Positive Relation

Moskowitz (1972) and Bragdon and Marlin (1972) were among the earliest studies that investigated the relationship between a corporation's socially responsible activities and its financial performance. Moskowitz (1972) presented companies whose names appear with regard to positive and constructive responses to social problems and tested empirically how these fourteen companies' stocks perform in comparison to a select benchmark index during the first half of 1972. The author found that the stocks of the select fourteen appreciated an average of 7.28 percent outperforming the benchmark indexes. Thus, the author concluded that socially responsible companies are also the ones that perform well financially. Bragdon and Marlin (1972) compared pollution control records, which stands as a proxy for CSP, released by Council on Economic Priorities (CEP) of 17 companies to their profitability measures by focusing on pulp and paper industry with the aim of refuting the established orthodox economic view that postulates that managers can only control pollution or maximize profits and the former can only be achieved at the expense of the latter. They employed different measures of profitability; namely, average EPS (earnings per share) growth, average ROE (return on equity), average ROC (return on capital), and measured pollution control adequacy by three indexes derived from CEP's survey in 1971. The findings showed that all three of the pollution control indices are highly positively correlated with earnings growth and average ROE, confirming the authors' contention that companies can do well while doing a good job at controlling the pollution emanating from their operations.

Parke and Eilbirt (1975) investigated the relationship between profitability and social responsibility. For this purpose, the authors initially conducted a survey so as to investigate actions taken toward social responsibility by 96 major corporations from the 1971 Forbes

¹² In the extant literature, researchers used phrases such as treatment of CSR, operationalization of CSR, and so on. Although these phrases seem different, they are interchangeably used for the corporation's social performance.

Roster of the country's biggest corporations list. Then, they utilized corporate data by Fortune for the top 500 industrial firms published in Fortune's May 1973 issue and removed 16 of 96 previously select corporations, then divided their sample into three categories as; Fortune 500 less previously investigated 80 corporations, the entire Fortune 500 list and 80 respondents that are considered by the authors to be more socially responsible. Besides, they employed four different measures of profitability, namely, net income, ROE, net profit margin and EPS. Their findings exhibited that the select socially responsible 80 corporations outperform other groups according to median figures of the aforementioned profitability measures, confirming a positive relationship.

Cochran and Wood (1984) is another study that examined the link between the corporation's socially responsible activities and its financial performance. The authors utilized two different time intervals to make use of increased sample size; the first interval 1970-1974 contains 39 firms from 29 industries and the second time interval 1975-1979 includes 36 firms in 28 industries. As a measure of social responsibility, the combined Moskowitz list where Milton Moskowitz rated a number of firms either as best, honorable mention and worst (Moskowitz, 1972; 1975). As for the measure of financial performance, the ratio of operating earnings to assets, the ratio of operating earnings to sales and excess market valuation used. Initial results from the analysis of covariance showed that with operating earnings to sales and excess market valuation as the dependent variables, firms with best ratings outperform the ones with honorable ratings, which in turn outperform those firms rated as worst in terms of their socially responsible activities. However, with operating earnings to assets ratio as a dependent variable, the firms rated as honorable mention perform slightly better than those rated as best. To elaborate on this finding, two additional variables are introduced; namely, asset turnover and asset age. After the inclusion of these two control variables, results portrayed that the correlation of CSR with financial performance is positive but weak.

Preston and O'Bannon (1997) analyzed the link between CSP and CFP by utilizing largest database covering the period 1982-1992 for 67 firms and mapped all CSP-CFP relationships namely; available funding hypothesis, social impact hypothesis, trade-off hypothesis, managerial opportunism hypothesis, positive synergies hypothesis and negative synergies hypothesis to their date. The authors utilized as a proxy for the CSP the scores on three attributes of the Fortune¹³ magazine's reputation survey; namely, responsibility to the community and environment, ability to attract and keep talented people and quality of products and ser-

¹³ Since 1982, Fortune magazine has published the list of America's most admired companies based on eight qualitative attributes; namely, overall management quality, quality of products and services, long-term investment value, innovativeness, financial soundness, ability to attract and keep talented people, responsibility to the community and environment, and wise use of corporate assets that are rated on a scale from 0 (poor) to 10 (excellent). Then, a given company's overall rating is found as simple average of scores assigned to each of the eight individual attributes.

vices reflecting such stakeholder groups as employees, customers, and the community. As for financial performance, ROA, ROE, and ROI (Return on Investment) used. Results evidenced that there is a positive correlation between CSP and CFP in both contemporaneous and lead-lag formations, thus supporting both the positive synergies and available funding hypothesis, which states that having slack resources at hand from prior good financial performance improves social performance.

Waddock and Graves (1997a) addressed the question of whether corporate social performance is linked to financial performance and if that is indeed the case, in what direction the causation runs. Consequently, the 1990 KLD¹⁴ ratings assigned to 469 companies in the S&P 500 index are utilized as a proxy for CSP. As for the financial performance, the data regarding ROE, ROA, and ROS (return on sales) of 1989 and of 1991 are obtained along with control variables for size, risk, and industry. Findings portrayed that prior CFP leads to improved CSP, validating the slack resources hypothesis, which is also referred to as available funding hypothesis as in Preston and O'Bannon (1997). Besides, CFP is found to depend on CSP and the relationship is positive, confirming the authors' good management hypothesis, which states that firms that perform well in terms of social issues also do well financially. Overall, the results point toward the existence of the virtuous circle between CSP and CFP. Further, the objection by neo-classical economists such as Friedman (1970) who states that CSP is not aligning with the objective of shareholder wealth maximization is refuted by these findings.

Orlitzky et al., (2003) presented a meta-analytic review of previously conducted 52 studies over 30 years period examining the link between CSP and CFP and concludes that the corporate virtue in the form of CSP pays off. In another meta-analysis, Margolis et al., (2009) analyzed 251 studies conducted during the 1972-2007 period in the search for answers to the questions; Does it pay to be good? Does it matter? The authors' findings showed that there is a significant positive relationship between CSP and financial performance though it is small. Thus, it is evident that CSP doesn't seem to penalize companies.

Choi et al., (2010) examined the relationship between CSP and CFP with 1222 firm-year observations during the 2002-2008 time period while addressing the endogeneity issues by utilizing two-stages least squares regression analysis (2SLS). The authors made use of a multidimensional index for their CSP measure which evaluates social performance on eight

¹⁴ KLD (Kinder, Lydenberg & Domini) is a social choice investment advisory firm that focuses on assessment of CSP across range of stakeholder related dimensions; namely, community relations, employee relations, environment, product characteristics, and treatment of women and minorities and issue areas such as military contracting, participation in nuclear power, and involvement in South Africa that were relevant at the time of the authors' study. The five stakeholder related attributes are rated on a scale from -2 (major concern) to 0 (neutral) to +2 (major strength) while rest three issue areas are only rated on a scale from major concern to neutral.

distinct dimensions. Based on the index, equally-weighted CSR index and stakeholder-weighted CSR index, which reflects the relative importance of each stakeholder group to firm according to its industry, are created as a proxy for social performance. As for financial performance, both market-based and accounting-based performance measures applied; namely, ROE, ROA, and Tobin's q while controlling for size, risk, R&D and lagged sales growth as a control for past financial performance. The researchers' findings showed that there is a significant positive relationship between CSP and financial performance when social performance is measured by the stakeholder-weighted CSR index.

Marti et al., (2015) investigated whether a firm's social performance has a positive impact on CFP for the 2007-2010 period by sampling 153 firms in Stoxx Europe Sustainability Index, which is a subset of Stoxx Europe 600 Index, that are screened with regard to various social, environmental and governance criteria and then those which are granted positive ratings being included in Stoxx Europe Sustainability Index. After controlling for size, industry, country, risk, financial slack, R&D expenditures and year, the results of the study, wherein the dummy variable for the inclusion in the index used as proxy for CSP as well as accounting-based measures ROE and ROA along with market-based measure Tobin's q taken as proxy for CFP, revealed that CSP is found to positively affect the financial performance.

Shahzad and Sharfman (2017) examined whether CSP has a positive impact on CFP by taking into account the sample selection bias, which the authors argued as having plagued previously conducted studies that sampled those firms whose social performance is ranked by investment advisory firms such as KLD. For CFP as a dependent variable, Tobin's q is taken as proxy and combined CSP score derived from the KLD Socrates database over five stakeholder related dimensions¹⁵ while controlling for size, R&D, risk, past performance and industry. The results showed that CSP impacts the CFP positively after the selection bias is corrected.

¹⁵ The authors select dimensions of community, diversity, employees, environment, and product out of seven dimensions that KLD Socrates database addresses and summed the strengths and concerns separately across the five dimensions. Strengths and concerns are on a scale from 0 to 30, leading to two different sub-scores; CSP strengths (firm's mean strength scores over five dimensions) and CSP concerns (firm's mean concern scores over five dimensions). Then, concern scores are subtracted from strength scores to reach combined CSP score.

Study	CSP	CFP	Control Variables	Sample Size	Result
Moskowitz (1972)	Self-selected	Appreciation in stock price (1/1972-7/1972)	none	14 firms	Positive Correlation.
Bragdon and Marlin (1972)	CEP's Pollution Performance Records	Average ROE Average ROC EPS growth	none	17 firms from the paper and pulp industry included in the CEP's survey	Positive Correlation.
Parket and Eilbirt (1975)	Existence of Socially Responsible Activities from Annual Reports	Net Income, Net Profit Margin, ROE, EPS	none	80 Self-selected Fortune 500 firms	Positive correlation with all CFP measures.
Cochran and Wood (1984)	(1972-1975) Moskowitz's 3 CSR categories	Operating Earnings/Assets, Operating Earnings/Sales, EV (Excess Market Valuation)	Industry, Asset age, Asset turnover	39 firms (1970-1974), 36 firms (1975-1979).	Positive but weak correlation.
Preston and O'Bannon (1997)	Fortune Reputation Survey (3 attributes)	ROA, ROE, ROI	none	67 firms	Positive correlations between lead/lag CSP and CFP measures
Waddock and Graves (1997a)	KLD Ratings (8 attributes)	ROA, ROE, ROS	Size, Risk, Industry	469 firms	Prior CFP is positively related to CSP, CSP is positively related to subsequent CFP.
Orlitzky et al., (2003)	-	-	-	A meta-analysis of 52 studies	Corporate virtue in the form of social performance pays off.

Margolis et al., (2009)	-	-	-	A meta-analysis of 251 studies	CSP has a significant positive effect on CFP, but the effect size is small.
Choi et al., (2010)	Equally-weighted CSP, Stakeholder-weighted CSP	ROA, ROE, Tobin's q	Size, Risk, Industry, Year, R&D Expenses and Sales Growth	1222 firm-year observations	Stakeholder-weighted CSP affect CFP positively.
Marti et al., (2015)	Inclusion in the Stoxx Europe Sustainability Index	ROA, ROE, Tobin's q	Industry, Country, Size, Risk, R&D, Year and Financial Slack	153 firms	CSP positively affects the CFP.
Shahzad and Sharfman (2017)	Ratings from KLD Socrates database	Tobin's q	Industry, Size, R&D, Risk and Past performance	2581 firms	After controlling for sample selection bias, CSP is found to have a positive impact on CFP.

Table 1: Summary of studies reporting positive correlation or relationship between the CSP and CFP.

2.2) Negative Relation

Vance (1975) was amongst the early attempts to report a negative relationship between CSP and CFP by utilizing the 14 companies that were previously screened and select by Moskowitz (1972) and considered as those with solid social responsibility credentials. An update of Moskowitz's (1972) study made with the performance evaluation of pre-select 14 firms from January, 1972 to January, 1975. Contrary to the finding by Moskowitz (1972), the results portrayed that the firms' performance measured as the percentage change in firms' stock prices during this period turned out to be considerably worse than that of benchmark indexes. Therefore, it was concluded that socially responsible corporations are not good investments worth undertaking. For further validation of this finding, Vance (1975) went on to make use of two additional surveys that encompass ratings and rankings of 45 major corpora-

tions by businessmen and business school students. Results evidenced that during the one-year period from 1974 to 1975, those corporations that are rated favorably emerged as losers while those that are rated as having poor social performance emerged as winners regardless of the survey of choice.

Shane and Spicer (1983) investigated security price movements associated with the release of eight major studies by CEP of firms' environmental performance with regard to pollution prone industries throughout 1970 and 1977. The total sample comprises 103 firms of which 65 are included on days -4 and -3, 72 on days -2 and -1 and 64 on days 0 and 1. Initial results of the authors' event study wherein the expected returns are estimated within 100 days and are based on mean-adjusted returns and an event window is set to start from four days prior to and extend up to one day after the event day evidenced that firms that are subject to the CEP's studies experience overall significant and negative abnormal returns two days prior to the release of the reports on the newspapers. Further, the results wherein authors classified the firms according to their pollution control performances as high and low performers showed that low performers suffered more negative price reaction than high performance on the day of the reports' release, confirming that investors penalize firms with low pollution control performance.

Davidson and Worrell (1988)¹⁶ set out to analyze the impact of corporate illegalities on shareholders' returns through an event study analysis. The authors' total sample comprised of 131 events of illegalities conducted by 96 companies. The results wherein the market model used to compute returns showed that the existence of negative and statistically significant cumulative abnormal returns (CAR) found one day before the event date, confirming that the investors penalize the companies that involved in socially irresponsible acts. Besides, there exists no statistically significant negative or positive CAR on the event day.

Moore (2001) focused on 8 firms that operate in the UK supermarket industry and investigated the relationship between CSP and CFP. The author chose six dimensions related to stakeholders; namely, employees, customers, shareholders, suppliers, community and environment, firms' acknowledgment of responsibilities to these stakeholders and rated the 8 firms on a scale from 0 to 10 over each of these dimensions based on data disclosed and amalgamated assigned scores into a combined score by weighing each dimension equally. Results, wherein the combined score stood as proxy for CSP and growth in turnover, profitability, return on capital employed (ROCE), and EPS used as proxy for CFP, pointed toward a negative relation between contemporaneous CSP and CFP and a positive relation between

¹⁶ As put forth by Griffin and Mahon (1997), majority of studies that reported negative relationship between CSP and CFP examined investor reaction either toward corporate illegalities or pollution control records.

prior CFP and subsequent CSP confirming both negative synergy hypothesis and slack resources hypothesis that were previously mapped by Preston and O'Bannon (1997).

López et al., (2007) examined whether firms' adoption of CSR practices, which stood as proxy for CSP, has an impact on their financial performance. The study did so by selecting 110 firms which were placed in the Dow Jones Global Index (DJGI) and divided them into two sub-categories as the first 55 firms that are ratified to take part in Dow Jones Sustainability Index (DJSI) due to their adaption and implementation of CSR practices and the rest that are not included in DJSI but in the DJGI. Then, the authors went on to check whether the adoption has an impact on firms' financial performance by employing growth of profit before tax as the dependent variable along with the dummy variable for the adoption by firms of CSR practices as well as revenue growth while controlling for size, industry and risk. The results of the regression analysis conducted within two 3-year time frames revealed that during 1999-2001, the CSP has a negative impact on the CFP but the effect is not significant. However, for the period 2002-2004, the CSP is found to have a significant negative impact on the CFP¹⁷, validating the authors' contention that the adoption of socially responsible practices involves costs and therefore negatively affects the CFP.

Makni et al., (2009) checked whether a causal link existed between CSP and CFP for 179 publicly listed companies for the years 2004 and 2005. The study's models incorporated aggregate CSP score¹⁸ and scores for each individual dimension as proxies for the CSP measure along with compounded stock returns, ROE and ROA as proxies for CFP measure while controlling for size, risk and industry. The initial results showed that CFP does not Granger cause aggregate CSP, valid for all the proxies of the CFP. On the other hand, the negative unidirectional causal relationship is found between the aggregate CSP measure and stock market returns in that higher social performance causes lower returns. Further, the results checking causality between the individual CSP dimensions and the financial performance measures displayed that there existed negative unidirectional causal relationship between the employee dimension and stock returns while the negative unidirectional causality is found to exist between the environment dimension and all three financial performance measures, wherein the direction runs from the CSP to the CFP in both cases, confirming the trade-off hypothesis which states that investments in CSP does not compensate the costs incurred from doing so.

¹⁷ Authors, by utilizing non-parametric test, checked whether there is difference between performance indicators during two intervals subject to analysis. During 1999-2001, no differences were found whereas during 2002-2004 showed differences between the two groups of firms.

¹⁸ The data pertaining to the aggregate CSP score and the scores of its dimensions are obtained from Canadian Social Investment Database (CSID) by the authors. The individual dimensions of the authors' CSP construct includes; namely, community and society, corporate governance, employees, customers, environment and human rights.

Doh et al., (2010) tested whether the inclusion in or deletion from the Calvert Social Index¹⁹ (CSI) had an impact on the firm value by employing event study methodology, analysis of differences and stepwise regression analysis. The study covered six years from 1 January 2000 to 31 December 2005 and was confined to 65 deletions and 56 additions to CSI that occurred during the six years period and set the event date as the earliest date that changes pertaining to the index released in the financial press. The event window was set to begin from one day before and extended up to two days after the announcement of deletions and inclusions. Results of the event study showed that there existed negative and statistically significant abnormal returns for deletions on the first day suggesting that there exists a negative shareholder wealth effect regarding the deletions. In addition, preannouncement differences in financial performance for inclusions and deletions were investigated. Findings of the analysis of differences wherein operating income/total assets ratio is utilized as the proxy for CFP portrayed that the performance is higher for firms that are being included than firms that are deleted confirming the authors' contention that strong social performance as indicated by the inclusion in the index is indicative of ongoing investments that both increase social and operating performance. Finally, the findings of the stepwise regression analysis wherein the authors aimed to probe post-announcement market performance in returns in case of deletions and inclusions while controlling for size and sales growth evidenced that firms that are deleted suffered from poorer performance in terms of returns in comparison to their included peers.

Study	CSP	CFP	Control Variables	Sample Size	Result
Vance (1975)	Rankings from "Survey of Businessmen" and "How Business School Students Rate Corporations"	Percentage change in stock price (1972-1975), (1974-1975)	none	14 firms from Moskowitz's initial list, 45 firms from two surveys	Social performers are not good investments.

¹⁹ Calvert Social Index is a stock market index established by Calvert Investments comprising select large companies that are designated as socially responsible in accord with Calvert's screening criteria.

Shane and Spicer (1983)	CEP's 8 studies (1970-1977)	Average abnormal mean-adjusted returns	none	103 firms	The overall negative price movement for subject firms. Low performers tend to have more significant negative returns than high performers.
Davidson and Worrell (1988)	Fortune's list of corporate illegalities	Cumulative abnormal returns (market model)	none	96 firms	Negative and significant CAR one day before the illegalities show up on news.
Moore (2001)	Self-assigned scores over six stakeholder dimensions, on a scale from 1 to 10	Growth in turnover, profitability, ROCE, and EPS (For the lagged CFP: 1994-1997 and for the contemporaneous CFP: 1997-2000)	Size and Firm age	8 firms	Negative relation between contemporaneous CSP and CFP. Positive relation between prior CFP and subsequent CSP.
López et al., (2007)	Dummy variable that takes a value of 0 if a firm is in DJGI only and 1 if it is placed in DJSI	Growth of profits before tax	Size, Industry and Risk	110 firms	The adoption of socially responsible practices negatively affects the CFP.
Makni et al., (2009)	Aggregate CSP score as well as scores for individual dimensions	ROA, ROE, compounded stock returns	Size, Risk, Industry	179 firms	Aggregate CSP causes lower returns. Higher performance in the employee dimension causes lower returns. Higher environmental performance causes lower financial performance.

Doh et al., (2010)	Inclusion to or deletion from the index (Calvert Social Index)	Abnormal returns, Standardized abnormal returns and Operating income/total assets.	Size and Sales growth	65 deletions as well as 56 additions	Negative shareholder wealth effect and poorer post-announcement return performance in the case of deletions.
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Table 2: Summary of studies reporting negative correlation or relationship between CSP and CFP.

2.3) Neutral Relation

Alexander and Buchholz (1978) reported no significant relationship between CSP and CFP. The authors like Vance (1975) and Moskowitz (1972) investigated if there is any relationship between a firm's degree of social responsibility and its stock performance. However, unlike Vance (1975) and Moskowitz (1972), the authors made use of monthly stock returns adjusted for risk based on the Capital Asset Pricing Model (CAPM) (Lintner, 1965; Mossin, 1966; Sharpe, 1964) and utilized rankings of previously mentioned two surveys that were subject to analysis in Vance (1975) and used extended time period of 1970-1974 and sub-period 1971-1973 covering 40 firms in contrast to six months by Moskowitz (1972) and 12 months by Vance (1975). Results portrayed that during the five-year period and three-year period under evaluation, few companies earned more than the S&P 500. This suggests that social responsibility of the select firms has no influence on their stock performance on a risk-adjusted basis. Furthermore, the authors ranked the firms' returns earned above the market in decreasing order for the both periods and tested the correlation between them and the survey ranks. The findings unveiled that there existed a low insignificant correlation between risk-adjusted performance and the degree of social responsibility, invalidating the findings of Vance (1975) and Moskowitz (1972).

Aupperle et al., (1985) analyzed the link between corporate social performance and profitability. The authors utilized forced-choice survey instrument based on the definition of CSR by Carroll (1979) and it included set of statements that are designed to measure orientations of respondent CEOs toward the CSR. Then, the relationship between CSP and CFP was examined by correlating scores assigned by 241 respondent CEOs with financial performance measure ROA that is adjusted for risk. Results exhibited that there is no statistically signifi-

cant relationship between the assigned scores and risk-adjusted ROA suggesting that CSP is not beneficial, nor is it harmful to a firm²⁰.

McWilliams and Siegel (2000) contributed to the literature by showing how model misspecification might lead to biased estimates of the effect of CSP on CFP. The authors argued that models that have not controlled for R&D intensity of select firms while modeling the effect of CSP on CFP would get caught up in omitted variable bias due to the fact that investment in R&D is positively associated with both CSP and CFP, which would in turn inflate the estimates of the coefficients of CSP that they argued was the case with Waddock and Graves (1997a). The authors investigated the effect of CSP on CFP while controlling for the R&D intensity, size, risk and industry for 524 firm over 1991-1996 period. Results wherein the dummy variable for inclusion in Domini 400 Social Index stood as proxy for CSP portrayed that the coefficient on CSP is statistically significant and positive when R&D intensity is excluded whereas its inclusion along with the other control variables led up to no significant effect of CSP on CFP, corroborating the authors' argument and raising doubt over the findings in Waddock and Graves (1997a).

Nelling and Webb (2009) presented methodologically extensive study that revisited Waddock and Graves (1997a)'s virtuous circle proposition by covering data pertaining to more than 600 firms from KLD Socrates Database and employing ROA and annual stock returns as financial performance measures along with controls for size and leverage for the period 1993-2000. As for the CSP, the weighted average CSP score is constructed by assigning weights used by Waddock and Graves (1997a) to eight different attributes rated by KLD. Results of the OLS estimation confirmed the virtuous circle proposition that both CSP and CFP affect each other. Besides, results from the fixed effects estimation exhibited that ROA is still determinant of CSP while firms' stock return is no longer determinant of CSP. Additionally, the Granger causality test conducted whereby the direction of causality was examined. Results of the test showed that ROA is not a determinant of CSP while past stock returns found to be weakly determinant of CSP. In return, CSP was not found to be a determinant of financial performance when either measure is used. Further, the results of the causality analysis with firm fixed effects included yielded similar results.

Garcia-Castro et al., (2010) investigated the impact of CSP on financial performance for 658 firms over 1991-2005 period by taking into account the endogeneity problem emanating from the omitted variable bias as brought up by McWilliams and Siegel (2000) that caused biased estimates of the impact of CSP on CFP as in Waddock and Graves (1997a), hence obscuring the true nature of the relationship. Results of the pooled OLS estimation

²⁰ Regardless of the ROA measure used, whether long-term (5-year) or short-term (1 year), nor did it matter whether it be adjusted for risk or not.

wherein the independent variable CSP is measured as the sum of the scores assigned to select five attributes of the KLD with equal weights assigned to each individual attribute and CFP as the dependent variable measured as ROA, ROE, Tobin's q and market value added (MVA) while controlling for size, risk, leverage, R&D intensity displayed that the CSP turned out to have a significant positive impact on all the CFP measures confirming the findings of Waddock and Graves (1997a). Then, the fixed effect estimation technique employed by incorporating lagged CFP measures as independent variables so as to control for the impact that the prior financial performance might have on the CSP. Findings unveiled the difference between fixed effect and OLS estimations in that the estimated coefficients of the CSP turned negative and insignificant for ROA, ROE and Tobin's q with only significance obtained with MVA. Further, the instrumental variable (IV) estimation technique deployed to test the robustness of the fixed effect estimation results. Results exhibited that CSP has a negative impact on all CFP variables but the estimated coefficients are not significant, confirming the importance of the choice of an estimation method.

Schreck (2011) contributed to the literature by utilizing data as to the CSP variable from an untapped database²¹ for 294 firms and different estimation methods were utilized to account for endogeneity that might emanate from simultaneous causality between CSP and CFP and omitted variables that are both correlated with CSP and CFP. Results of the initial OLS analysis wherein Tobin's q was used as the dependent variable and aggregate CSP score utilized as proxy for CSP along with control variables including size, risk, leverage, and industry showed that the CSP turned out to have no impact on CFP and the results were same for the ROE as the dependent variable. Besides, the results from the IV estimation wherein instruments utilized for CSP failed to establish link too. Additionally, the Granger causality test deployed to investigate the causal relationship between CSP and CFP. Findings unveiled that the causality failed to be established either from CSP to CFP or from the latter to the former.

Zhao and Murrell (2016) revisited Waddock and Graves (1997a)'s virtuous circle proposition by using KLD data for the period 1991-2013 and using the same accounting-based measures ROA, ROE, ROS as well as the market-based measures of Tobin's q , MVA, market-to-book value ratio (MTB) along with control variables for size, risk and industry. The findings²² confirmed the slack resources hypothesis of Waddock and Graves (1997a) for both

²¹ The data with regard to the CSP obtained from *Oekom research AG* database, which is leading German ESG ratings and data provider that was later on acquired by a well-known socially responsible investing (SRI) advisory firm, Institutional Shareholder Services Incorporation (ISS) in March 2018. The ratings are assigned over five attributes; namely, employees, society and community, corporate governance, product and customer responsibility and environmental management.

²² For the model which includes CSP as dependent variable, KLD data for the period 1991-2013 along with the data for control variables and financial measures for the period 1990-2012 is utilized. On the

the market-based and accounting-based measures utilized as independent variables. In addition, the estimation of the model that treats CFP as the dependent variable and CSP as the independent variable exhibited the positive and significant relationship when ROA used as financial performance measure. Nonetheless, the CSP found to have positive but insignificant impact on the rest of the CFP measures, casting doubt on the good management proposition of Waddock and Graves (1997a).

Study	CSP	CFP	Control Variables	Sample Size	Results
Alexander and Buchholz (1978)	Social responsibility rankings from two surveys employed previously in Vance (1975)	Risk-adjusted monthly stock returns	None	40 firms	The degree of social responsibility has no effect on stock performance on risk adjusted basis
Aupperle et al., (1985)	Scores assigned to the authors' forced-choice survey by respondent CEOs	ROA	None	241 CEOs	No statistically significant relationship between CSP measure and CFP measure.
McWilliams and Siegel (2000)	A dummy variable (1= passing the screening criteria by KLD, 0= failing to meet screening criteria)	ROA, ROE and ROS (1991-1996 annual averages)	Size, Risk, R&D intensity and Industry	524 firms	After controlling for R&D intensity, CSP is found to have no significant impact on CFP.

other hand, for the model that treats CFP as dependent and CSP as independent variable, 1991-2013 KLD data for the CSP and 1992-2014 data for financial measures and control variables are used.

Nelling and Webb (2009)	The weighted average measure of CSP based on KLD's ratings	ROA and Stock returns	Size and Leverage	More than 600 firms	<u>OLS</u>: virtuous circle is confirmed to exist as in Waddock and Graves (1997a). <u>Fixed-effects</u>: ROA is found to affect CSP but same does not hold for stock returns. <u>Granger causality</u>: CSP is neither causality related contemporaneous CFP nor is it related to subsequent CFP. Stock returns weakly causally related to CSP.
Garcia-Castro et al., (2010)	Ratings of KLD's five attributes	ROA, ROE, Tobin's q and MVA	Size, Industry, Risk, Leverage and R&D intensity	658 firms	<u>Pooled OLS</u>: CSP impacts CFP positively confirming Waddock and Graves (1997a) <u>Fixed effect and IV estimation</u>: CSP has a negative insignificant impact on CFP.
Schreck (2011)	Aggregate CSP score	ROE and Tobin's q	Risk, Leverage and Size	294 firms	<u>OLS and IV estimations</u>: CSP does not affect CFP. <u>Granger causality</u>: No sign of causality.

Zhao and Murrell (2016)	KLD ratings	ROA, ROE, ROS, Tobin's q , MVA, and MTB	Size, risk industry	All firms for which KLD ratings are available during (1991- 2013)	Prior CFP positively af- fects the sub- sequent CSP (for all measures of CFP) whereas prior CSP only affects subse- quent CFP when ROA is used.
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Table 3: Summary of studies that reported neutral relation between CSP and CFP

2.4) Literature in The Turkish Context

The social responsibility of business is nothing new as a concept in the Turkish context and its origin could be traced back to the 13th century establishment of “*Akhism*” that was considered as important point in the history of Ottoman Empire in terms of the social, cultural and economic sphere. There are various remarks with regard to its origin. Some scholars argued that it is based upon Turks from Central Asia, Arabia or Iran whereas some posited that it was founded by the Turkish scholar and craftsman Ahi Evran in 1205 in the Kayseri, a city that is located in the middle of Anatolia. The term underscores an alliance (guilds) that portrays the significant progress for Turkish tradesmen and craftsmen in terms of professionalism and business ethics between the 13th and 19th century and was the most organized non-governmental organization in the Ottoman state at the time that regulated socioeconomic life in addition to business practices under the umbrella of certain principles and rules (Ülger & Ülger, 2005). Besides, the economic and ethical principles guilds pursued and qualities²³ that they strived to achieve brought out economic prosperity that prevailed long after the foundation of the Ottoman Empire in 1299 and made her a major economic and political power during the 16th and 17th century. Furthermore, the alliances of Akhism institution collected funds among themselves that were used to take care of ones in need, to initiate credits to alliance members to protect them from usurers and to buy raw materials required by tradesmen and craftsmen, all of which helped establish social solidarity.

After the establishment of the Turkish Republic in 1923, a strong responsibility was placed on the newly founded state to initiate economic development in a war-torn nation. The heavy state involvement continued until the enactment of January 24, 1980 reforms that paved the way for Turkey to be an open economy and exposed her to international developments. As a result of these reforms, the private sector emerged that had traditionally been less dominant. Amongst these developments, the establishment of the first stock exchange, Istan-

²³ These qualities are; namely, customer orientation, continuous education, teamwork and solidarity, control mechanism, zero error and wasteful expenditure and motivation.

bul Stock Exchange (ISE), in 1986 and thereafter opening up to foreign investment that eventually led to the emergence of new stakeholders; namely, foreign institutional investors. These developments coupled with the OECD membership and Turkey's foreign policy focus on EU membership from the mid-1980s onwards bring out a "real milestone" in the development of CSR that deserves further elaboration. The actor of the so-called milestone was the Capital Markets Board of Turkey (CMB). The CMB introduced Corporate Governance Principles of Turkey (referred to as *the Principles*) in parallel with practices worldwide by seeking opinions from various bodies including qualified academicians, private sector representatives, non-governmental organizations (NGOs) and so on. The principles primarily drew on the "OECD Corporate Governance Principles" of 1999 that were amended later on in 2004. What made the Principles milestone was the recommendation by CMB to the listed constituents of BIST²⁴ to disclose for the first time the activities related to business ethics, social responsibility and sustainability along with governance-related items. Within the principles, the "comply or explain" approach was valid. However, there existed some principles that were only recommendations which not need to be explained in the case of non-conformity and no disclosure pertaining to recommended principles is required so. However, shortly upon the introduction of the Principles, several amendments²⁵ were made and the once prevalent comply or explain approach was gradually gotten rid of in favor of a more regulated approach with the CMB's aim to bolster the competitiveness of listed Turkish companies in the global arena.

As the introduction of the modern CSR is new in the Turkish context, the empirical work pertaining to the CSR, the related theme CSP under which socially responsible activities can be subsumed and the relationship between CSP and CFP is rather scarce. The study performed by Ararat (2008) with regard to the groups perceived as stakeholders and to what practices are considered as CSR by the constituents of the ISE-30 index²⁶ in 2004. The results showed that employees are considered to be the most important stakeholders followed by suppliers. In addition, what is perceived to be the CSR is that the constituents of ISE-30 used obeying the law as an instrument for CSR and did not distinguish between ethics and law.

Ertuna and Tükel (2010) analyzed the drivers of CSR within the Turkish context by sampling firms that are constituents of ISE-50 index²⁷ as of 2006 and employing content

²⁴ BIST is the sole exchange entity of Turkey bringing all the exchanges; namely, the former Istanbul Stock Exchange (ISE), the Istanbul Gold Exchange (IAB) and the Derivatives Exchange of Turkey (VOB), that operate in the Turkish Capital Markets under a single umbrella. Registered on April 3, 2013 and began to operate on April 5, 2013 with "worth investing" slogan.

²⁵ The CMB released its first Corporate Governance Principles in 2003, followed by an amendment in early 2005 following the OECD's amendment a year earlier and in December 2011, February 2012, June 2012, September 2012, February 2013, April 2013 and more recently in January 2014.

²⁶ ISE-30 Index is comprised of 30 publicly listed firms with the highest market capitalization.

²⁷ The ISE-50 index includes the 50 publicly listed firms with the highest market cap, encompassing those ISE-30 constituents too.

analysis to relevant parts of annual reports and Corporate Governance Compliance (CGC) reports by using sentences as unit of analysis while employing word count as unit of measurement across the chosen stakeholder-related themes; namely, employees, customers, suppliers, industry, community, general public and environment. The authors' results of the multiple regression analysis aimed at finding out the drivers of CSR revealed that traditional factors such as long-standing tradition of philanthropy along with market-driven institutional factors found to drive CSR-related reporting and disclosure in Turkey.

Aras et al., (2010) considered as the first empirical study that aimed at investigating the relationship between CSP and CFP within the Turkish context by employing content analysis to the annual reports of 40 companies in the Istanbul Stock Exchange (ISE) 100 index²⁸ over the chosen issue areas²⁹ and choosing the number of sentences as a unit of analysis. For the financial performance measure, accounting-based measures such as ROA, ROE, and ROS were utilized along with control variables for size, R&D intensity, and risk. Results of the stepwise regression estimation wherein the 2005 data for measures of financial performance along with the control variables as independent variable and the 2006 data for the CSP measure as dependent variable deployed showed that prior financial performance has no impact on subsequent social performance, providing no support for the slack resources proposition of Waddock and Graves (1997a). In addition, results of the model that incorporates the CSP measure in 2006 as independent variable and CFP measures in 2007 as a dependent variable along with the control variables in 2007 portrayed that prior social performance is not associated with subsequent financial performance, yielding no support for the good management proposition of Waddock and Graves (1997a).

Alniacik et al., (2011) examined the respondents' intention to purchase products and services from, seek employment with, invest in a hypothetical firm, which is company XYZ that was introduced as operating in consumer electronics industry, through multi-item scales. The authors use a questionnaire that includes a short story, which has got two versions; one with a positive CSR perspective and another one with a poor CSR perspective, about the hypothetical firm on the one side and relevant questions on the other side. The respondents who are 250 undergrads from various departments at two Turkish universities are asked to deliver answers to questions after reading the short stories, with which they are randomly assigned, on a scale from 1 (completely disagree) to 5 (completely agree). Three dimensions created by authors; namely, purchase intention, employment intention and investment intention, including five items each that need to be responded to and the investment intention being an excep-

²⁸ The ISE-100 index comprises of the largest 100 publicly listed firms encompassing also ISE-50 and ISE-30 constituents.

²⁹ The issue areas encompass; namely, environment, energy, products and consumers, community, employee health and safety, employee other.

tion includes only four items. The results of the experiment clearly showed that respondents who were randomly assigned the positive story indicated higher desire to purchase the hypothetical company's products than the ones with the negative short story. Besides, those with exposure to the short story with positive content manifested higher willingness to seek employment with the company in comparison to ones with exposure to a negative short story. Moreover, positive CSR story exposed respondents indicated higher intention to invest in the company than their negative CSR information exposed counterparts.

Selcuk and Kiymaz (2017) aimed at discerning the relationship between the level of social responsibility-related disclosure and profitability for 341 publicly listed firms in the BIST during the period 2009-2011 by employing content analysis to the select constituencies' annual reports. The level of disclosure analyzed via seven dimensions that were also subject to the inquiry in Aras et al., (2010). The authors made use of three units of analysis; namely, the number of sentences devoted to CSR in annual reports of select companies, the number of pages regarding CSR in these annual reports and the number of CSR dimensions mentioned based on the seven dimensions Aras et al., (2010) and based upon which three different measures are generated; CSR depth, defined as number of sentences devoted to CSR in the select companies' annual reports, also related to the depth of CSR is number of pages allotted to the CSR and lastly, CSR breadth defined as number of dimensions that a constituent in the sample attended to. Results of the authors' fixed effects estimation evidenced that all three measures of the level of CSR disclosure turned out to be negatively associated with financial performance measure ROA after controlling for size, liquidity, sales growth, leverage, risk and R&D intensity.

3. Methodology

3.1) Research Hypotheses and Objective

The results of the studies examining the impact of CSP on CFP has been inconsistent. This inconsistency in the results of the extant literature has been attributed to many reasons; namely, different proxies utilized for both CSP and CFP, a lack of proper theory linking CSP to CFP, lack of reliability of and existence of subjectivity in CSP and CFP measures, and so on (Griffin & Mahon, 1997; Lu et al., 2014; Ullman, 1985). This inconsistency has led Ullman (1985) to call studies under coverage in his examination “Data in Search of a Theory”. Similarly, the inconsistent findings have caused Griffin and Mahon (1997) to dub studies under their review as “Twenty-Five Years of Incomparable Research”. Clarkson (1995) takes on a case study approach in his attempt to develop a framework for analyzing and assessing CSP that is in line with the practices of businesses in reality. There are several invaluable insights worthy of mentioning that the author derives from more than 70 case studies of CSP that he conducts in close cooperation with his colleagues and students over a 10-year period. At the initial stage, the author finds out that Carroll’s (1979) CSP framework is not of much use for the corporate data that researchers gather. The author posits that Carroll’s CSP model is complex and not useful for developing a methodology that can be used to organize and evaluate corporate data. Later, Wartick and Cochran (1985)’s CSP framework is utilized for the same purpose. Wartick and Cochran (1985)’s first dimension, principles of corporate social responsibility, include economic, legal, ethical and discretionary responsibilities as defined in Carroll (1979), which turns out not to be useful to test with the data gathered from case studies. Wartick and Cochran (1985)’s second dimension, processes of corporate social responsiveness, which are identified as reaction, defense, accommodation and pro-action also turned out to not to be useful guides for the collection and analysis of corporate data. The author states the reason by explaining that the term social responsiveness and social responsibility have no clear meaning for managers and academic researchers. Consequently, these concepts along with the models provided both by Carroll (1979) and Wartick and Cochran (1985) are shown not to be suitable for use with corporate data. Fortunately, the author finds out that the data gathered and analyzed turns out to be relevant to the concept of stakeholders and stakeholder management introduced by Freeman (1984). Hence, the author concludes that CSP can more effectively be evaluated based on corporations’ relationships with its stakeholders rather than models based on concepts of social responsibility and social responsiveness that managers do not really discern. This recommendation is also strongly pronounced in Wood and Jones (1995) that evaluates prior literature to their date in terms of CSP measures that are utilized through stakeholder framework and also revisits Wood’s (1991) CSP model and reformulates its final dimension, outcomes of corporate behavior; policies, programs and outcomes, as “in-

ternal stakeholder effects, external stakeholder effects, and external institutional effects" so as to better demonstrate the stakeholder implication of CSP construct. The authors' reformulation is based on the idea that CSP construct can be best understood within stakeholder-based framework because within a given organization stakeholders define norms for corporate behavior, are recipients of corporate actions and outcomes, evaluate how well their expectations are met and how firms' actions have influenced them and other groups within their environment. Besides, the author's review of previous studies has shown that there is no sound theory as to why CSP should be related to CFP, as emphasized by Ullman (1985) too. The authors suggest that stakeholder theory potentially represents a missing link in previous studies trying to relate CSP to CFP without cogent theory and that, as argued, is probably the reason behind inconsistent findings. The missing link, a suitable theory linking CSP to CFP, is provided by Donaldson and Preston (1995) and Jones (1995). Donaldson and Preston (1995) examines the previous literature pertaining to stakeholder theory and related concepts such as stakeholder model, stakeholder management, and so forth up to their date and posits that the stakeholder theory has been explained by various authors differently and supported with differing arguments. The authors state that much of the use of stakeholder theory correspond to three distinct but mutually supportive aspects of the stakeholder theory; namely, descriptive, instrumental and normative. The descriptive aspect of the stakeholder theory involves explaining past, present and future state of the affairs between a corporation and its stakeholder constituents and as such it attempts to display the correspondence of the theory with corporate reality. Its instrumental aspect makes a connection between stakeholder management and traditional corporate objectives such as profitability and growth and as such it implies a cause and effect relationship between stakeholder management practices and corporate financial performance. Lastly, its normative aspect involves interpreting the function of the corporation through moral principles and as such it says to avoid doing this because it is the right thing to do (Donaldson & Preston, 1995). Jones (1995) states that though attempts on the part of Carroll (1979) and Wood (1991) to offer CSP model are useful, they do not offer formal theory with testable implications and the author, drawing on the insights from the literature on agency theory, transaction cost economics and team production theory, develops instrumental theory of stakeholder management. Under the instrumental stakeholder framework, the relationship between corporation and its environment is characterized as follows: firms have contractual relationships with their stakeholders each of whom has a stake in a firm's performance and ability to affect it. The contract is used as a metaphor for the firm's relationship with its multiple stakeholder constituencies. Firms are run by their managers who are contracting on behalf of the firm with its stakeholder constituencies and exist in markets that tend toward equilibrium in the sense that there is a tendency toward efficient contracting, however inefficient contracting might exist for a significant period of time (Jones, 1995). The contracts between a

firm and its stakeholders vary in degree of formality and specificity. Some of the contracts between firm and its stakeholders are formal and specific as in the case of a contract between a firm and its bondholders or employees (e.g., wage contracts) whereas in other cases the contracts are informal and no legal document exists to describe them as in the case of the contract between a firm and the community in which it operates. Jones (1995) states that firms that develop good relationships with their stakeholder constituents on the basis of mutual trust and cooperation will gain a competitive advantage in that they will reduce costs related to inefficient contracting and perform better than their counterparts that signal opportunism in their relationships with their stakeholders. The instrumental stakeholder theory developed by Jones (1995) establishes a theoretical relationship between stakeholder management and financial performance in that, all else equal, good relationships on the part of a firm with its key stakeholder constituents is an instrument for achieving better financial performance. The key in this relationship is, as emphasized by Jones (1995), is trustworthiness and cooperativeness on the part of parties subject to the contracting process. Drawing on the instrumental view of the stakeholder theory by Jones (1995) and the foregoing discussion, CSP is herein defined as follows:

- $CSP = f \{ \text{a firm's relationship with its key stakeholder constituents other than suppliers of capital (shareholders)} \}$.

This way of defining CSP of a firm is also line with Choi et al., (2010), Garcia-Castro et al., (2010), Garcia-Castro et al., (2011), Hillman and Kiem (2001), Ruf et al., (2001), Surroca et al., (2010), Servaes and Tamayo (2013), Shahzad and Sharfman (2017), Waddock and Graves (1997a) and Waddock and Graves (1997b). Consequently, hypotheses to be tested in this study are developed as follows:

- H_a : *All else equal; CSP, defined as good relations with key stakeholder constituents, positively affects financial performance when measured as ROA.*
- H_b : *All else equal; CSP, defined as good relations with key stakeholder constituents, positively affects financial performance when measured as Tobin's q.*

In line with above-stated research hypotheses, the primary research objective of this paper is to demonstrate that channeling scarce and valuable firm resources toward building and attending to good stakeholder relations, thus performing well socially, will be a source of competitive advantage for firms in that they will perform well financially. If confirmed, this study's hypotheses will also reveal that efforts on the part of firms to perform well socially are not simply cost-incurring efforts.

3.2) Model Specification

Panel data sets come in several different forms. The panel data set utilized in this study has 47 firms observed over five years period, which is referred to as short and wide with short describing time dimension and wide referring to cross-sectional dimension (Kennedy, 2008). It has an unbalanced characteristic since the number of time series observations that are available differ for some of the firms in the sample.

In this paper, the baseline model is a pooled one, wherein the data on different cross-sectional units are simply pooled together without accounting for individual differences³⁰ that might exist between sample constituents (Hill et al., 2011). To be able to model the effect of CSP on CFP, the following model is proposed, and it will be estimated with the OLS. OLS estimation procedure when applied to the pooled model below is referred to as pooled ordinary least squares (POLS, thereafter).

$$\begin{aligned} \text{CFP}_{it} = & \beta_0 + \beta_1 \text{CSP}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Beta}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{R\&D}_{it} + \beta_6 \\ & \beta_{12}(\text{Industry}_j) + \beta_{13}-\beta_{16}(\text{Year Dummies}) + V_{it} \dots\dots\dots(1)^{31}, \end{aligned}$$

where CFP_{it} = ROA and Tobin's q of firm i in time t , CSP_{it} = Social performance of firm i in time t , Size_{it} = Total number of employees of firm i in time t (in natural logarithm form), Beta_{it} = CAPM Beta (systematic risk of firm i in time t), Leverage_{it} = Total debt over total equity of firm i in time t , $\text{R\&D}_{it}$ = R&D expenditures over sales of firm i in time t , $\text{Industry}_j = 7$ time-invariant³² indicator variables, $i = 1, 2, \dots, 47$ firms, $t = 2014-2018$, $j = 1, 2, \dots, 7$ industries, Year Dummies = Set of time period dummies with year 2014 acting as the base, β_0 is constant and V_{it} is random regression error term.

In order for the POLS estimation of the model (1) to yield consistent parameter estimates, it must be assumed that the error term is uncorrelated with explanatory variables in all time periods. However, If the random error term V_{it} is thought of as having two parts; $V_{it} = a_i + \mu_{it}$, wherein a_i is time-constant component capturing all those firm-specific characteristics that do no change over time and μ_{it} is time-varying component representing unobserved fac-

³⁰ These differences refer to all those time-invariant, or can be treated as such during the sample period, firm specific characteristics that distinguishes a firm from others and are hard to observe by their nature by a researcher such as firm culture, CEO values, and so on (Garcia-Castro et al., 2010; Hamilton & Nickerson, 2003).

³¹ So as to preserve degrees of freedom, following Shahzad and Sharfman (2017), missing values of R&D are filled with zeroes and an indicator variable Missing is created and, thereafter set to 1 if missing values are filled and zero otherwise. Hence, the above equation also includes this time-invariant indicator variable, though not explicitly incorporated into the model (1).

³² None of the sample constituents change the industry they belong to during the sample period, and the manufacturing industry is taken as reference level.

tors that change over time and affect the dependent variable CFP, then the assumption of no correlation would be violated if the time-invariant component is correlated with the explanatory variables even if the time-varying part is not. Because POLS consider sample constituents as homogenous, thus leaving a_i into the error term, then resulting coefficient estimates would be biased and the bias is referred to as unobserved heterogeneity (Wooldridge, 2013). Besides, even if it is assumed that a_i is uncorrelated with included regressors in all time periods, POLS standard errors would be incorrect because they might exhibit serial correlation due to the exclusion of firm-specific characteristics, a_i . If for a given level of CSP, a firm's financial performance is higher (lower) than average for one year, it will tend to be higher (lower) than average in the following years, thus causing error terms for each individual to be serially correlated. This positive serial correlation is ignored by the usual POLS standard errors, leading them to be incorrect (Hill et al., 2011). Consequently, incorrect standard errors would make hypothesis tests and confidence intervals unreliable. Nonetheless, under the assumptions of the random effects model, errors for the same cross-sectional unit are correlated over time and the correlation is constant, and magnitude of the correlation is equal to the proportion of the variance in the composite error term that can be attributed to the unobserved effect; $\text{Corr}(V_{it}, V_{is}) = (\sigma_a^2 / \sigma_a^2 + \sigma_\mu^2)$, for $t \neq s$, where $\text{Var}(a_i) = \sigma_a^2$ and $\text{Var}(\mu_{it}) = \sigma_\mu^2$.

Luckily, there is a way to rid the model (1) of the serial correlation³³ with random effects model that is made available by the generalized least squares transformation (GLS, thereafter). The GLS transformation subtracts from included variables a fraction of time averages of these variables where the fraction depends upon the σ_a^2 , σ_μ^2 and the number of time periods. Unknown variances σ_a^2 and σ_μ^2 need to be estimated for the model (1) to go through GLS transformation. Fortunately, Stata software reports estimated standard deviations of a_i and μ_{it} , and automatically computes the transformation parameter with an option "theta" appended to the random effects estimation command of the model (1). The resultant transformed variables are referred to as quasi-time demeaned variables and the GLS estimator is obtained when POLS estimation is carried on these quasi-time demeaned variables.

In order to decide between POLS and random effects estimation, the Breusch and Pagan (1980) Lagrange multiplier test (LM, thereafter) for random effects is carried out. The test is based on the idea that if there are no random individual differences, then there would be no need for a random effects model. If, on the other hand, random individual differences exist, then it would be concluded that the random effects model is more appropriate. The POLS procedure fails to take into account these individual differences within cross-sectional

³³ The detailed discussion as to the GLS transformation can be found in Wooldridge (2013, p. 493) and be also found in *Using Stata for Principles of Econometrics*, 4th Edition, by Lee C. Adkins and R. Carter Hill (Wiley, 2012), p. 459-460.

units by assuming that all firms involved are homogenous. The null hypothesis of the test states that there are no random individual differences, and therefore $\sigma_a^2 = 0$ whereas the alternative hypothesis states that there are random individual differences, $\sigma_a^2 > 0$. Results of the Breusch and Pagan LM test have shown that for the model that takes Tobin's q as the dependent variable, the existence of statistically significant individual differences is confirmed (Chi-squared (1): 49.71; p-value: 0.000) and the one that takes ROA as the dependent variable also points toward the statistically significant random individual differences among sample constituents (Chi-squared (1): 125.73; p-value: 0.000). Hence, for both models, the null hypothesis of no random individual heterogeneity is strongly rejected in favor of the alternative hypothesis, evident from the test statistics. As a result, the model (1) takes the following form;

$$\begin{aligned} \text{CFP}_{it} = & \beta_0 + \beta_1 \text{CSP}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Beta}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{R\&D}_{it} + \beta_6 \\ & \beta_{12}(\text{Industry}_j) + \beta_{13}-\beta_{16}(\text{Year Dummies}) + a_i + \mu_{it} \dots\dots\dots(2), \end{aligned}$$

where a_i is referred to as random individual differences within the random effects model framework and μ_{it} is the time-varying error term. Random individual differences are assumed to be uncorrelated with the included explanatory variables. This assumption is the key assumption which differentiates random effects model from the fixed effects model, which enables arbitrary correlation between a_i and included regressors in all time periods because fixed-effects transformation³⁴ which, unlike the GLS transformation, subtracts from included variables their time averages, hence eliminating the unobserved effect, a_i , since it is time-constant. The resulting equation is referred to as the time-demeaned equation and the fixed effects estimator is the POLS estimation of the time-demeaned equation. Quasi-time demeaning as in the case of GLS transformation enables time-constant variables to be included such as industry herein. That is one advantage of the random effects model over the fixed effects model. However, as mentioned, it must be assumed that a_i is uncorrelated with included explanatory variables whether they are constant across time or not. If it is thought that random effects might be correlated with included regressors, then the fixed effects model should be utilized as an alternative since it is robust to an arbitrary correlation between a_i and the included explanatory variables.

So as to decide between random effects and fixed effects model, a formal test approach proposed by Hausman (1978) can be utilized. The idea behind the Hausman test is that both random effects estimator and fixed effects estimator are consistent if there is no correlation between a_i and included regressors. However, if there is any, random effects estimator will not be consistent while the fixed effects estimator will be consistent since any variable

³⁴ Discussion as to fixed effects transformation can be found in *Using Stata for Principles of Econometrics*, 4th Edition, by Lee C. Adkins and R. Carter Hill (Wiley, 2012), p. 449.

that does not change over time gets eliminated by the fixed effects transformation prior to the estimation. Application of the test to the model that takes Tobin's q as the dependent variable exhibits the calculated value of chi-squared statistic of 7.63 with the associated p-value of 0.572. As a result, the null hypothesis of no statistically significant differences between fixed and random effects estimates is failed to be rejected. However, the test result comes also with a warning stating that the covariance matrix of differences between random and fixed effects estimates is not positive definite³⁵. Besides, the application of the test to the model that incorporates ROA as the dependent variable gives the very same warning. This is also the case with Garcia-Castro et al., (2010). Fortunately, there is an alternative approach to deciding between random effects and fixed effects specification, which is based on the idea that the testing to choose between random effects and fixed effects specifications can also be seen as a test of overidentifying restrictions. The fixed effects estimator utilizes the orthogonality condition that μ_{it} is uncorrelated with the explanatory variables in all time periods, which is the strict exogeneity assumption, while random effects estimator uses orthogonality condition that random effects, a_i , are uncorrelated with the explanatory variables in addition to the strict exogeneity assumption. These orthogonality conditions are overidentifying restrictions and the test, which is based on the artificial regression approach³⁶ suggested by Wooldridge (2010) wherein a random effects estimation is carried out augmented with additional explanatory variables in their deviations from individual means form and the test statistic is Wald test of significance of the variables incorporated as deviations from their corresponding means form, can easily be implemented via a Stata command *xtoverid* provided by Schaffer and Stillman (2006). The test, unlike the traditional Hausman test that is implementable with Stata's *hausman* command, can be extended to have panel-robust standard errors³⁷ accounting for heteroskedasticity and serial correlation in errors (Brunow & Nijkamp, 2018). And although this alternative panel-robust version of Hausman test does not necessarily have better finite sample properties than those of standard Hausman test, it has the advantage of being computationally more stable because it does not face problems with non-positive definite matrices (Hoechle, 2007), as is the problem with this paper's sample with the traditional form of Hausman test. Under the null hypothesis, coefficients of additionally incorporated time-

³⁵ Discussion pertaining to this situation can be found in *Econometric Analysis of Cross Section and Panel Data*, 2nd Edition, Jeffrey M. Wooldridge (MIT Press, 2010), p. 328-329.

³⁶ Discussion with regard to the approach can be found in *Econometric Analysis of Cross Section and Panel Data*, 2nd Edition, Jeffrey M. Wooldridge (MIT Press, 2010), p. 332-334, and also *Econometric Analysis of Cross Section and Panel Data*, 1st Edition, Jeffrey M. Wooldridge (MIT Press, 2002), p. 288-291.

³⁷ In Stata statistical software package, computation of panel-robust standard errors is available via *vce (robust)* or *vce (cluster "id")* options appended to the fixed effects or random effects estimation commands where "id" refers to cross-section identifier.

demeaned variables are jointly equal to zero. This means that if the null hypothesis is valid, random effects specification is more appropriate.

Results for the model with ROA as the dependent variable fail to reject the null hypothesis (Sargan-Hansen statistic: 7.302; p-value: 0.1991), and consequently random effects specification will be utilized for ROA. On the other hand, for the model with Tobin's q as the dependent variable, the results strongly reject the null hypothesis and provide evidence in favor of fixed effects specification (Sargan-Hansen statistic: 16.984; p-value: 0.0045). So, the model (2) above takes the following form for the ROA as the dependent variable;

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{CSP}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Beta}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{R\&D}_{it} + \beta_6 - \beta_{12}(\text{Industry}_j) + \beta_{13}-\beta_{16}(\text{Year Dummies}) + a_i + \mu_{it} \dots \dots \dots (3),$$

where a_i represents random³⁸ individual differences among select firms and μ_{it} is time-varying error term. And the model (2) takes the following form for Tobin's q as the dependent variable;

$$\text{Tobin's } q_{it} = \beta_0 + \beta_1 \text{CSP}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{Beta}_{it} + \beta_4 \text{Leverage}_{it} + \beta_5 \text{R\&D}_{it} + \beta_6 - \beta_{12}(\text{Industry}_j) + \beta_{13}-\beta_{16}(\text{Year Dummies}) + a_i + \mu_{it} \dots \dots \dots (4),$$

where a_i is referred to as fixed effects capturing firm-specific time-constant characteristics and μ_{it} is the time-varying error term. It shall be noted at this point that industry dummies and the indicator variable for missing observations of the research and development intensity will be omitted in the fixed effects regression since they do not vary over time while random effects estimation will permit inclusion of these variables since GLS transformation only eliminates fraction of time averages, therefore enabling inclusion of time-constant regressors.

³⁸ As elaborated on by Wooldridge (2010), a_i is referred to as random effects when used in the random effects framework and it means that it is assumed to be uncorrelated with included regressors whereas in the fixed effects framework, it is referred to as fixed effects indicating that it is allowed to be correlated with included regressors.

4. Data

4.1) Corporate Governance Principles

As explained previously, in parallel with practices worldwide, the CMB established the corporate governance principles by closely collaborating with experts from various bodies and the Principles released for the first time in June 2003 and then went through series of amendments³⁹, of which the most recent one was released on January 3, 2014. Throughout the process, prevailing regulations in various countries were examined and by taking into account the dynamics of the Turkish Capital Markets, the Principles released. The Principles mainly address publicly held joint-stock companies. Nonetheless, other companies and institutions that are active in the private and public sectors can also implement the Principles.

Previously, within the Principles, comply or explain stance was valid. Notwithstanding, some of these principles were recommendations which suggest that these principles are recommendations only and should non-compliance occur, no disclosure is required. However, with the latest amendment to the Principles, all BIST constituents became subject to the mandatory implementation of the CMB's rules. Thus, the once-prominent comply or explain tone was abandoned to a more regulated one since the CMB intends to update the Principles in line with current practices and as a result of Turkey's OECD membership and long-standing desire to be part of EU.

The Principles are composed of four main sections; namely, shareholders, disclosure and transparency, stakeholders and board of directors. The first section, shareholders, includes the Principles pertaining to the rights of shareholders and their equal treatment. The second section, disclosure, and transparency comprise of the Principles governing the establishment of information policies with regard to the companies' shareholders and compliance on the part of these companies to these policies. The third section, stakeholders, is composed of the Principles to regulate the relationship of the companies with their stakeholders. A stakeholder is defined as: "person, institution or interest groups that are related to the objectives and operations of a company in any way" (CMB, 2005, p. 8). Thus, the CMB explains those parties with regard to the stakeholders and they encompass shareholders as well as employees, creditors, customers, suppliers, trade unions, various NGOs, the government and potential investors who wish to invest their funds with the company. Lastly, the fourth section board of directors includes the Principles with regard to duties, functions and the structure of the board of directors. Each section described above also has got further subsections. The stakeholder's section of the Principles, for example, consists of seven sub-sections; namely, company policy toward stakeholders, stakeholders' participation in company management, protection of

³⁹ The CMB ensures through periodical examinations that the Principles are kept up to date.

company assets, company policy on human resources, relations with customers and suppliers, ethics and social responsibility, and sustainability.

4.2) Corporate Governance Index (XKURY)

BIST Corporate Governance Index (XKURY) is an index in which companies that implement the Principles stipulated by the CMB are included. Started to be calculated on August 31, 2007, it aims to gauge the price and return performance of those companies whose shares are traded in BIST and is assigned a corporate governance rating of minimum 7 out of maximum score 10 as a whole as well as a minimum score of 6.5 in each main section previously outlined. Companies that obtain the minimum rating criteria mentioned above are taken into the index a business day after the rating is published on the Public Disclosure Platform⁴⁰. Initially, the index began operating with 5 publicly listed companies in 2007 and the number rose up to 47 as of 2018. Besides, there exist companies that are not constituents of the index but applied to be rated by the CMB designated credit rating agencies including so-called foundation universities⁴¹.

Ratings are assigned to companies by the above-mentioned specialized rating agencies upon the request of a rated company and annually reviewed. Throughout the process, these rating agencies, by adhering to the Principles and the weighting scheme released by the CMB, identify a number of criteria that will be used to evaluate the publicly available information disseminated by the companies and if deemed necessary, senior company executives will be interviewed for additional information. Based on the latest CMB rules published on 3 January 2014, the rating agencies updated their rating methodology. Before the latest amendment, 0 (not fulfilled) or 1 (fulfilled) scoring approach used to be applied along with the attribution of 0.5 for the partial fulfillment of the clauses. However, this approach is amended whereby companies now receive 0.85 out of 1 for the fulfillment of mandatory criteria of the Principles and can go up to 1 if a company's practices go beyond what is stipulated by the CMB. Furthermore, with the latest amendment, the previously implemented weighting scheme predetermined by the CMB assigns 25% to the shareholder's section, 35% to the public disclosure and transparency section, 15% to the stakeholder's section and 25% to the board of directors section. The new scheme reduces the weight assigned to the public disclosure and transparency section from 35% to 25% while increasing the weight assigned to the board of directors section from 25% to 35%, weights of the other two sections remained unchanged. Besides, sub-weights are assigned to each sub-section according to the rating agencies' own

⁴⁰ Public Disclosure Platform (PDP) is electronic platform wherein all listed companies disclose their material events and relevant information as required by regulations of the BIST and the CMB.

⁴¹ Foundation universities are non-profit institutions by law and funded by private foundations established by owners of family-controlled companies, holdings or conglomerates.

methodology. Based on the scoring and these weightings overall corporate governance score as well as scores assigned to each main section is calculated showing the degree of compliance with and progress in the implementation of CMB's guiding principles.

4.3) Measure of Corporate Social Performance

Though researchers attempt to differentiate between CSR and CSP; classifying CSR under the umbrella of CSP (Carroll, 1979; Wartick & Cochran, 1985; Wood, 1991) or subsuming the latter under the former, the two terms have been frequently used interchangeably in empirical research. However, when it comes to measuring the performance of socially responsible activities, measures used for the social performance of companies varied remarkably, ranging from those studies that have utilized one-dimensional measures such as charitable donations and pollution control records (e.g., CEP), multidimensional measures of CSP (e.g., KLD, oekom research AG, Calvert Social Index, KEJI Index, Canadian Social Investment Database, and so on), content analysis of annual report on the level of disclosure pertaining to CSR activities (Aras et al., 2010; Ertuna & Tukel, 2010; Selcuk & Kiymaz, 2017), perceptual measures (e.g., Fortune reputation survey), reputation indices (e.g., Moskowitz, 1972, 1975) to authors' own surveys (e.g., Aupperle et al., 1985; Alniacik et al., 2011).

In this paper, in contrast to previously conducted studies in the Turkish context, stakeholder subsection scores assigned to the constituents of the Corporate Governance Index by the CMB designated credit agencies will be utilized as a proxy for the CSP measure of the select sample. The select sample comprises of 47 firms that are constituents of the Corporate Governance index. The measure of CSP used here better captures the CSP in comparison to previously utilized measures by Turkish researchers, mainly content analysis of annual reports for CSR-related activities of firms, since assigned scores are based on the evaluation of publicly available information by the credit rating agencies designated by the CMB, the chief regulatory and supervisory body in the Turkish Capital Markets, and scores reflect the degree of compliance with and progress in the CMB determined principles. Besides, the assigned scores capture well the companies' relationships with its key stakeholders, its human resource practices, sustainability, and social responsibility related activities. In contrast, applying content analysis and measuring the level of disclosure through sentence, word and page count has setbacks in that the choice of issue areas such as customers, employees, environment, and so forth by researchers is completely subjective. In addition, there are considerable differences within studies when it comes to the degree of sophistication in the application methodology (Ullmann, 1985). Additionally, some researchers used firms' philanthropic activities as a proxy for CSP. This measure does not capture the multi-faceted nature of the CSP construct in that it confines it to firms' charitable deeds. Herein, the data pertaining to aggregate stake-

holder subsection scores for the sample constituents gathered from the website⁴² of the Corporate Governance Association of Turkey for the period 2014-2018 for use as a proxy for the CSP variable.

4.4) Measures of Corporate Financial Performance

There exists consistency when it comes to measuring the financial implications resulting from investments made into socially responsible activities. The extant literature attempting to investigate the relationship between CSP and CFP utilized measures of financial performance that can roughly be classified into two categories: accounting-based measures and market-based measures (Beurden & Gössling, 2008; Cochran & Wood, 1984; Griffin & Mahon, 1997; Margolis et al., 2009; Orlitzky et al., 2003). The accounting-based measures encompass ROA, ROE, ROS, etc. Whereas the market-based measures comprise of stock returns, risk-adjusted stock returns, Tobin's q , MVA, MTB, etc.

In this research, both the accounting-based and market-based measures of financial performance will be utilized since accounting-based measures are contemplated of reflecting past (realized) or short-term financial stance of the firm while the market measures are seen as more forward-looking measures and believed to exhibit the long-term performance of the firm. Moreover, Gentry and Shen (2010) investigated the evidence of convergence between accounting and market-based measures of financial performance by utilizing commonly used proxies such as ROA, ROE, ROS, ROI for accounting-based measures and MTB as a proxy for market-based measure, and concluded that although the two measures are positively correlated across industries, the correlation is less than 10%. Thus, the correlation is not strong enough to justify evidence of convergence. The key takeaway from the study is that financial performance is not a single-dimensional construct in that market-based and accounting-based measures should be treated as separate dimensions of financial performance.

Herein, as it is the most widely harnessed measure of accounting-based performance in studies that are conducted both in the Turkish context and other countries' contexts, namely; ROA will be utilized as an accounting-based measure of financial performance in conformity with previously performed studies. ROA measures how efficiently a firm utilizes its asset base in order to generate profits. In line with Servaes and Tamayo (2013), ROA of a firm i at time period t is measured as;

$$\text{ROA}_{it} = \text{Operating Income}_{it} / \text{Total Assets}_{it} \text{ and } i=1, 2, \dots, 47 \text{ firms and } t=2014-2018.$$

⁴² Scores assigned to each sample constituent firm can be accessed via <http://www.tkyd.org.tr/derecelendirme-list.asp>.

As for the market-based measure of financial performance, Tobin's q will be utilized as it is widely used in previously conducted studies (e.g., Choi et al., 2010; Garcia-Castro et al., 2010; Schreck, 2011). Tobin's q is defined as the ratio of a firm's market value of assets to their replacement costs. In practice, it is difficult to precisely measure the replacement cost of assets that a given firm might possess. Hillman and Keim (2001) contends that replacement costs for intangible assets that a given firm possesses is hard to measure since the replacement cost is interpreted not only to encompass physical assets such as equipment and machinery but also other items on a given firm's balance sheet. As a result, several approximations are suggested by researchers for use as a proxy for Tobin's q . The approximation provided by Chung and Pruitt (1994) is commonly utilized since the data it requires is easily obtainable. The formula for Chung and Pruitt's approximate q is provided below as:

➤ Approximate $q = (MV + PS + DEBT)/TA$

The MV stands for the market value of the common stock which is measured as the product of price per share and number of shares outstanding. PS stands for the liquidating value of a firm's outstanding preferred stock. DEBT equals to the value of a firm's short-term liabilities net of the firm's short-term assets plus the book value of a firm's long-term debt. The above approximation assumes that the replacement costs of a firm's plants, equipment and inventories are equivalent to their book values. Additionally, both the market and book values of the short-term debt are assumed to be identical. Further, TA stands for the book value of a firm's total assets. In line with the simplification by Chung and Pruitt (1994) and following Schreck (2011) and Servaes and Tamayo (2013), Tobin's q measure is operationalized as follows:

➤ Tobin's $q_{it} = (TA_{it} - EQ_{it} - DEF_{it} + MV_{it}) / TA_{it}$ and $i=1, 2, \dots, 47$ firms and $t=2014-2018$.

The market value of assets is proxied by the book value of assets minus book value of owner's equity minus deferred taxes plus the market value of a given firm's common stock. Book values are obtained from financial statements of select constituents at their corresponding websites as they are readily available as of fiscal year-end, December 31. The market value of a given firm's common stock is calculated as a firm's number of shares outstanding multiplied by closing price, which is adjusted for both stock splits and dividends, of a firm's share on the last trading day of a given year. The data as to the number of shares outstanding for a given year is readily available in a given firm's fiscal year-end financial statement and annual reports.

4.5) Control Variables

To eliminate bias that might emanate from excluding variables that are shown to be important determinants of both CSP and CFP; firm size, systematic risk, leverage and industry will be incorporated in models of this research as control variables (Choi et al., 2010; Garcia-Castro et al., 2010; López et al., 2007; Schreck, 2011; Waddock & Graves, 1997a). Additionally, R&D intensity will also be controlled for as it is shown to be the important determinant of both CSP and CFP (McWilliams & Siegel, 2000). In line with the CAPM model (Lintner, 1965; Mossin, 1966; Sharpe, 1964), beta as a proxy of risk for each select constituent is calculated as follows:

$$\text{➤ } R_{it} - R_{ft} = \alpha + \beta_i (R_{mt} - R_{ft}) + e_{it},$$

where R_{it} is the daily stock return for the i^{th} firm at time t , and is calculated as: $R_{it} = \ln(P_{it} / P_{it-1})$, where P_{it} is the daily closing price⁴³ of i^{th} firm's stock at time t and P_{it-1} is the closing price of i^{th} firm's stock at time $t-1$. R_{mt} is the daily return on the market index, BIST XU-TUM⁴⁴, at time t and is calculated as: $R_{mt} = \ln(R_{mt} - R_{mt-1})$, where R_{mt} and R_{mt-1} are values of the XUTUM index at time t and $t-1$, respectively. R_{ft} is the risk-free rate of return approximated by 1-month Libor rate⁴⁵ on Turkish currency (TRY) at time t . $[R_{it} - R_{ft}]$ is the excess return on i^{th} firm's stock at time t . $[R_{mt} - R_{ft}]$ is the return on the XUTUM index in excess of the risk-free rate at time t . α is the intercept, e_{it} is the usual regression error (or the unique risky return on security i at time t) and β_i is the slope of the regression from excess returns on security i against excess returns on the market index, m , measuring the sensitivity of security i 's returns to that of the proxied market index. For each of the constituent firms, excess returns are regressed against that of the market and slope coefficients are saved thereafter. In addition, by paying heed to the suggestions by Davidson and Worrell (1990) and in line with Waddock and Graves (1997b) and Surroca et al., (2010), leverage is also incorporated as a control and is measured as follows:

$$\text{➤ } \text{Leverage}_{it} = (\text{Debt}_{it} / \text{TA}_{it}) \text{ and } i=1, 2, \dots, 47 \text{ firms and } t=2014-2018.$$

Furthermore, Waddock and Graves (1997a) and Doh et al., (2010) posit that small firms might not exhibit obvious socially responsible behaviors to the same extent that large firms might do since as firms grow and mature along with their public appearance, they tend to attract relatively more attention from stakeholder constituents and need to respond to their

⁴³ The data as to daily closing prices of select firms' stocks and the market index, XUTUM, obtained from BIST database at <https://datastore.borsaistanbul.com/>.

⁴⁴ XUTUM is also referred to as "All Shares Index".

⁴⁵ Libor rates on TRY can readily be accessed at <http://www.trlibor.org/>.

demands accordingly. Thus, size is also added as control variable as it might confound⁴⁶ the relation between CSP and CFP. Besides, size is an important element in factor models that attempt to explain the cross-sectional variation of average returns on common stocks⁴⁷ along with the beta and leverage. Size is measured herein as the natural logarithm of the total number of employees⁴⁸ as in Waddock and Graves (1997a) and Surroca et al., (2010).

Moreover, R&D intensity is also incorporated into models of this study as suggested by McWilliams and Siegel (2000) since investment in R&D results in knowledge enhancement which further leads to product and process innovation through which a given firm produces goods or services with certain CSR appeals or features that consumers value. Besides, Waddock and Graves (1994) demonstrates that there exist significant differences across industries regarding the extent of intensity of R&D investment and industries that financially perform well in the long-run are those with higher R&D intensity. Thus, in agreement with Waddock and Graves (1994) and McWilliams and Siegel (2000), R&D intensity is introduced as follows:

$$\text{R\&D}_{it} = (\text{R\&D Expenditures}_{it} / \text{Sales}_{it}) \text{ for } i=1, 2, \dots, 47 \text{ firms and } t=2014-2018.$$

Lastly, industry and year effects will also be incorporated into this study's models. Per Carroll (1979), social issues to be addressed might vary significantly along with stakeholder demands across different industries. Besides, as posited by McWilliams and Siegel (2000), there might exist industry-specific factors that explain the variation in CFP across industries. So, the industry is controlled by introducing six dummy variables to distinguish seven industries along with 4 year-dummies to capture 5 years undercover in this paper. Year dummies will be retained in regressions if the joint test of significance on their estimated coefficients yields so via F test, as in Surroca et al., (2010) and Shahzad and Sharfman (2017).

⁴⁶ Orlitzky (2001) investigated the potential confounding impact that size might have on the relation between CSP and CFP and found that even after controlling for firm size, positive relation existed between CSP and CFP.

⁴⁷ See Fama and French (1992, 1995, 1996) and for the test of the implications of the CAPM model, see Fama and MacBeth (1973).

⁴⁸ In the literature, size has been measured differently by different authors. Herein, choice as to measuring the size as natural logarithm of total number of employees is justified after finding out that three most commonly used proxies of size namely; book value of total assets, market capitalization and total number of employees, are positively, significantly and highly correlated with the magnitude of correlation equal to 0.77 between total number of employees and market capitalization, 0.74 between total number of employees and book value of total assets and 0.83 between market capitalization and book value of assets.

5. Results

5.1) Initial Analysis

Before the estimation results pertaining to models of this study are presented, several assumptions are checked and the correlation between pairs of variables and descriptive statistics thereafter are provided. Initially, the functional form of the relationship between the dependent variables and included regressors is explored via partial residual plots developed by Mallows (1986). It provides a graphical approach to test for linearity. For the model with Tobin's q as the dependent variable, all the variables seem to be linearly related to the dependent variable, except the variable Leverage. Nonetheless, the squared term for the variable will also be included in the model (4) to investigate whether there exist significant nonlinearities. For the model with ROA as the dependent variable, all the variables seem to follow a linear pattern.

Table 4: Pairwise correlations

Variables	Tobin's q	ROA	CSP	Beta	Leverage	Size	R&D	Missing (1/0)
Tobin's q	1.000							
ROA	0.52***	1.000						
CSP	0.20***	0.28***	1.000					
Beta	-0.11*	-0.22***	0.06	1.000				
Leverage	0.01	-0.09	-0.22***	0.16**	1.000			
Size	0.05	-0.04	0.27***	0.36***	0.01	1.000		
R&D	0.75***	0.28***	0.06	-0.11*	-0.07	-0.05	1.000	
Missing (1/0)	-0.25***	-0.32***	-0.05	0.10	0.17**	-0.23***	-0.25***	1.000

Notes to Table 4: *, **, and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 4 presents pairwise correlations between variables. Through inspection, CSP is positively significantly correlated with Tobin's q at %1 level and is significantly positively correlated with ROA at %1 level. Further, CSP is negatively significantly correlated with the Leverage while being significantly positively correlated with the variable Size, both at %1 level. This corroborates the choice of including these variables. Additionally, CSP is insignificantly positively correlated with the Beta and the R&D which measures the research and development intensity, and the magnitude shows the weak correlation.

Table 5: Descriptive Statistics and Variance Inflation Factor

Variable	N	Mean	Std. Dev.	Min	Max	VIF
Tobin's q	223	1.145	.67	.344	5.734	-
ROA	223	.057	.061	-.098	.312	-
CSP	223	9.393	.593	6.84	9.951	1.48
Beta	223	.801	.329	.064	1.715	1.45
Leverage	223	.642	.421	.009	3.583	1.25
Size	223	7.564	2.194	1.386	10.449	1.71
R&D	223	.009	.041	0	.312	2.28
Missing (1/0)	223	.57	.496	0	1	2.05

Notes to Table 5: The variable Missing (1/0) is an indicator for the missing values of R&D. The dataset comprises of 47 firms observed over the 2014-2018 period.

Table 5 exhibits the summary statistics with regard to the variables used in this paper. As it is seen, the Tobin's q ranges from 0.34 to 5.73 with the mean 1.15. ROA ranges from -0.10 to 0.31 with the mean 0.06. CSP ranges from 6.8 to 9.95 with the mean 9.39. Besides, Table 5 also displays variance inflation factors (VIF, thereafter) for each of the included explanatory variables. It is a widely used method by researchers to investigate the severity of multicollinearity. This method involves measuring a degree to which a given explanatory variable can be explained by all other included regressors. The rule of thumb is that if VIF value for any given explanatory variable exceeds 5, then the multicollinearity is considered to be severe (Studenmund, 2016). None of VIF values for any given explanatory variable exceeds 5 as portrayed in the last column of Table 5. Hence, multicollinearity is concluded not to be severe⁴⁹.

Additionally, panel data estimators would yield incorrect standard errors in the presence of heteroskedasticity, serial correlation (or temporal dependence) and cross-sectional dependence (Beck, 2001). The presence of heteroskedasticity is investigated by utilizing the test procedure proposed by Baum (2001) which is available as a post estimation command, *xttest3* in Stata. The idea of the test is that for any given cross-sectional unit (e.g., firm) error variance might be constant but might differ across cross-sectional units, a situation known as groupwise heteroskedasticity. The null hypothesis of groupwise homoskedasticity (i.e., $\sigma^2_i =$

⁴⁹ The result as to the inexistence of severe multicollinearity includes the dummies for each year, but 2014 as the base; and the dummies for each of the seven industries, manufacturing as the reference level in the models with both Tobin's q and the ROA. None of the VIFs for year and industry dummies exceed 2.30, and the mean VIF when all the variables are incorporated, including year and industry dummies, is equal to 1.69.

σ^2 , i denoting cross-sectional units) is examined with the modified Wald test for groupwise heteroskedasticity in fixed effects model with Tobin's q as the dependent variable, the model (4). The result of the test points toward the presence of heteroskedasticity in the fixed effects model with Tobin's q (Chi-squared (47): 39.339; p-value: 0.000). The result as to the random effects model with ROA, the model (3), as the dependent variable also indicates that heteroskedasticity is present (Chi-squared (47): 19237.12; p-value: 0.000). Hence, standard errors need to be adjusted for groupwise heteroskedasticity in estimations of both of these models.

Moreover, errors might also exhibit serial correlation wherein the estimated standard errors of estimated coefficients will be incorrect as will the test statistics and confidence intervals based upon them. As put forth by the Petersen (2009), OLS estimates of standard errors could be underestimated given that errors are serially correlated. The presence of serial correlation in both models is examined by harnessing the method proposed by Drukker (2003) that is based on the discussion by Wooldridge (2010, pp. 319-320). The test is available for use with *xtserial* command in Stata, which implements the Wooldridge test for first-order serial correlation in panel data. Implementation of the test demonstrates for the fixed effects model with Tobin's q as the dependent variable that the null hypothesis of no first-order serial correlation is rejected (F (1, 44): 7.944; p-value: 0.007). Further, for the random effects model with ROA as the dependent variable, the null hypothesis of no first-order serial correlation is strongly rejected in favor of the alternative (F (1, 44): 68.079; p-value: 0.000).

Furthermore, in order to verify whether errors for different cross-sectional units exhibit cross-sectional dependence, a method proposed by Pesaran (2015)⁵⁰ that is appropriate for use in panels where the number of cross-sectional units is larger than the number of time periods will be made use of. The test can be implemented on Stata via *xtcd2* command provided by Ditzén (2016) after fixed or random effects estimation upon the prediction of residuals, and it suits the unbalanced panels. The null hypothesis of the test is the weak cross-sectional dependence between errors. Under the null, the correlation between errors of different cross-sectional units converges to zero as the number of cross-sectional units approaches infinity. Test result for the model (4) with Tobin's q as the dependent variable rejects the null hypothesis of weak cross-sectional dependence and it is concluded that the errors exhibit

⁵⁰ It shall be noted that there are alternate tests that are widely used by researchers to test for cross-sectional dependence that errors might exhibit such as Breusch and Pagan (1980) Lagrange Multiplier test for the null hypothesis of no cross-sectional dependence. Nonetheless, Pesaran (2004) posits that it is valid when panel's cross-section dimension is relatively small with time dimension being large and proposes an alternative approach to test for spatial correlation in errors that has good small sample properties and is valid in panels with relatively large cross-sectional units along with short time dimension, and also does not require panels to be balanced. However, application of the Pesaran's (2004) CD test to this study's sample fails due to lack of insufficient common observations across firms.

strong dependence (CD statistic: 2.678; p-value: 0.007). As for the model (3) with ROA as the dependent variable, the null of weak error dependence is rejected at 5% significance level (CD statistic: 2.111; p-value: 0.035). Thus, cross-sectional dependence is concluded to be present. Given that the model (4)'s residuals are found to exhibit groupwise heteroskedasticity, serial correlation and cross-sectional dependence, estimated standard errors of estimated coefficients must be adjusted so that the inference based on them be reliable. Such a method that takes the violation of independently and identically distributed errors into account while estimating fixed effects and random effects models is proposed by Driscoll and Kraay (1998), which provides standard errors that are robust to heteroskedasticity, temporal and spatial dependence in residuals that is made available by Hoechle (2007) via Stata command *xtscc*, and is suitable also for use with unbalanced panel datasets⁵¹. In line with the findings of Driscoll and Kraay (1998) for a balanced panel, Hoechle (2007) has demonstrated through Monte Carlo simulations that when errors are both correlated within as well as between cross-sectional units, estimated standard errors that are not adjusted would be severely biased downward irrespective of panel's nature, balanced or unbalanced. Besides, in contrast to Beck and Katz (1995)'s panel corrected standard errors (PCSE) approach with OLS that also adjust standard errors for aforementioned problems but becomes inappropriate as an estimator of choice in panels where number of cross-sectional units are large relative to time periods, Driscoll and Kraay (1998) estimator produces standard errors that are well-calibrated even in finite samples with panel's cross-sectional dimension is larger than its time dimension, especially when errors exhibit cross-sectional dependence (Hoechle, 2007)⁵². Consequently, the fixed effects estimation of the model (4) will be carried out with Driscoll and Kraay (1998) standard errors as suggested by Hoechle (2007) and in line with Andres et al., (2014). As for the model (3) with the ROA as the dependent variable, residuals are found to exhibit groupwise heteroskedasticity along with serial correlation and cross-sectional dependence. So as to ensure valid statistical inference, random effects estimation will be implemented on the model (3) with Driscoll and Kraay (1998) covariance matrix estimator.

⁵¹ As a result of the previously conducted panel-robust version of the Hausman test, random effects and fixed effects specifications are concluded to be appropriate for model (3) and model (4) with ROA and Tobin's *q* as the dependent variables, respectively. Nonetheless, residuals of both of these models are found to exhibit strong dependence as a result of test of weak cross-sectional dependence by Pesaran (2015). Hoechle (2007) provided a procedure to perform a Hausman test based on Wooldridge (2002)'s artificial regression approach that is heteroskedasticity consistent and robust to general forms of temporal and cross-sectional dependence which is implementable with *xtscc* command on Stata with both POLS and random effects estimations. The test results further confirmed the appropriateness of random and fixed effects specifications for model (3) and model (4), respectively.

⁵² Hoechle (2007) displays through alternative simulations wherein 1000 to 2500 cross-sectional units observed over time periods ranging from 5 to 40 years that the robustness of Driscoll and Kraay (1998) standard errors having performed much better than alternative covariance matrix estimators (regardless of the author's model being estimated by POLS or fixed effects estimator) that only account for either or both heteroskedasticity and serial correlation.

Table 5: Fisher type panel unit root test

Variable	Inverse chi-squared (P)		Inverse normal (Z)		Inverse logit (L^*)		Modified inverse chi-squared (P_m)	
Tobin's q	Statistic: 401.10	p-value: 0.000	Statistic: -7.99	p-value: 0.000	Statistic: -14.31	p-value: 0.000	Statistic: 23.19	p-value: 0.000
ROA	Statistic: 504.10	p-value: 0.000	Statistic: -8.38	p-value: 0.000	Statistic: -18.46	p-value: 0.000	Statistic: 30.86	p-value: 0.000
CSP	Statistic: 507.24	p-value: 0.000	Statistic: -8.16	p-value: 0.000	Statistic: -20.48	p-value: 0.000	Statistic: 31.10	p-value: 0.000
Beta	Statistic: 521.72	p-value: 0.000	Statistic: -10.56	p-value: 0.000	Statistic: -19.61	p-value: 0.000	Statistic: 32.18	p-value: 0.000
Leverage	Statistic: 803.71	p-value: 0.000	Statistic: -18.14	p-value: 0.000	Statistic: -38.70	p-value: 0.000	Statistic: 53.20	p-value: 0.000
Size	Statistic: 616.67	p-value: 0.000	Statistic: -8.51	p-value: 0.000	Statistic: -24.04	p-value: 0.000	Statistic: 39.26	p-value: 0.000
R&D	Statistic: 268.31	p-value: 0.000	Statistic: -5.29	p-value: 0.000	Statistic: -13.50	p-value: 0.000	Statistic: 13.30	p-value: 0.000
Missing (1/0)	Statistic: 1911.82	p-value: 0.000	Statistic: -40.64	p-value: 0.000	Statistic: -79.63	p-value: 0.000	Statistic: 135.80	p-value: 0.000

Notes to Table 6: H_0 : all panels contain a unit root versus H_1 : at least one panel is stationary. The Fisher type test is conducted by using Phillips and Perron (1988) regression at first lag with cross-sectional means removed and time trends included.

Finally, Studenmund (2016) explains that a given variable is said to be stationary if its basic properties such as its mean and variance are not varying over time. Otherwise, it would be nonstationary. More clearly, a variable is stationary if its mean and variance do not change over time and if the correlation between its value at time t and its value in previous time period $t-1$, $t-2$, and so on depends only on the time distance but not on any other variable. If one of the previously stated properties is violated, then a given variable is said to be nonstationary. The chief problem associated with the existence of nonstationary variables is spurious regression wherein included regressors would be highly correlated for non-causal reasons and, resultant test statistics of spuriously correlated regressors and model's coefficient of determination, R^2 , would be highly inflated. So as to ensure the inexistence of non-stationarity, a panel unit root test needs to be conducted on each regressor included both into the model (3) and model (4), also encompassing the dependent variables. Herein, as recommended by Mad-

dala and Wu (1999) and Choi (2001), Fisher type panel unit root test approach will be utilized given that it suits for unbalanced panel data sets. The main idea of this test is to combine p-values from a unit root test implemented to each panel and then produce an overall test. Under the null hypothesis, all panel contains a unit root, therefore they are non-stationary whereas under the alternative at least one panel is stationary. Table 6 demonstrates results of the Fisher type panel unit root test with Phillips and Perron (1998) regression at first lag with time trends and cross-sectional averages of variables are removed at each time period to ensure against the contemporaneous correlation in residuals. Through simulations, Choi (2001) demonstrated that amongst the four test statistics reported in Table 6, Z test outperforms all other tests. Therefore, the decision here is based on the Z test. It is evident from Table 6 that p-value associated with Z test strongly rejects the null hypothesis that all panels contain a unit root. Additionally, the results predicated on Z test are confirmed by other tests too. Thus, it can safely be proceeded to regression analysis without concern for spurious regression.

5.2) Pooled Ordinary Least Squares Estimation (POLS)

Table 7: Pooled OLS Estimation of Model (1) w/ ROA as the dependent variable

	ROA
CSP	0.034*** (4.78)
Beta	-0.028** (-2.18)
Leverage	0.007 (0.72)
Size	-0.007*** (-3.16)
R&D	0.238* (1.89)
Missing (1/0)	-0.045*** (-4.56)
Constant	-0.182*** (-2.84)
N	223
R ²	0.34
Adjusted R ²	0.29
F	6.60***
Time Dummies	Yes
Industry Dummies	Yes

Notes to Table 7: This table provides the coefficient estimates from the regression model (1) fitted by POLS regression with ROA as the dependent variable, as shown in the column heading. The t-statistics are displayed below corresponding coefficient estimates. The dataset contains yearly data covering the period 2014-2018 for 47 firms that are the constituents of BIST XKURY index. The independent variable CSP is measured as stakeholder subsection scores assigned to XKURY constituents. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Size, com-

puted as natural logarithm of number of employees; R&D, research and development intensity of a firm measured as R&D expenditures divided by sales and Missing (1/0) denotes the missing values of R&D. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table 7 reports the results of the POLS estimation on the model (1), which introduces the ROA as the dependent variable along with CSP, the measure of a firm's relationship with its key stakeholder constituents, as well as control variables and indicator variables for year and industry. From the first look at Table 7, the reported F statistic associated with F test of the overall significance of included predictors points toward the existence of joint significance of added regressors in determining the dependent variable ROA at 1% level. Besides, the model explains 34% and 29% of the variation in ROA as evident from the R^2 and adjusted R^2 , respectively. Furthermore, CSP is found to have a statistically significant positive impact on the financial performance of sample constituents at 1% level via ROA, evident from its estimated coefficient with associated t-value of 4.78. This finding seems to support the first hypothesis that CSP positively affects CFP via ROA. Although not of central importance in this study; CAPM Beta, the measure of risk is found to have a statistically significant and negative impact on ROA while Leverage is found to be positively associated with the ROA, nonetheless, the impact that it bears on the ROA is statistically insignificant. Size, measured as the natural logarithm of the number of employees, is found to be significantly and negatively associated with the ROA with corresponding t-statistic of -3.16 at 1% level. R&D, measure of research and development intensity, turns out to have a statistically significant and positive impact on ROA at 10% level. Moreover, industry dummies are jointly significant in determining ROA, thereby validating contention of McWilliams and Siegel (2000) that industry specific factors might exist and their influence shall be taken into account when investigating the CSP/CFP relationship.

Table 8: Pooled OLS Estimation of Model (1) w/ Tobin's q as the dependent variable

	Tobin's q	Tobin's q
CSP	0.218*** (3.92)	0.237*** (4.31)
Beta	-0.148 (-1.49)	-0.148 (-1.51)
Leverage	0.231*** (3.20)	0.718*** (3.86)
Size	0.003 (0.18)	-0.023 (-1.25)
R&D	9.987*** (10.04)	9.813*** (10.01)
Missing (1/0)	-0.003 (-0.03)	-0.042 (-0.53)

Leverage-squared		-0.163 ^{***} (-2.83)
Constant	-0.889 [*] (-1.76)	-1.069 ^{**} (-2.13)
N	223	223
R ²	0.66	0.68
Adjusted R ²	0.64	0.65
F	25.32 ^{***}	25.12 ^{***}
Time Dummies	Yes	Yes
Industry Dummies	Yes	Yes

Notes to Table 8: This table provides the coefficient estimates from the regression model (1) fitted by POLS regression with Tobin's q as the dependent variable, as shown in the column headings. The t-statistics (in parentheses) are displayed below corresponding coefficient estimates. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable CSP is as stakeholder subsection scores assigned to XKURY constituents. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Leverage-squared is square term for the variable Leverage; Size, computed as natural logarithm of number of employees; R&D, research and development intensity of a firm measured as R&D expenditures divided by sales and Missing (1/0) denotes the missing values of R&D that are filled. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table 8 portrays the results from POLS estimation on the model (1) with Tobin's q as the dependent variable and CSP as the independent variable as well as control variables and indicators for time and industry. Also, the quadratic term is included to inquire whether non-linearity, or lack thereof, exists between Leverage, measured as debt to asset ratio, and Tobin's q as hinted at the initial analysis section. From the reported F statistics as to the F test of joint significance of included regressors in both specifications, it is evident that the models are significant in determining the financial performance when measured as Tobin's q , at 1% level. Besides, as for the specification of the model (1) with the quadratic term for the Leverage is not incorporated, included regressors explain 66% and 64% of the variation in the dependent variable Tobin's q as evident from the reported R² and adjusted R², respectively. For the specification wherein the quadratic term for the Leverage is incorporated, included regressors explain 68% and 65% of the variation in Tobin's q as shown in the reported R² and adjusted R², respectively. Further, CSP is found to have a significant positive impact on Tobin's q in both specifications at 1% level with associated t-values of 3.92 and 4.31, respectively. This finding seems to yield support for the second hypothesis. Though not of chief importance, estimated coefficients of the risk are negative but insignificant. The interesting is the finding concerning the relationship between Leverage and financial performance measured as Tobin's q . From the reported findings, the inverse U-shaped relationship between Leverage and Tobin's q is found to exist. For values of Leverage (i.e., debt to asset ratio) lower than 2.20, increases in Leverage raises financial performance; values of debt to asset ratio higher than 2.20, further increases in Leverage reduces financial performance when measured as Tobin's q . The impact of Leverage on financial performance is peaked at debt to

asset ratio equal to 2.20. This finding seems to have support in McConnell and Servaes (1995) and Margaritis and Psillaki (2010). Moreover, Size is found to have no significant relation to financial performance. R&D is found to be significantly positively associated with financial performance at 1% level in both specifications.

Results as to the POLS estimation conducted on the model (1) with both ROA and Tobin's q as the dependent variables seem to yield support for the previously stated hypotheses that CSP influences financial performance positively via both ROA and Tobin's q . Nonetheless, as to be recalled, Breusch and Pagan LM test for random effects implemented on the model (1) yielded strong support for the appropriateness of random effects specification for the model (1). Consequently, the model (1) took the appropriate form as the model (2). Further, as a point of recall, the test of overidentifying restrictions to be able to decide between fixed effects and random effects specifications carried out and consequently; model (2) took for ROA as dependent variable the form as model (3) with appropriate specification being random effects model and model (2) further took for Tobin's q as dependent variable the form as model (4) with fixed effects model being proper specification. Hence following subsections will introduce the estimation results of both model (3) and model (4) by taking this into account.

5.3) Random Effects Estimation

Table 9: Random Effects Estimation of Model (3) w/ ROA as the dependent variable

	Random Effects	Random Effects w/ Robust Bootstrap Standard Errors	Random Effects w/ Driscoll and Kraay Standard Errors
CSP	0.026*** (2.90)	0.026*** (2.59)	0.026** (3.30)
Beta	-0.009 (-0.75)	-0.009 (-0.94)	-0.009 (-0.73)
Leverage	0.003 (0.24)	0.003 (0.21)	0.003 (0.32)
Size	-0.008*** (-2.70)	-0.008*** (-2.84)	-0.008* (-2.57)
R&D	0.194 (0.89)	0.194 (0.99)	0.194 (0.70)
Missing (1/0)	-0.045** (-2.51)	-0.045*** (-6.25)	-0.045 (-2.09)
Constant	-0.101 (-1.22)	-0.101 (-1.12)	-0.101 (-1.89)
N	223	223	223
R ² _{within}	0.02	0.02	

$R^2_{between}$	0.38	0.38	
$R^2_{overall}$	0.33	0.33	0.33
Wald χ^2	34.23***	122.49***	410.80***
Time Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
Breusch and Pagan			
LM test	0.000		
(p-value)			
Sargan-Hansen test	0.199		
(p-value)			
Modified Wald test	0.000		
(p-value)			
Wooldridge test	0.000		
(p-value)			
Pesaran CD test	0.035		
(p-value)			

Notes to Table 9: This table provides the coefficient estimates from the regression model (3) fitted by random effects regression with ROA as the dependent variable. The z-values (and t-statistics in the third column) lie below coefficient estimates and are based on covariance matrix estimators as displayed in corresponding column headings. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable CSP is measured as stakeholder subsection scores assigned to XKURY constituents. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Size, computed as natural logarithm of number of employees; R&D, research and development intensity of a firm measured as R&D expenditures divided by sales and Missing (1/0) denotes the missing values of R&D that are filled. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table 9 reports the results from random effects estimation on the model (3)⁵³ with ROA as the dependent variable and CSP as the independent variable along with control variables as well as indicator variables for time and industry. From the initial analysis section, it is found that residuals of the model (3) exhibit groupwise heteroskedasticity and are temporally and cross-sectionally dependent. The column headings exhibit the choice of different covariance matrix estimators. The first column reports the result of random effects estimation carried out on model (3) without correction for the aforementioned complications in residuals. The second column reports the estimation result as to the model (3) with heteroskedasticity and serial correlation robust panel-corrected bootstrap standard errors suggested by Wooldridge (2013), and in line with Shahzad and Sharfman (2017). The third column displays the result of random effects estimation performed on the model (3) with Driscoll and Kraay (1998) covariance matrix estimator as suggested by Hoechle (2007) that are robust to heteroskedasticity, temporal dependence and spatial correlation in residuals. From the probability associated with Wald Chi-Square statistic regarding the test of the overall significance of included regressors, it is evident that the included regressors are jointly significant deter-

⁵³ As previously emphasized, model (2) took for ROA as dependent variable the form as model (3) with appropriate specification being random effects model as a result of the test of overidentifying restrictions, evident from the p-value of 0.199 associated with Sargan-Hansen test statistic. According to Wooldridge (2013), if the model includes good controls, it might be the case that any leftover unobserved heterogeneity only induces serial correlation in composite error term, but it does not cause correlation between composite error term and explanatory variables. Nonetheless, model (3) is also fitted by fixed effects regressions and the results are presented at Table B in Appendix. Results provided further support for the appropriateness of the random effects specification for model (3).

minants of the dependent variable ROA. In all columns, the model explains the non-negligible portion of the variation in the dependent variable; 33%, 33%, and 33%, respectively. When residuals are corrected for groupwise heteroskedasticity as well as serial correlation and cross-sectional dependence with Driscoll and Kraay (1998) covariance matrix estimator, CSP is found to have a statistically significant and positive effect on ROA at 5% level, evident from the third column. The finding yields support for the first hypothesis. Although not of the main focus here, CAPM Beta is found to have no statistically significant impact on ROA. Size is found to have a statistically significant negative impact on ROA at 10% level, evident from the last column. Lastly, Leverage and R&D are found to have no statistically significant impact on the dependent variable ROA regardless of the choice of covariance matrix estimator. Furthermore, the estimated coefficients of indicators for industry turned out to be jointly significant in determining ROA, further corroborating choice of their inclusion.

5.4) Fixed Effects Estimation

Table 10: Fixed Effects Estimation of Model (4) w/ Tobin's q as the dependent variable

	Fixed Effects	Fixed Effects w/ Cluster-Robust Standard Errors	Fixed Effects w/ Driscoll and Kraay Standard Errors
CSP	0.180 (1.60)	0.180 (1.43)	0.180* (2.66)
Beta	-0.103 (-0.83)	-0.103 (-0.69)	-0.103 (-0.81)
Leverage	0.612 (1.46)	0.612 (1.42)	0.612** (2.87)
Size	-0.196** (-2.31)	-0.196 (-1.56)	-0.196*** (-10.98)
R&D	13.636** (2.54)	13.636 (1.23)	13.636 (1.70)
Leverage-squared	-0.126 (-1.35)	-0.126 (-1.53)	-0.126** (-3.32)
Constant	0.699 (0.62)	0.699 (0.77)	0.699 (1.13)
N	223	223	223
F	4.29***	8.95***	23.85***
R^2_{within}	0.21	0.21	0.21
$R^2_{between}$	0.41	0.41	
$R^2_{overall}$	0.39	0.39	
Time Dummies	Yes	Yes	Yes
Industry Dummies	No	No	No
Corr(u_i, x_b)	-0.54	-0.54	
Breusch and Pagan LM test	0.000		

(p-value)

Sargan-Hansen test <i>(p-value)</i>	0.005
Modified Wald test <i>(p-value)</i>	0.000
Wooldridge test <i>(p-value)</i>	0.007
Pesaran CD test <i>(p-value)</i>	0.007

Notes to Table 10: This table provides the coefficient estimates from the regression model (4) fitted by fixed effects regression with Tobin's q as the dependent variable. The t-statistics (in parentheses) displayed below coefficient estimates and are based on covariance matrix estimators as shown in corresponding column headings. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable CSP is measured as stakeholder subsection scores assigned to XKURY constituents. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Leverage-squared is the squared term for the variable Leverage; Size, computed as the natural logarithm of the number of employees; R&D measured as R&D expenditures divided by sales. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively. $\text{Corr}(u_i, X_b)$ denotes the magnitude of the correlation between fixed effects and included regressors.

Table 10 presents the result of the fixed effects estimation on the model (4) with Tobin's q as the dependent variable and CSP as the independent variable in addition to the control variables and year dummies. The industry dummies are excluded along with the indicator variable for missing values of R&D that are filled since they have no within variation, and consequently they are eliminated through fixed effects transformation prior to estimation. The three columns that appear in Table 10 correspond to the differing choice of covariance matrix estimator. The residuals of the model (4) are found to exhibit groupwise heteroskedasticity as well as temporal and cross-sectional dependence. The third column of Table 10 combines fixed effects estimation with Driscoll and Kraay standard error estimates, thereby ensuring valid statistical inference, as heeded by Hoechle (2007). The obvious from the reported F statistics associated with F test of joint significance of included regressors is the reliability of included regressors being significant joint determinants of the dependent variable, Tobin's q . The included regressors explain a non-negligible portion of the variation in the dependent variable, evident from within R^2 of 21%. Evident from the third column is the positive impact that CSP is found to have on the dependent variable Tobin's q when complications in residuals are accounted for, at 10% level⁵⁴. This seems to yield evidence toward the second hypothesis. Interestingly, previously found inverse U-shaped relationship between the Leverage and Tobin's q is confirmed in fixed effects estimation of the model (4) with Driscoll and Kraay standard errors at 5% level. For values of Leverage, measured as debt to asset ratio, lower than 2.43, increases in Leverage also increase financial performance. For values higher than 2.43, further increases in Leverage leads to reductions in financial performance measured as Tobin's q . The impact that the Leverage has on the dependent variable is peaked at debt to

⁵⁴ Hoechle (2007) contended that Driscoll and Kraay standard errors need not necessarily be more or less conservative than standard errors produced by alternative covariance matrix estimators.

asset ratio of 2.43. Besides, Size is found to be significantly negatively associated with Tobin's q at 1% level. Furthermore, R&D and CAPM Beta are found to have no statistically significant impact on the financial performance measured as Tobin's q .

5.5) Reverse Causality: Slack Resources Theory

According to slack resources theory, better financial performance potentially results in availability of slack resources that provide an opportunity for companies to invest in social performance domains such as employee relations, community relations, environment, and so on. If slack resources exist, then better social performance could result from the channeling of those resources into social performance increasing activities. Thus, better financial performance would be a predictor of better social performance. McGuire et al., (1988) found empirical support for slack resources theory with both market and accounting-based performance measures. Waddock and Graves (1997a), as previously mentioned, found out that CSP and CFP affect each other positively, thus forming virtuous circle. The authors concluded that firms with available slack resources might opt for spending those resources in a way that doing good socially will lead to doing well financially. In addition, Choi et al., (2010) found evidence in favor of slack resources theory with their stakeholder-weighted social performance measure, thereby concluding that financially healthy companies possess available resources to engage in socially responsible activities aimed at improving relations with their stakeholder constituents. Given that CSP is both predictor and consequence of firm financial performance, any empirical study into CSP/CFP link needs to take into account endogeneity that might potentially be induced by reverse causality (Schreck, 2011). According to Ben Lahouel et al., (2019), endogeneity occurs since reverse causality between CSP and CFP would violate the strict exogeneity assumption common to both fixed effects and random effects specifications, thereby leading to biased coefficient estimates. Yang and Baasandorj (2017) analyzed the impact of social performance on the financial performance of companies operating in the international aviation industry via fixed effects panel data analysis and reported that social performance affects the financial performance positively and significantly when measured via ROA whereas social performance is found to have no significant impact on financial performance when measured via Tobin's q . Ben Lahouel et al., (2019) replicated Yang and Baasandorj (2017)'s study by utilizing same measures over extended time horizon while taking into account potential endogeneity problem with system GMM estimator for panel data and reported that CSP has no impact on CFP measured either with ROA or Tobin's q . Marti et al., (2015) adopted lagged structure for CSP measure to address potential endogeneity that might be caused by reverse causality and found that CSP impacts CFP positively regardless of CFP measures utilized. Herein, to alleviate the potential endogeneity problem associated with reverse causality, lagged structure will be adopted for CSP measure to ensure

that the direction of causality runs from CSP to CFP in line with Marti et al., (2015). Even though estimation results of model (3) and model (4) from Table 9 and Table 10, respectively, yielded support for both of this paper's hypotheses, further check is required due to the potential endogeneity problem.

Table 11: Estimation of Model (3) and Model (4) with Lagged CSP and R&D

	Random Effects w/ Driscoll and Kraay Standard Errors	Fixed Effects w/ Driscoll and Kraay Standard Errors
Lagged CSP	0.021** (3.55)	0.138** (4.73)
Beta	-0.015 (-1.54)	0.013 (0.19)
Leverage	0.002 (0.17)	0.801** (4.08)
Size	-0.007* (-2.46)	-0.209* (-2.77)
Lagged R&D	0.214 (0.76)	32.281* (2.59)
Lagged Missing (1/0)	-0.050** (-4.64)	
Leverage-squared		-0.140** (-3.66)
Constant	-0.050 (-0.80)	0.530 (0.73)
N	176	176
R^2_{within}		0.37
$R^2_{overall}$	0.32	
F		67.78***
Wald χ^2	1730.98***	
Time Dummies	Yes	Yes
Industry Dummies	Yes	No

Notes to Table 11: This table provides the coefficient estimates from regression models (3) and (4) fitted by random effects and fixed effects regressions with ROA and Tobin's q as the dependent variables, respectively. The t-statistics in parentheses presented below estimated coefficients and are based on covariance matrix estimators as shown in corresponding column headings. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable Lagged CSP represents stakeholder subsection scores lagged by one period. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Leverage-squared is quadratic term for the variable Leverage; Size, computed as natural logarithm of number of employees; Lagged R&D and Lagged Missing (1/0) represent lagged values of R&D and Missing (1/0), respectively. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table 11 introduces the results of random effects and fixed effects estimations with Driscoll and Kraay (1998) covariance matrix estimator on the model (3) and model (4) with ROA and Tobin's q as the dependent variables, respectively, along with CSP lagged by one

period preceding both financial performance measures as the independent variable as well as control variables and indicators for time and industry⁵⁵. From the reported Wald Chi-Square statistic and F statistic associated with the test of the overall significance of the included regressors of the model (3) and model (4), the included regressors are evidently jointly significant determinants of the ROA and Tobin's q , respectively. Evident from the estimation results pertaining to the model (3), wherein groupwise heteroskedasticity, serial correlation and cross-sectional dependence are taken into account, the Lagged CSP is found to have a significant positive impact on the dependent variable ROA at 5% level. This finding further validates that the first hypothesis holds. Furthermore, the impact that the Lagged R&D has on the ROA is positive as evident from its estimated coefficient but insignificant. Size is found to have statistically significant negative impact on the dependent variable ROA at 10% level. Lastly, while Leverage and CAPM Beta are found to have no statistically significant impact on the ROA, indicators for industry turned out to be joint significant determinants of ROA.

Additionally, fixed effects estimation of the model (4) with Tobin's q as the dependent variable exhibits that the Lagged CSP has a statistically significant positive impact on the financial performance measured as Tobin's q at 5% level after accounting for groupwise heteroskedasticity, serial correlation and cross-sectional dependence, yielding further support to the second hypothesis. The previously found inverse U-shaped relation between Leverage and CFP resurfaces at 5% level⁵⁶. For values of debt to asset ratio lower than 2.86, increases in Leverage also increases Tobin's q whereas values above 2.86; further increases in Leverage reduce the financial performance. The impact that Leverage has on the financial performance when measured with Tobin's q is peaked at debt to asset ratio of 2.86. The Lagged R&D is found to have statistically significant positive impact on Tobin's q at 10% while Size is found to be negatively and significantly associated with the financial performance at 10% level. The CAPM Beta is found to have no statistically significant impact on Tobin's q .

⁵⁵ R&D variable also entered into regressions with lagged structure adopted since it might take time for investments in research and development to yield fruits, in line with Hillman and Keim (2001), Marti et al., (2015), Servaes and Tamayo (2013) and Shahzad and Sharfman (2017).

⁵⁶ When Leverage entered into model (4) with square term excluded, assuming linear relation to Tobin's q , its estimated coefficient is positive and statistically significant at 5% level with no substantial impact on the coefficient estimates of other included regressors.

6. Conclusion, Research Contribution and Limitation

From the early 1970s up until now, the relationship between CSP and CFP has been under continuous inquiry. Nonetheless, the findings of the extant literature have so far reached no consensus (Beurden & Gössling, 2008; Griffin & Mahon, 1997; Lu et al., 2014; Margolis et al., 2009; Mattingly, 2017; Orlitzky et al., 2003; Ullmann, 1985). Numerous reasons were offered as to the lack of consensus in prior findings. Notable among them is the lack of consensus pertaining to how CSP ought to be operationalized. In the extant literature concerning the Turkish context, as previously mentioned, employed measures of CSP vary from a firm's charitable activities and content analysis of disclosure to the authors' own survey instruments. However, unlike CSP, utilized CFP measures exhibit consistency in that both accounting and market-based measures are employed in most research examining the link between CSP and CFP. In this thesis, by taking heed at the valuable suggestions directed toward researchers by Clarkson (1995) and Wood and Jones (1995) and in line with Choi et al., (2010), Garcia-Castro et al., (2010), Garcia-Castro et al., (2011), Hillman and Kiem (2001), Ruf et al., (2001), Surroca et al., (2010), Servaes and Tamayo (2013), Shahzad and Sharfman (2017), Waddock and Graves (1997a), Waddock and Graves (1997b) and drawing on the instrumental view of the stakeholder theory introduced first explicitly by Donaldson and Preston (1995) and developed formally by Jones (1995), the CSP measure herein is operationalized as good relations with key stakeholder constituents, and stakeholder subsection scores assigned to select sample constituents of the BIST XKURY index are utilized as proxy. This way of defining CSP is advantageous in the sense that, as contended by Clarkson (1995) as a result of the insights the author gained from his field studies, in the process of conducting their day-to-day business operations, corporate managers do not act in terms of such concepts as responsiveness, responsibility or social performance. Neither do they manage social issues within their environment. Rather, they think in terms of and attend to issues related to stakeholder constituents that they consider as relevant to a corporation's interests. Besides, looking at CSP from a stakeholder perspective takes this measure out of simply being a philanthropic act when firms take on if financial slacks permit so. Recently, on August 19, 2019, the Business Roundtable, not-for-profit institution that is made up of CEOs of large U.S. businesses, aired a new statement signed by 181 CEOs titled as "Statement on the Purpose of a Corporation"⁵⁷ that made it clear that interests of all stakeholders, not only shareholders, are key to business success. The customers, employees, suppliers, communities along with shareholders are explicitly pointed as stakeholder constituents to whom commitment ought to be made.

⁵⁷ See the full content at <https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans>.

To this end, the data is obtained for the 47 firms that are constituents of the BIST Corporate Governance Index, XKURY, for the five consecutive fiscal years from 2014 to 2018. For each firm that constitutes the sample, the information pertaining to CSP, stakeholder subsection scores assigned to select constituents by CMB designated credit rating agencies in line with CMB's methodology, CAPM Beta, measure of risk herein, Leverage, Size and R&D, research and development intensity, and industry that the select sample belong to are obtained. On the sample data at first, POLS estimation is carried out for both models, model (3) and model (4). The initial estimation results confirm this paper's hypotheses that CSP affects CFP positively via both ROA and Tobin's q . Thereafter, the implementation of Breusch and Pagan LM test for random effects and the test of overidentifying restrictions so as to decide between random or fixed effects specification led to the final form for the model with ROA as the dependent variable as model (3) and led to the final form for the model with the Tobin's q as the dependent variable as model (4). After accounting for complications in errors; namely, groupwise heteroskedasticity, serial correlation and cross-sectional dependence, the estimation results from Table 9 and Table 10 provide further support for the hypotheses of this study in that financial gains do indeed exist for firms that develop good relations based on trust and mutual cooperation with their key stakeholder constituents. Moreover, the results also hold when lagged structure adopted for the CSP measure herein to alleviate endogeneity that might emanate from reverse causality, evident from Table 11. The findings herein are in line with Garcia-Castro et al., (2011), Hillman and Keim (2001), Ruf et al., (2001), Shahzad and Sharfman (2017) and Waddock and Graves (1997a). Additionally, for the model (4) with Tobin's q as the dependent variable, there seems to exist inverse U-shaped relationship between Leverage, measured as debt to asset ratio, and Tobin's q in line with McConnell and Servaes (1995) and Margaritis and Psillaki (2010).

The research herein contributes to the scarce literature in Turkish context by utilizing a CSP measure, which is stakeholder subsection scores assigned to the constituents of BIST XKURY index, that better captures both the multi-faceted nature of social performance and the various stakeholder relationships in contrast to the firms' charitable deeds, content analysis of annual reports and company websites, and corporate governance compliance reports as mainly utilized measures by Turkish scholars that are either subjective or single dimensional. Besides, unlike the previous literature in Turkish context, the paper herein by drawing on the theoretical arguments of the instrumental stakeholder theory provides a "missing link" that helps connect the CSP with CFP as stressed by Clarkson (1995), Ullman (1985) and Wood and Jones (1995). While doing so, the empirical rigor is preserved in a way that case with regard to reverse causality from CFP to CSP is elaborated on and taken into account while potential misspecifications in the residuals of the models are thoroughly investigated and cor-

rected so as to have reliable coefficient estimates of the impact of CSP on CFP by estimating models with Driscoll and Kraay (1998) covariance matrix estimator as suggested by Hoechle (2007).

Finally, there are few limitations that shall herein be mentioned as a closing remark. First of all, the sample size of the study is limited to 47 constituents subject to the analysis herein for the period 2014-2018. The BIST XKURY index started operation with 5 public companies in 2007 and the number of publicly listed constituent firms reached 47 as of 2018. With the passage of time, an increase in the availability of constituents will realize and studies will hopefully take advantage of the increased sample size which will also increase precision in estimation. As overt from Table A in Appendix, 40 firms have been present during the 2014-2018 and the rest are observed over less than five years. Even though assigned scores are available for some of the constituents from 2008 onward, due to the amendments in methodology brought by CMB first in 2005 and then in December 2011, February 2012, June 2012, September 2012, February 2013, April 2013 and more recently in January 2014, scores are decided to be taken from 2014 onward to yield comparability. Secondly, Surroca et al., (2010) argued that the relationship between CSP and CFP is mediated by intangibles such as innovation, human capital, culture and reputation. The authors reported that CSP has no impact on CFP after the mediators are taken into consideration, and further stated that there exists a positive indirect effect from CSP to CFP through mediators. Additionally, as suggested by Fama and French (1992), there should be a gap between accounting data and market values so that the market could fully process the accounting data, as in Schreck (2011). Ultimately, if warranted by adequacy of sample size, research targeting specific industries on the topic shall also be conducted to improve understanding. Hence, future research on the topic shall address these limitations.

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Appendix

Table A: Sample Constituents

Company	Industry	Years of available data
Vestel Elektronik Sanayi ve Ticaret A.Ş. (VESTL)	Manufacturing	2014-2018
Tofaş Türk Otomobil Fabrikası A.Ş. (TOASO)	Manufacturing	2014-2018
Türk Traktör ve Ziraat Makineleri A.Ş. (TTRAK)	Manufacturing	2014-2018
Hürriyet Gazetecilik ve Matbaacılık A.Ş. (HURGZ)	Manufacturing	2014-2018
Türkiye Petrol Rafinerileri A.Ş. (TUPRS)	Manufacturing	2014-2018
Otokar Otomotiv ve Savunma Sanayi A.Ş. (OTKAR)	Manufacturing	2014-2018
Anadolu Efes Biracılık ve Malt Sanayi A.Ş. (AEFES)	Manufacturing	2014-2018
Yapı ve Kredi Bankası A.Ş. (YKBNK)	Financial Institutions	2014-2018
ŞEKERBANK T.A.Ş. (SKBNK)	Financial Institutions	2014-2018
Coca Cola İçecek A.Ş. (CCOLA)	Manufacturing	2014-2018
Arçelik A.Ş. (ARCLK)	Manufacturing	2014-2018
TAV Havalimanları Holding A.Ş. (TAVHL)	Financial Institutions	2014-2018
Türkiye Sınai Kalkınma Bankası A.Ş. (TSKB)	Financial Institutions	2014-2018
Doğan Şirketler Grubu Holding A.Ş. (DOHOL)	Financial Institutions	2014-2018
Logo Yazılım Sanayi ve Ticaret A.Ş. (LOGO)	Technology	2014-2018
Türk Telekomünikasyon A.Ş. (TTKOM)	Transportation & Telecommunication and Storage	2014-2018
Türk Prysmian Kablo ve Sistemleri A.Ş. (PRKAB)	Manufacturing	2014-2018
TURCAS PETROL A.Ş. (TRCAS)	Financial Institutions	2014-2018
Park Elektrik Üretim Madencilik Sanayi ve Ticaret A.Ş. (PRKME)	Mining	2014-2018
Aygaz A.Ş. (AYGAZ)	Manufacturing	2014-2018
Albaraka Türk Katılım Bankası A.Ş. (ALBRK)	Financial Institutions	2014-2018
AG Anadolu Grubu Holding A.Ş. (AGHOL)	Financial Institutions	2014-2018
IHLAS HOLDING A.Ş. (IHLAS)	Financial Institutions	2014-2018
İhlas Ev Aletleri İmalat Sanayi ve Ticaret A.Ş. (IHEVA)	Manufacturing	2014-2018
Doğuş Otomotiv Servis ve Ticaret A.Ş. (DOAS)	Wholesale and Retail Trade & Hotels and Restaurants	2014-2018
Pınar Süt Mamulleri Sanayii A.Ş. (PNSUT)	Manufacturing	2014-2018
Türkiye Halk Bankası A.Ş. (HALKB)	Financial Institutions	2014-2018

GLOBAL YATIRIM HOLDİNG A.Ş. (GLYHO)	Financial Institutions	2014-2018
GARANTİ FAKTORİNG A.Ş. (GARFA)	Financial Institutions	2014-2018
Enka İnşaat ve Sanayi A.Ş. (ENKAI)	Construction and Public Works	2014-2018
Pınar Entegre Et ve Un Sanayii A.Ş. (PETUN)	Manufacturing	2014-2018
Aselsan Elektronik Sanayi ve Ticaret A.Ş. (ASELS)	Technology	2014-2018
GARANTİ YATIRIM ORTAKLIĞI A.Ş. (GRNYO)	Financial Institutions	2014-2018
CreditWest Faktoring A.Ş. (CRDFA)	Financial Institutions	2014-2018
Pınar Su Sanayi ve Ticaret A.Ş. (PIN- SU)	Manufacturing	2014-2018
PEGASUS Hava Taşımacılığı A.Ş.	Transportation & Telecommuni- cation and Storage	2014-2018
Aksa Akrilik Kimya Sanayii A.Ş. (AKSA)	Manufacturing	2014-2018
Akiş Gayrimenkul Yatırım Ortaklığı A.Ş. (AKSGY)	Financial Institutions	2014-2018
Türkiye Garanti Bankası A.Ş. (GAR- AN)	Financial Institutions	2014-2018
Türkiye Şişe ve Cam Fabrikaları A.Ş. (SISE)	Financial Institutions	2014-2018
DOĞUŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş. (DGGYO)	Financial Institutions	2015-2018
Ereğli Demir ve Çelik Fabrikaları T.A.Ş. (EREGL)	Manufacturing	2015-2018
Anadolu Anonim Türk Sigorta Şirketi (ANSGR)	Financial Institutions	2015-2018
Migros Ticaret A.Ş. (MGROS)	Wholesale and Retail Trade & Hotels and Restaurants	2015-2018
Akmerkez Gayrimenkul Yatırım Orta- klığı A.Ş. (AKMGY)	Financial Institutions	2016-2018
Halk Gayrimenkul Yatırım Ortaklığı A.Ş. (HLGYO)	Financial Institutions	2017-2018
Tat Gıda Sanayi A.Ş. (TATGD)	Manufacturing	2017-2018

Notes to Table A: The select sample comprises of 47 publicly listed firms whose shares are traded on BIST, and they are presented along with their respective ticker codes in parenthesis in adjacent fashion as well as their corresponding industries and years of available data.

Table B: Fixed Effects Estimation of Model (3) w/ ROA as dependent variable

	Fixed Effects	Fixed Effects w/ Cluster-Robust Standard Errors	Fixed Effects w/ Driscoll and Kraay Standard Errors
CSP	0.016 (1.39)	0.016 (1.32)	0.016** (2.82)
Beta	-0.001 (-0.05)	-0.001 (-0.07)	-0.001 (-0.06)
Leverage	0.008 (0.43)	0.008 (0.48)	0.008 (0.93)
Size	-0.003 (-0.34)	-0.003 (-0.31)	-0.003 (-0.53)
R&D	-0.006 (-0.01)	-0.006 (-0.01)	-0.006 (-0.03)
Constant	-0.074 (-0.66)	-0.074 (-0.60)	-0.074 (-1.46)
N	223	223	223
R ² <i>within</i>	0.03	0.03	0.03
R ² <i>between</i>	0.10	0.10	
R ² <i>overall</i>	0.07	0.07	
F	0.50	0.64	3.15
Time Dummies	Yes	Yes	Yes
Industry Dummies	No	No	No

Notes to Table B: This table provides the coefficient estimates from the regression model (3) fitted by fixed effects regression with ROA as the dependent variable. The t statistics (in parentheses) displayed below coefficient estimates, and are based on covariance matrix estimators as shown in corresponding column headings. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable CSP is measured as stakeholder subsection scores assigned to XKURY constituents. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Size, computed as the natural logarithm of the number of employees; R&D measured as R&D expenditures divided by sales. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table C: Fixed Effects Estimation of Model (3) w/ Lagged CSP and R&D

	Fixed Effects	Fixed Effects w/ Cluster-Robust Standard Errors	Fixed Effects w/ Driscoll and Kraay Standard Errors
Lagged CSP	0.004 (0.28)	0.004 (0.23)	0.004 (0.81)
Beta	-0.003 (-0.18)	-0.003 (-0.29)	-0.003 (-0.51)
Leverage	0.005 (0.25)	0.005 (0.26)	0.005* (3.12)
Size	-0.001 (-0.09)	-0.001 (-0.10)	-0.001 (-0.08)
Lagged R&D	0.506 (0.85)	0.506* (1.96)	0.506 (2.00)
Constant	0.025 (0.17)	0.025 (0.13)	0.025 (0.21)
N	176	176	176
R ² <i>within</i>	0.02	0.02	0.02
R ² <i>between</i>	0.08	0.08	
R ² <i>overall</i>	0.09	0.09	
F	0.27	0.70	2.89
Time Dummies	Yes	Yes	Yes
Industry Dummies	No	No	No

Notes to Table C: This table provides the coefficient estimates from the regression model (3) fitted by fixed effects regression with ROA as the dependent variable. The t statistics (in parentheses) displayed below coefficient estimates, and are based on covariance matrix estimators as shown in corresponding column headings. The dataset contains yearly data covering the period 2014-2018 for 47 firms, constituents of BIST XKURY index. The independent variable Lagged CSP represents stakeholder subsection scores lagged by one period. The control variables: CAPM Beta, systematic risk of a firm; Leverage, measured as debt to asset ratio; Size, computed as the natural logarithm of the number of employees; Lagged R&D represents lagged values of R&D. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively.

Table D: Model Specification Test

	ROA	Tobin's q
$_hat$	0.788 ^{***} (3.47)	
$_hatsq$	1.773 (1.03)	
$_hat$		0.815 ^{***} (4.54)
$_hatsq$		0.039 (1.07)
Constant	0.004 (0.55)	0.150 (0.98)
N	223	223
R^2	0.34	0.66
Adjusted R^2	0.34	0.66
F	57.15 ^{***}	218.06 ^{***}

Notes to Table D: Linktest is performed on models with ROA and Tobin's q as dependent variables along with CSP and control variables as well as time and industry dummies. $_hat$ denotes linear predicted value. $_hatsq$ is denoted as squared term for $_hat$. Superscripts *, **, and *** denote statistical significance at 10%, 5% and 1%, respectively. The test is available on Stata statistical software package as a post estimation command, *linktest*.