# Institutional ownership and corporate social responsibility engagement: an analysis of S&P500 index

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**ABSTRACT,**

***This study focused on the relationship between institutional ownership and its influence on corporate social responsibility. It considers how different financial and social motivations push institutional owners to invest in CSR. There are two main theories that have been used in order to justify why institutional owners are expected to have high CSR involvement. The stakeholder theory discusses that firms should align their actions with the interests of their respective stakeholders in order to increase economic rents. Institutional owners are in a strong position to influence this process. Second, resource based theory discusses that the accumulation of valuable, rare, inimitable and non-substitutable assets would allow firms to achieve competitive advantage and therefore profits. CSR can be considered as such an asset. Both theories imply that since institutional owners have fiduciary duties towards their clients, it is in their best interest to hold a portfolio of companies that have high CSR engagement. This research was done on the basis of total institutional ownership and ownership by short and long-term oriented institutional owners. For the former, total institutional ownership, the results were significant and positive relationship was found, confirming the hypothesis that higher proportion of institutional ownership results in higher levels of CSR. For the latter, institutional ownership by pension funds and investment firms, result showed that both of these groups have positive relationship with CSR involvement, despite that investment firms were considered as short-term oriented institutional shareholder and the relationship was expected to be negative. Overall results suggest that institutional ownership can generate real CSR impact.***

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Institutional ownership, corporate social responsibility, ESG, environmental risk, investment firms, pension funds.

# 1. INTRODUCTION

Corporate social responsibility (CSR) has been one of the most significant and quick-growing corporate trends over the last decades. While there is no general agreement on the definition of CSR, the term generally refers to the broad array of strategies and operating practices that companies develop with respect to their employees, communities, society and the environment that go beyond what is legally required of a firm (McWilliams et al., 2006). CSR has become an important part of the way businesses nowadays operate and there has been a spate of interest on the topic. Alongside dealing with extremely dynamic environments and making profit, firms continuously face a lot of pressure for responsible and ethical behavior, and for this reason their CSR engagement is generating a great amount of public and research attention. As a response to these events, an increasing number of managers have committed to integrating environmental, social, and governance (ESG) plans in their capital allocation processes. CSR-related expenses have become a substantial component of many companies' operations. In addition to that, most major corporations currently focus on providing special annual publications dedicated to CSR or devote large sections of their CSR expenditure in their annual reports and also consider more sustainable involvement on corporate strategic level (Ding et al., 2016). Other corporations have also begun to include social responsibility criteria in executive compensation plans.

While observing recent financial markets trends, one cannot deny that during the last decades, there has been a considerable growth in the amount of shares held by institutional investors – companies and organizations that invest money on behalf of other people. Examples of such entities are mutual funds, pension funds, banks and insurance companies. According to Jahnke (2017), while private individuals owned more than a half of U.S. equities back in 1970, today it is institutional investors that control more than two-thirds of such shares. As a consequence of such a large portion of ownership, the influential role of institutional investors is significant. Such owners are highly involved in firms' corporate governance, decision-making and resources allocation. Plus, they have high interest in financial and social performance of their investees. Empirical evidence (e.g. Barnea & Rubin, 2010) suggests that firms' owners are, in general, a key factor that determines corporate level attitude towards CSR involvement. In particular, the scholars argue that institutional investors have enormous potential to exert significant influence on companies' CSR activities and have some reasonable social and financial motives to do so, too. As a result, the topic about institutional ownership and its potential effect on corporate social responsibility has attracted a great deal of researchers' attention through the years and more new research on it has been presented recently.

In this study, I try to understand how institutional investors influence the CSR activities of their portfolio firms. In attempt to observe the potential relationship between institutional ownership and corporate social responsibility engagement, this paper will attempt to answer the following research question:

*"How does institutional ownership affect corporate social responsibility engagement of companies?"*

Additionally, this paper adds to existing research by conducting research in a time frame which has not been studied yet. Next, it measures the CSR performance of companies by taking ESG scores of their stocks. Further, the paper investigate how total institutional ownership perceives firms' CSR involvement, as well as, whether institutions with different investment horizons have different attitude towards CSR. For the sake of observing the relationship between institutional ownership and CSR, this research analyzes U.S. companies being part of S&P 500 Index.

# 2. LITERATURE REVIEW

Institutional ownership has become a force, whose concentration has increased dramatically in the recent years (Jahnke, 2017). Institutional investors' increasing influence positions them as new actors within the political economy framework and thus merits increased academic attention. They are the majority owners of most of the quoted firms nowadays and because of their increasing shareholdings they are provided with distinct voting privileges. In particular, institutional investors have the ability to influence companies' decision-making processes. Most of them just seek stable returns on their investments in order to fulfill their fiduciary duties and due to that they have an incentive to get engaged in corporate strategic management. They also have the power and influence to request, and if necessary instruct, corporate executives to act in their best interest and monitor in order to ensure that their interests are taken into account (Sparkes & Cowton, 2004). Albert O. Hirschman (1970) expresses the exercise of that institutional power through an 'exit and voice' framework. According to it, when taking into account the vast amount of invested money and policies of holding a balanced portfolio, beyond doubt the withdrawal of investments made by investors (exit option) is not a viable decision. As a reason, their significant ownership of funds provides them with less ability to move in and out those funds without causing any changes in the prices of shares. In addition, they have no other choice than to become active stewards of the companies they invest in if they are to fulfil their fiduciary duties towards their clients. Hence, these institutional investors have a strong interest not only in the financial performance of the firms in which they have invested, but also in the strategies, activities and long-term firm reputation (voice option). In the case of investors, voice may take several forms such as private meetings between shareholders and company management, voting, or the submission of shareholder proposals.

With the springing up of the CSR movement, institutional investors are gradually aware of its importance to firms' reputation, competitive advantage, success and profits. In line with their power, their involvement in corporate decision-making on all levels, including CSR increases as well (Harjoto & Jo, 2011). Being legal entities, corporations are expected to behave in a socially responsible way which not only benefits the society but also leads the company towards stability and success in the long run by securing customer loyalty. Institutional owners in these day not only take the conventional financial indicators into account, but also consider how enterprises deal with social and environmental issues in order to obtain economic benefits (Liu et al., 2019).

There are several motivations behind institutional investors' push for better CSR of their portfolio firms. Scholars (e.g. Dyck et al., 2019) propose that investors are motivated by financial returns, or by social returns, or a combination of both. Starting with financial factors, CSR investment is considered to be value-enhancing by providing a form of insurance against event risk or product market differentiation, or both (Lins et al., 2017). Given the increasingly documented positive correlations between long run health of companies and their social behavior (Frynas & Sthepens, 2015), institutional investors have an incentive to take the social responsibility of companies into account simply because they look for long term cash flows. CSR-related actions have been in general associated with generating value for companies and hence resulting in favorable financial performance for institutional investors (Graves & Waddock, 1997; Dyck et al., 2019). Others researchers suggest that CSR can provide an insurance-like protection in case of negative events. That is, CSR builds a buffer to attenuate negative reactions when companies do something wrong. For example,

Godfrey et al. (2009) show that a good CSR track record tempers stakeholders' negative judgments and sanctions toward a firm during legal or regulatory actions against it. In addition, Siegel and Vitaliano (2007) argue that institutional investors such as pension funds, insurance companies and banks offer credence services characterized by significant information asymmetry between institutional investors and their clients. Therefore, maintaining a portfolio of more socially responsible firms and using their ownership power to influence CSR, is one way for institutional investors to signal to its potential clients that this institutional investor is reliable and responsible, and thereby to differentiate its services.

Taking the social motivations perspective, authors (e.g. Dyck et al., 2019) claims that institutional investors undertake more responsible actions because of social pressures they face. Authors also argue that social norms (peoples' views on how they, and others, ought to behave) are a key determinant for CSR involvement of firms. Managers should identify themselves with a particular community which has views regarding appropriate firm-level environmental and social performance. Thus, investment manager receives social rewards for aligning portfolio firms' E&S performance with community expectations and faces social penalties if there is a weak alignment. Nevertheless, according to Godfrey (2005), firms who lack engaging in positive social activities or who become the target of social concerns may face legal, economic, or social sanctions from their stakeholders and society in general. As an example, in the past decade, corporations like Volkswagen[1] and HSBC[2] have faced huge litigations because of manipulating carbon emission and involvement in money-laundering activities respectively, which lead to bad scars on firms' long-term reputation.

Of course, institutional investors are not all the same. They come in many different forms and with many different characteristics. Among other things, institutional investors have different organizational and governance structures, and also different interests in their portfolio firms. When it comes to CSR expenditure, despite resulting in higher value for stakeholders, it raises some questions concerning firm shareholders who may have heterogeneous preferences towards it. Some profit-seeking investors may be not willing to forego potential earnings for higher positive firm social performance, especially if their investment is short-term oriented or have to fulfil their fiduciary duties towards individual. On the one hand, an institutional investor may believe that meeting the demands of stakeholders is an integral part of a firm's long-term market value maximization (Jensen, 2001; Oh et al., 2011). Such socially conscious institutional investors are willing to sacrifice part of their financial wealth to support CSR initiating firms. These types of investors do not consider CSR as a cost imposed on shareholders, but as an opportunity for firms to invest in its relationship with stakeholders. Hence, some inner-firm tensions may arise as a result of different investor's goals.

In addition, those who are voting for CSR engagement may still have different attitude with regards to their investment horizons. In particular, institutional investors' differing investment horizons can affect monitoring incentives that, in result, influence various corporate practices and decisions (Kim et al., 2019). These differing monitoring incentives by institutional investors suggests that firms with longer horizon-oriented shareholders have a greater incentive to pursue CSR activities, that are also positively associated with long-term firm value. Long-term investors ensure, through monitoring, that managers do not blindly increase CSR, but rather pursue a CSR strategy that reduces the risk of costly incidents (Gloßner, 2019). Secondly, previous research has shown that a higher proportion of long-term institutional ownership decreases managerial myopia and reduces pressures to corporate executives to meet short-term goals (Bushee, 1998) In contrast, firms with shorter-horizon investors are likely to regard CSR activities as costs rather than investments. Evidence suggests that a greater presence of long-term (short-term) institutional investors will increase (decrease) CSR activities (Oh et al., 2011; Gloßner, 2019; Kim et al., 2019; Oikonomou et al., 2019). These investment horizon implications will be taken into account when constructing regression models in the next parts.

## 2.1 Empirical evidence

As literature review suggests institutional ownership and its relationship to CSR involvement has been under remarkable attention from researchers. Despite that, results have led to differing conclusions. Literature on the topic consists of observations showing evidence for no relationship between institutional ownership and CSR, and observations of positive relationship.

### *2.1.1 No relationship*

To begin with, Graves and Waddock (1994) were one of the first researchers who explored the relationship between corporate social performance (CSP) and institutional ownership. The respective results, for firms being part of S&P 500 index, provide evidence for a significant positive relationship between the performance and number of institutions that hold stocks of a corporation but the relationship between social performance and the percentage of shares ownership were insignificant. In addition to this evidence, Barnea and Rubin (2010) analyze the largest 3000 U.S. corporations and found no significant correlations between institutional ownership and CSR. However, these empirical results have their limitations. The former was performed in a time span in which institutional ownership was not so prevailing as it is recently, whereas the latter considered institutional owners as homogenous group and did not take into account institutional owner groups' different preferences.

### *2.1.2 Positive relationship*

On the contrary, quite recent research (Chen et al., 2020) investigating companies in the Russell 3000 Index, finds that higher level of institutional ownership leads to better CSR ratings and reduces certain negative CSR issues that might lead to lawsuits and penalties from regulators. From international perspective, Dyck et al. (2019) find evidence in examining 41 countries that greater institutional ownership is associated with higher firm-levels environmental and social (E&S) scores. Regardless the positive results, these two particular papers do not consider different institutional investor groups. In contrast, Oikonomou et al. (2019) show that investment horizons do matter and long-term institutional investment is positively related to corporate social performance, whereas short-term institutional investment has negative relationship with corporate social performance. Others following the same approach and who also focused on U.S. companies provide additional evidence for positive (negative) relationship between long-term (short-term)

[1] Hotten, R. (2015, December 10). Volkswagen: The scandal explained. Retrieved from https://www.bbc.com/news/business-34324772

[2] Fontevecchia, A. (2012, August 3). HSBC Helped Terrorists, Iran, Mexican Drug Cartels Launder Money, Senate Report Says. Retrieved from https://www.forbes.com/sites/afontevecchia/2012/07/16/hsbc-helped-terrorists-iran-mexican-drug-cartels-launder-money-senate-report-says/#2257a9205712

institutional investors and CSR (Gloßner, 2019; Kim et al., 2019). Another research presented a perspective different from that of the U.S. market. Observations on large, public firms from South Korea (e.g. Oh et al., 2011) suggest for positive relationship between CSR ratings and ownership by banks (short-term oriented investor) and pension funds (long-term oriented investors).

## 2.2 Theoretical framework

In order to observe the potential relations of institutional ownership and CSR for this particular research it is necessary to discuss the most relevant and important theories that drive the firm's engagement in CSR related activities. In the existing literature different theoretical perspectives are investigated to explain firms' engagement in responsible activities. For the sake of this research, I decide to focus on stakeholder theory and resource-based theory.

### *2.2.1 Stakeholder theory*

Stakeholder theory is a theory that focuses on the relationship between business and its customers, suppliers, employees, investors, communities and others who have a stake in the organization (Frynas & Yamahaki, 2016). According to the theory, a firm should create value for stakeholders as well, not just shareholders. Next to that, activities of entities impact the environment and hence require accountability to a wide audience than simply its shareholders. Freeman (1984) use the theory to propose that a tension exists between the firm's explicit costs (payments to bondholders) and its implicit costs to other stakeholders (environmental costs). The theory also predicts that a firm that attempts to lower its implicit costs by socially irresponsible actions, will, as a result, incur higher explicit costs that will result in competitive disadvantage. Evidence supports the relationship of stakeholder theory to CSR engagement. Findings of Ding et al. (2016) confirm the propositions of the theory – firms carry out CSR activities because of their stakeholders' influence. Therefore, considering fiduciary duties, it is in institutional investors' and corporations' interest to consider their stakeholders' expectations in order to sustain positive financial results. Considering the research question, a positive relationship between institutional ownership and CSR is predicted.

### *2.2.2. Resource based theory*

Resource based theory (RBT) is a theory which addresses that the accumulation of valuable, rare, inimitable by competitors and non-substitutable resources is the reason for firms' performance differences (Lin & Wu, 2014). The core assumption of RBT is that performance between firms differs on account of firm unique resources and capabilities that are closely related to sustainable competitive advantage. This in turn results in superior returns. However, on the question of CSR, literature suggest that there is no direct relationship between it and financial performance – simply an indirect relationship that relies on the mediating effect of firm's intangible resources such as firm reputation (e.g. Surroca et al., 2010). Considering social motives of shareholders, some researchers claim that achieving such reputation by supporting social and environmental issues may influence stakeholders' judgments and therefore result positive brand associations (e.g. Surroca et al. 2010) On the other hand, McWilliams and Siegel (2006) argue that political CSR itself has been used as a specialized skill in order to gain competitive advantage. Taking into consideration financial motives, Graves and Waddock (1997) indicate that firm's engagement in CSR can be both a predictor and a consequence of financial results. In short, financially successful companies can afford to spend more money on social issues, but CSR also helps the become financially successful. Additional empirical evidence, linking RBT and CSR, suggests that CSR investment has led to firm-specific competitive advantage and has generated substantial returns (Frynas & Sthepens, 2015). As a result, attaining valuable, rare, inimitable and non-substitutable resources such as reputation is supposed to be one of the primary goals for institutional investors and their respective firms of interest, for the sake of achieving positive brand image, reaping economic rents and fulfilling their fiduciary duties. As institutions own more substantial amounts of shares, the bigger is expected to be the need for promoting positive brand image and reaping higher profits. With regard to the research question, this particular theory would predict that there exists a positive relationship between institutional ownership and corporate social responsibility.

# 3. HYPOTHESIS

The hypothesis of this research is presented in this chapter. In sum, existing theories suggest that owners would rather have convergent social and financial interests in undertaking socially responsible actions in their portfolio firms, since they strive to achieve profitability and positive return on their investments. Previous studies also support the evidence of a positive relationship between institutional holdings and socially responsible practices. Therefore, according to the above-mentioned theories and considering existing empirical evidence, I hypothesize that firms with a higher share of institutional ownership will be involved in higher corporate social responsibility. This leads to a hypothesis as follows.

*H1: Institutional ownership positively influences the corporate socially responsible actions of a firm.*

Moreover, since literature provides evidence that different institutional investors may have diverging interests in CSR based on their investment time horizons (Gloßner, 2019; Kim et al., 2019), the relationship between short-term and long-term oriented institutional investment and CSR will be examined as well.

# 4. METHODOLOGY

## 4.1 Method

Following prior studies on institutional ownership and CSR (e.g. Oh et al. 2011) that show OLS regression is an appropriate method to analyze the relationship between institutional ownership and corporate social responsibility, in this paper I also implement and OLS regression in order to confirm my hypotheses. The regression run to see to what extent the dependent variable, ESG score, is affected by the independent variable institutional ownership. To test the hypotheses, the following regression model is used.

Institutional ownership will be assessed on the basis of firm's percentage of shares held by institutional investors. CSR engagement is measured by a given ESG Risk scores. The model will consider the total institutional ownership of each company in the first regression model, and ownership stake of one short-term and one long-term investor in the second and respectively third regression model. Additionally, the model will use several control variables, that past research has considered as influential on the level of CSR engagement – firm size, return on assets, age, industry sensitivity. The presented equation is based on the work of number of researchers (e.g. Reverte 2008; Oh et al. 2011; Dyck et al. 2019; Oikonomou et al. 2019) who have used similar equations in order to evaluate such a relationship.

The aforementioned variables construct the following regression equation.

$$ESG\ SCORE_{it} = a + \beta_1 OWNER_{it-2} + \beta_2 AGE_i + \beta_3 ROA_{it-2} + \beta_4 SIZE_{it-2} + \beta_5 INDSENSITIVITY_i$$

Where

ESG SCORE = Environmental, social and governance score (for firm i)

$OWNER_{it-2}$ = Institutional ownership (for firm i in time t-2)

$AGE_i$ = Firm age (for firm i)

$ROA_{it-2}$ = Return on assets (for firm i in time t-2)

$SIZE_{it-2}$ = Firm size (for firm i in time t-2)

INDSENSITIVITY = Dummy variable for firm's industry sensitivity (for firm i)

In order to observe the potential effect, a 2-year time lag between the dependent and some independent variables is used in this research. Institutional ownership, return on assets and firm size are measured at earlier point, whereas ESG Risk Scores from 2 years after that are taken. The main argument for using such a time lag is the fact that CSR engagement of companies cannot be observed in short time span and it takes some time to distinguish its effect. This particular method of using time lag is applied in the research of Oh et al. (2011) and Neubaum and Zahra (2006) and helps observe the influence of institutional ownership on CSR engagement. This approach also helps in interpreting the results as an effect of institutional ownership on CSR, not vice versa.

In order to run this aforementioned regression, a statistical software package SPSS will be used. By running several regression analyses, it will be possible to find the relationship between institutional ownership and corporate social responsibility.

## 4.2 Measurements

The constituents of the regression as seen above can be roughly split up in institutional ownership, corporate social responsibility scores and firm-specific information. The way these all have been calculated and will be used in the regression is as follows.

### *4.2.1 Institutional ownership*

The stake of institutional ownership will be rated on the basis of three different methods. Firstly, institutional investors will be assessed on the basis of their total ownership in companies. However, since "institutional ownership" is a collective term for different types of institutions that own stocks and taking into account that previous research has mentioned that different investment goals/horizon of share owners may influence firms CSR performance, it is worth to observe the relationship of those and CSR. Thus, they institutional owners will be also assessed on the basis of long-term oriented institutional investors. And last, they will be investigated on account of short-term oriented institutional investors.

#### *4.2.1.1 Total institutional ownership*

Total ownership by institutional investors is calculated as the number of shares owned by the respective institutions, divided by the total number of outstanding company shares.

#### *4.2.1.2 Long-term oriented institutional ownership*

In literature, classification on institutional owners according to their investment horizons is usually based on churn rates and portfolio turnovers. In this particular research, I will consider only one group of long-term oriented institutional investors based on their legal type and evidence from previous research. Scholars outlined pension funds as investors with long-term investment horizons (Oh et al., 2011; Attig et al., 2014). Churn rate used by Oikonomou et al. (2019) provides additional evidence for that. In this research, ownership by long-term oriented institutional investors is calculated as the number of shares held by pension fund, divided by the total number of company' shares outstanding.

#### *4.2.1.3 Short-term oriented institutional ownership*

Following the classification for long-term oriented institutional investors, in this paper I consider investment firms[3] as short-term oriented ones. Oh and colleagues (2011) claimed that investment firm ownership is short-term oriented, while Oikonomou et al. (2019) provided churn rates confirming that. Therefore, ownership by short-term oriented institutional owners is calculated as the amount of share owned by investment firms, divided by the total number of outstanding firm shares.

### *4.2.2 Corporate social responsibility scores*

A major problem with respect to the empirical studies about CSR is that there is no uniform way to measure it. In part this is due to the lack of a generally accepted definition of CSR, and in part it is due to the lack of a proper metrics regarding the assessment of CSR (Hopkins, 2005). For the sake of measuring CSR commitment of companies, an environmental social governance (ESG) Risk score of company stock will be used. Considering previous research on the topic, there is not any evidence for using ESG Risk scores as a proxy for CSR engagement level of companies. However, in his research on SRIs, Auer (2014) used ESG Risk scores and even stated that such scores have become the standard for evaluating corporate social responsibility. These ESG scores in question assess the degree to which companies' business value is at risk that is driven by environmental, social and governance issues. The scores are constructed on the basis of over 70 specific indicators (www.sustainalytics.com/esg-investing-news/yahoo-finance-adds-sustainability-scores/) [4]. The rating employs a two-dimensional framework that combines an assessment of a company's exposure to industry-specific material ESG issues with an assessment of how well the company is managing those issues. The overall ESG Risk score of a firm is calculated as the weighted average of firm's individual scores on environmental, social and corporate governance issues. The environmental score is built by analyzing the subtopics operations, supply chain, and products & services. Social scores are constructed using indicators concerning employees, supply chain, customers, and community & philanthropy, while governance score focuses on indicators such as business ethics, corporate governance, and public policy. The final risk scores are a measure of unmanaged risk on an absolute scale of 0-100, with a lower score signaling less unmanaged ESG risk. This implies that the lower the ESG Risk score, the better the company does on CSR.

### *4.2.3. Firm-specific information*

In addition, empirical evidence suggests that several others firm-specific characteristics can have an impact on CSR engagement. In this section, different firm-specific variables that take part in the regression are introduced.

[3] Based on S&P Capital IQ platform classification, investment firms in this research is a collective term for investment advisors, investment companies and security companies.

[4] Yahoo Finance Adds Sustainability Scores to Online Platform. (2018, February 1). Retrieved from http://www.sustainalytics.com/esg-investing-news/yahoo-finance-adds-sustainability-scores/

#### *4.2.3.1 Firm Age*

To begin with, past research mainly suggests that firm age has a positive relationship with firm's CSR engagement (Oh et al., 2011). This particular variable was calculated by the number of years since the founding of the company. The measurement of this control variable is used in the study of Saeidi et al. (2015) and many others.

#### *4.2.3.2 Firm Size*

Next, firm size has been declared as a possible important determinant of CSR (Artiach et al., 2010). The authors state that larger firms are more visible politically and so draw greater attention from the general public, government and other stakeholders. They are more likely to create correspondingly larger social problems because of the notoriety of their activities. Therefore, they face more pressure to engage in CSR. Larger companies are also considered to be in possession of more resources that can be used in CSR. There are different methods to measure size. In this study firm size is measured as the natural logarithm of total assets for a firm in a specific year. The measurement of this control variable is used in great array of research (e.g. Oh et al., 2011).

#### *4.2.3.3 Financial performance*

In addition to that, slack resource theorists (Graves and Waddock, 1994), argue that better financial performance potentially results in the availability of slack (financial resources) that provide firms with the opportunity to invest in social performance domains. If slack resources are available, then better social responsible performance will be achieved, and also better financial performance according to the theory will lead to better CSR. On the other hand, they discuss that since a high level of debt makes it difficult for a firm to continue to satisfy multiple stakeholders' expectations, it discourages managers from committing to long-term-focused CSR and forces them to concentrate on increasing the current profits. In order to control for how financial performance can alter CSR engagement, only return on assets (ROA) is used. Previous work on the topic included measures for leverage, but for the sake of this research, leverage is excluded from the model due to low significance scores. ROA was calculated as earnings before interest and taxes (EBIT) divided by total assets. The measurement of this variable is standard and it is widely used in research (e.g. Kim et al., 2019).

#### *4.2.3.4 Industry Sensitivity*

The Global Industry Classification Standard (GICS)[5] was used in order to determined industries sectors to which companies belong. The structure consists of 11 industry sectors – Communication Services, Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Real Estate, Utilities. Detailed information of their division can be found in Appendix 1 (Table 1). In order to observe the potential effect of different industries on ESG Risk scores, I group them based on their environmental and social sensitivity. More sensitive industries are considered to be those with more risk of being criticized in CSR matters because of their activities and having lower CSR scores simultaneously. Reverte (2008) claims that in general, corporations from the mining, oil, utilities, and chemical industries undertake manufacturing processes that have a negative influence on the environment. Based on his evidence, I identify the following sensitive sectors: Energy, Health Care, Industrials, Materials, Utilities. All the remaining are considered as less sensitive. A dummy variable of one/zero is used to designate companies according to their sensitivity - one is assigned if the company is from a more sensitive industry and zero if it is from a less sensitive industry.

## 5. DATA

Data on the 500 companies that make up the S&P 500 Index are used. This particular index was chosen because it includes many of the biggest companies traded on U.S. stock exchanges based on their market capitalization. All data on institutional ownership and its respective groups are collected from the S&P Capital IQ platform for a period of 3 years (2016, 2017 and 2018). Data on return on assets and total assets (firm size) for the same period, as part of firm-specific characteristics is obtained from S&P Capital IQ Platform as well. Data on year of foundation and industry classification are taken from ORBIS.

Considering corporate social responsibility, numerous third-party rating agencies have dedicated their work in assessing CSR/ESG scores. In practice, these agencies evaluate data from various sources (e.g., company filings, media, governments, third-party data providers) on numerous subtopics regarding corporate social responsibility. ESG risk data used in the study were obtained from Yahoo Finance (www.finance.yahoo.com)[6]. However, they were provided to the website by third-party company, Sustainalytics, a global leader in sustainability analysis. Its ESG risk scores were used in previous research (e.g. Auer, 2014. The data that covers ESG Risk scores of firms is from 2020.

The final sample consists of 426 companies and total of 1278 observations. As a reason for that is the fact that some firms were no provided with ESG Risk scores. Other companies were removed from the sample since their total institutional ownership was reported to be above 100%. Third one have some unclear or missing firm-specific data. Last but not least, companies that were founded after 2016 were excluded.

## 6. EMPIRICAL RESULTS

### 6.1 Descriptive statistics

Table 1 displays the descriptive statistics for the variables used in the regression analysis, excluding Industry Sensitivity. The top half of the table includes dependent variables (ESG Risk Score) and the independent variable (Institutional ownership) represented by its total amount (Total Inst Ownership) and also divided amongst the different ownership groups (Investment Firms, Pension Funds). The figures representing ownership data are in percentages. The bottom half displays firm-specific characteristics. The figures for ROA are in percentages.

*Table 1 Descriptive statistics for variables*

| | Firms | Mean | S.D. | Min. | Max. |
|---|---|---|---|---|---|
| ESG Risk Score | 426 | 23.55 | 6.99 | 7.30 | 39.70 |
| Total Inst Ownership | 426 | 81.66 | 12.73 | 30.21 | 99.88 |
| Investment Firms | 426 | 69.45 | 12.02 | 25.08 | 94.83 |
| Pension Funds | 426 | 2.81 | 0.77 | 0.86 | 8.12 |
| Firm Age | 426 | 77.64 | 49.79 | 4 | 236 |
| ROA | 426 | 6.62 | 4.81 | -3.81 | 22.16 |
| Ln Total Assets | 426 | 23.84 | 1.36 | 20.74 | 28.57 |

[5] GICS - Global Industry Classification Standard. Retrieved from https://www.msci.com/gics

[6] ESG score for every company is to be found in the Sustainability section of the respective firm's stock.

It can be seen that the average ESG Risk Score has a value of 23.55 (out of the full score 100). Additionally, it can be pointed out that the mean level of institutional ownership is quite high (81.66%) and ownership by investment firms tend to take a huge proportion of it (69.45%). On the other hand, the mean ownership by pension fund is quite low (2.81%). Next, what is striking from the control variables below the line is that there is a large difference in firm performance based on their Return on Assets (ROA. Its values range from -3.81% to 22.16%. In addition, it is displayed that the sample includes firms that have been operating for more than two centuries, whereas other have been established quite a few years ago.

## 6.2 Correlation matrices

*Table 2 Correlations of variables*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Firm Age | 1.00 | | | | | | | |
| ROA | -0.17 | 1.00 | | | | | | |
| Ln Total Assets | 0.32 | -0.49 | 1.00 | | | | | |
| Industry Sensitivity | 0.05 | -0.03 | -0.11 | 1.00 | | | | |
| Total Inst Ownership | -0.17 | 0.00 | -0.38 | 0.07 | 1.00 | | | |
| Investment Firms | -0.13 | -0.03 | -0.32 | 0.09 | 0.94 | 1.00 | | |
| Pension Funds | -0.06 | -0.10 | -0.02 | -0.01 | 0.41 | 0.36 | 1.00 | |
| ESG Risk Score | 0.20 | -0.23 | 0.20 | 0.48 | -0.18 | -0.15 | -0.15 | 1.00 |

Correlations for the sample firms are presented in Table 2. First of all, results indicate that ESG Risk Score is positively associated with Firm Age, meaning that the more years since firm's foundation, the higher its ESG Risk Score will be. Secondly, ROA correlates negatively with Risk scores, suggesting that better financial performance results in lower ESG risk. Next, there is positive correlation between firm size and ESG Risk Score, implying that bigger firms have lower CSR commitment. Last but not least, total institutional ownership, ownership by investment firms and pension fund ownership have negative relationship with ESG Risk Score, which indicates that higher ownership results in lower firm ESG risk and higher CSR engagement.

## 6.3 Regression analysis

Results of OLS regression analysis are reported in Table 3. Model 1 considers total institutional ownership and observes its influence on ESG Risk scores. Models 2 and 3 use ownership by pension funds and investment firms as proxies for institutional ownership.

*Table 3 Regression results*

| Variable | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Intercept | 20.47*** (0.00) | 7.46* (0.03) | 16.75* (0.02) |
| Total Inst Ownership | -0.10*** (0.00) | | |
| Pension Funds | | -1.41*** (0.00) | |
| Investment Firms | | | -0.09*** (0.00) |
| ROA | -0.23* (0.01) | -0.20** (0.00) | -0.23** (0.00) |
| Ln Total Assets | 0.37 (0.17) | 0.74** (0.00) | 0.45 (0.09) |
| Industry Sensitivity | 6.88*** (0.00) | 6.80*** (0.00) | 6.91*** (0.00) |
| Age | 0.01* (0.03) | 0.01* (0.02) | 0.01* (0.02) |
| N | 1278 | 1278 | 1278 |
| Adjusted R Square | 0.33 | 0.32 | 0.32 |
| ΔR Square | | -0.01 | 0.00 |
| F | 41.67 *** (0.00) | 41.33 *** (0.00) | 40.80 *** (0.00) |

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

### *6.3.1 Regression with Total Inst Ownership*

When studying left side of Table 3 and starting out with the statistics about Model 1, a few conclusions can be drawn. First, when conducting a test with the F-statistic, the p-value comes out to be p<0.001, which suggest the model is statistically significant. Most important, the model supports the initial hypothesis (H1) – Institutional ownership (p<0.001) is negatively associated with ESG Risk Score implying that institutional ownership results in better CSR of companies. For every percentage increase in Total Inst ownership, ESG Risk Score decreases by 0.10 points. Additionally, the control variables that have been chosen for the model, help explain the variation in 33% of all cases, as displayed by Adjusted R Square statistic. It can also be deduced that there is a significant correlation between the ROA (p<0.001) of a firm CSR, which confirms the slack resource proposition by (Waddock and Graves 1994) saying that more slack resources (higher ROA) will result in higher CSR engagement (lower ESG Risk Score). On the other hand, Ln Total Assets or Firm size correlates positively, indicating that bigger firms have higher risk score, which contradicts claims of Artiach et al. (2010). Nevertheless, the relationship is not significant. Age is also positively related to ESG Risk scores (p<0.05). Meaning that older firms have lower CSR engagement. This finding is in line with findings of Oh et al. (2011). Probable reason for that could be that recently established firms are more innovative and consider CSR from the very start of their operations. Last but not least, Industry sensitivity (p<0.001) implies that the industries that have been defined as more sensitive, do really have higher ESG Risk Score and lower CSR engagement respectively. More sensitive industries through the entire set of data have on average higher risk scores by 6.88 points.

### *6.3.2 Regression with Pension Fund ownership*

Model 2 considers the attitude of long-term oriented institutional investors such as pension funds, on CSR engagement. When looking at the model statistics for this regression, the p-value once again comes out to be $p < 0.001$, which suggest the model is statistically significant. The table displays that long-term institutional ownership measured by pension fund ($p<0.001$) has pretty strong negative relationship with ESG Risk score, meaning long-term oriented institutional owners are strongly supporting CSR engagement. This finding is in line with result from Gloßner (2019), Kim et al. (2019) and Oh et al. (2011) For every percentage increase in ownership by pension funds, ESG Risk Score decreases by 1.41. In this model, 32% of the variance is explained. Next to that, the model has also significantly lower intercept (7.46) compared to Model 1 (20.47), due to the low ownership by pension funds in companies from the index chosen. Bearing in mind the remaining variables, the regression also displays negative relationship with ROA ($p<0.01$) and positive relationship with Firm Size ($p<0.01$), Industry Sensitivity ($p<0.001$) and Age ($p<0.05$) like in Model 1. Anyway, the correlation between firm size and ownership by pension funds in this model is highly significant ($p<0.01$).

### *6.3.3 Regression with Investment Firms ownership*

Model 3 considers investment firms as short-term oriented investors and observes their engagement in CSR actions. It predicts negative relationship between investment firm ownership ($p<0.001$) and ESG risk score, meaning that these investors also consider CSR engagement. This finding is not in line with previous work of Gloßner (2019) and Kim et al. (2019). Nonetheless, despite claiming that investment firms (security firms) are short-term oriented and predicting negative relationship to CSR, Oh et al. (2011) also found positive relationship between those. In this particular model, for each percentage increase in ownership by investment firms, ESG Risk Score decreases by 0.09. Total variance of 32% is being explained. Significant negative relationship between ROA ($p<0.01$) and ESG Risk Scores is displayed again, while firm size, industry sensitivity ($p<0.001$) and age ($p<0.05$) have positive relationship to those scores. Firm Size positive relationship is again marginally significant as in Model 1.

## 6.3 Robustness check

To test for robustness and look at the relationship between institutional ownership and corporate social responsibility in more detail, the regression has been conducted over each year (2016, 2017, 2018) separately for each of the measures of institutional ownership and firm-specific characteristics. ESG Risk Score from 2020 is still used. In this way, longer time lag is observed.

Table 4 displays robustness check for total institutional ownership. Based on the F-tests, all of the regressions turn to be significant ($p<0.001$). The results appear to be similar to those in the initial regression of Model 1. The explained variance is 33% for 2016 and 2017, and 32% for 2018 respectively. Total institutional ownership affects ESG Risk score in the same negative manner as in Model 1. For every percentage increase in ownership ($p<0.001$), risk score decreases by 0.09 or 0.10 points, suggesting for positive relationship between institutional holdings and CSR. Relationship between risk scores and firm size is proven to be insignificant on the basis of the 3 years. On the other hand, ROA has higher level of significance for each of the separate years compared to the initial model ($p<0.001$). Industry Sensitivity and Age appear to have the same significant positive effects on risk scores.

*Table 4 Robustness check of Total Inst Ownership*

| Variable | 2016 | 2017 | 2018 |
|---|---|---|---|
| Intercept | 21.37** | 17.63* | 16.76* |
| | (0.00) | (0.02) | (0.03) |
| Total Inst Ownership | -0.09*** | -0.10*** | -0.09*** |
| | (0.00) | (0.00) | (0.00) |
| ROA | -0.22*** | -0.22*** | -0.18** |
| | (0.00) | (0.00) | (0.00) |
| Ln Total Assets | 0.31 | 0.46 | 0.48 |
| | (0.23) | (0.08) | (0.08) |
| Industry Sensitivity | 6.83*** | 6.85*** | 6.96*** |
| | (0.00) | (0.00) | (0.00) |
| Age | 0.01* | 0.01* | 0.01* |
| | (0.02) | (0.03) | (0.02) |
| N | 426 | 426 | 426 |
| Adjusted R Square | 0.33 | 0.33 | 0.32 |
| ΔR Square | | 0.00 | -0.01 |
| F | 41.40 *** | 41.57 *** | 39.92 *** |
| | (0.00) | (0.00) | (0.00) |

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

Table 5 presents results for robustness checks of institutional ownership present by pension fund. Based on the F-tests, all of the regressions turn to be significant ($p<0.001$). The explained variance, presented by Adjusted R Square is 31% for 2016 and 32% for 2017 and 2018. Pension fund are proven to have significant negative effect on ESG Risk scores ($p<0.01$). For every percentage increase in pension fund ownership, risk scores are reduced by points in the range of 1.01 and 1.25. In addition, ROA has stable negative relationship with ESG Risk scores through the years. Firm size, industry sensitivity and age are consistent with Model 2 and prove to have significant positive contribution to ESG Risk Scores.

*Table 5 Robustness check of Pension Funds Ownership*

| Variable | 2016 | 2017 | 2018 |
|---|---|---|---|
| Intercept | 7.41 | 5.27 | 5.48 |
| | (0.22) | (0.39) | (0.39) |
| Pension Funds | -1.01** | -1.25** | -1.17*** |
| | (0.00) | (0.00) | (0.00) |
| ROA | -0.19** | -0.18*** | -0.16* |
| | (0.00) | (0.00) | (0.02) |
| Ln Total Assets | 0.68 ** | 0.80** | 0.78** |
| | (0.00) | (0.00) | (0.00) |
| Industry Sensitivity | 6.87*** | 6.83*** | 6.72*** |
| | (0.00) | (0.00) | (0.00) |
| Age | 0.02** | 0.01* | 0.01* |
| | (0.00) | (0.02) | (0.02) |
| N | 426 | 426 | 426 |
| Adjusted R Square | 0.31 | 0.32 | 0.32 |
| ΔR Square | | 0.01 | 0.00 |
| F | 39.70 *** | 40.72 *** | 40.15 *** |
| | (0.00) | (0.00) | (0.00) |

p-values in parentheses

* p<0.05, ** p<0.01, *** p<0.001

In table 6, robustness of ownership by investment firms is checked. Based on the F values, all the regressions are significant ($p<0.001$). Explained variance is consistent with that of Model 3, it has a value of 32% for 2016 and 2017, whereas it drops to 31% at 2018. Ownership by investment firms show constant negative effect on ESG Risk scores ($p<0.01$). Firm size appears to be partially significant at the 5% confidence level (only for 2017 and 2018). Last but not least, ROA, Industry sensitivity and age prove to have significant correlation to ESG risk scores.

*Table 6 Robustness check of Investment Firms Ownership*

| Variable | 2016 | 2017 | 2018 |
|---|---|---|---|
| Intercept | 20.15** (0.00) | 13.84 (0.05) | 13.83 (0.07) |
| Investment Firms | -0.09*** (0.00) | -0.08** (0.00) | -0.09** (0.00) |
| ROA | -0.23*** (0.00) | -0.21** (0.00) | -0.18* (0.01) |
| Ln Total Assets | 0.31 (0.24) | 0.54* (0.04) | 0.55* (0.04) |
| Industry Sensitivity | 6.91*** (0.00) | 6.89*** (0.00) | 6.97*** (0.00) |
| Age | 0.02** (0.00) | 0.01* (0.02) | 0.01* (0.02) |
| N | 426 | 426 | 426 |
| Adjusted R Square | 0.32 | 0.32 | 0.31 |
| ΔR Square | | 0.00 | -0.01 |
| F | 41.38 *** (0.00) | 40.62 *** (0.00) | 39.96 *** (0.00) |

# 7. CONCLUSION

This research examined the effect of institutional ownership on corporate social responsibility engagement of companies being part of S&P 500 Index. Many scholars have dedicated their work on the subject and attempted to find a relationship between these two variables. The majority of research has been conducted in the last 5-10 years and have proven that a positive relationship exists. Considering the relationship, there are two theories outlined in this research that can explain why institutional investor would engage in CSR activities and what are their potential financial and social motives to do so. First, stakeholder theory argues that shareholders should obey the interests of different stakeholders in order to prosper and achieve positive financial results. Resource-based theory provides similar view, claiming that valuable, rare, inimitable and non-substitutable resources are a major determinant of firm competitive advantage. Scholars considered CSR or firm reputation based on CSR engagement as such resources that allow companies to achieve higher profits. Next to that, literature suggests that different investment horizons of institutional entities would result in different CSR engagement. Longer investment horizons are proven to be associated with higher CSR investment, while short investment horizons result in lower CSR performance. Based on past evidence, pension funds were considered as long-term oriented institutional investors, whereas investment firms were considered as short-term oriented institutional investors. In order to observe the relationship, data on total firm institutional ownership and these two respective categories is observed. Firm ESG Risk scores were used as a proxy for CSR performance. The different regression models are performed. Total institutional ownership proves to have positive and significant relationship to CSR engagement of companies, which is in line with past research. Next, long-term oriented institutional ownership measured by the ownership of pension funds also contributes positively to CSR. This finding is in accordance with previous findings. Third, ownership by investment firms also appears to be a predictor for better CSR scores. However, this finding is in conflict with literature, which states that such institutions have negative relationship to CSR. Last but not least, robustness checks prove that these relationships are consistent and significant over time. All in all, the hypothesis built on the afore mentioned theories has been supported and institutional ownership contributes positively to corporate social responsibility engagement of firms.

# 8. LIMITATIONS

This section presents the limitations of this study. To begin with, a great proportion of sample firms have an institutional ownership higher than 100%, therefore they are excluded and this significantly decreased the sample size. Next, investment time horizons of institutional owners are not based on churn rates, but in this research their investment orientation is based on their legal type and on evidence from past research. Considering investment firm category in this research, S&P Capital IQ platform considers different types of entities in this group which could potentially have different preferences for CSR engagement and therefore bias the final relationship. In addition, leverage has proven no significant relationship to CSR and therefore it is excluded from the models of this research. However, it is commonly used in literature. Firm size measured by the natural logarithm of total assets does not provide quite significant relationship. Next, this research uses ESG Risk Scores for measuring CSR participation and there has been no evidence of doing before, hence the models probably have their limitations. For this reasons, further research may focus on empirically proven methods for measuring CSR.


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# 9. APPENDIX

## 9.1 Appendix 1

*Table 1 Division of firm among industry sectors*

| Industry Sector | Number | Percent |
|---|---|---|
| Communication Services | 18 | 4.23 |
| Consumer Discretionary | 55 | 12.91 |
| Consumer Staples | 31 | 7.29 |
| Energy | 16 | 3.76 |
| Financials | 62 | 14.55 |
| Health Care | 55 | 12.91 |
| Industrials | 61 | 14.32 |
| Information Technology | 62 | 14.55 |
| Materials | 20 | 4.69 |
| Real Estate | 20 | 4.69 |
| Utilities | 26 | 6.10 |
| Total | 426 | 100.00 |