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Impact of Corporate Social Responsibility on the Financial Performance of Companies

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ABSTRACT. This paper examines how corporate social responsibility – environmental, social, corporate governance – affects the financial performance of American companies for the period from 2009 to 2013. The positions of foreign and domestic authors on the essence of corporate social responsibility and its importance in the development of investment activities of companies have been analyzed. The motivational aspects of companies to stimulate corporate social responsibility activities have been investigated, which have both some negative and positive impact on financial performance. A review of the results of empirical studies of the impact of corporate social responsibility on the activities of companies is carried out. A system of indicators for assessing the impact of corporate social responsibility on the financial condition of a company is proposed, namely: the ratio of the company's market value to total assets; the ratio of net income to total assets; the ratio of net income to the average amount of equity; the ratio of EBIT to total sales; the sum of the total benefits minus the sum of the total problems in the seven categories of the KLD database; the number of strengths minus the total number of problems in the environmental category; the number of strengths minus the number of problems related to social issues (labor protection, workers' rights, relations with workers, etc.); the number of strengths minus the total number of problems in the corporate governance system; volume of assets; risk factor; the cost of research divided by the amount of assets. Based on this, a correlation matrix of observations is built, regressions of financial performance indicators are calculated in relation to variables of both corporate social responsibility and its individual components. It is noted that the development of corporate social responsibility is especially important for investors, since it has a direct impact on operational performance and should be considered when determining the corporate strategy. In addition, many companies today include information on the subject in their annual reports and publish on their websites. This, in turn, forms the corresponding databases of consulting, marketing, investment, etc.

KEY WORDS: corporate social responsibility, corporate financial performance, correlation-regression analysis of impact, regressions of financial performance indicators, social performance indicators, environmental and social aspects of activities, corporate governance.

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Introduction

Since the middle of the XX century, such a concept as socially responsible investment has appeared, which, especially in the last 30 years, has become most widespread in America, Europe and Asia. According to Laufer, W. S.[4] now one of eight dollars is invested in this particular field of activity. Understanding the role that companies play today in society regarding the environment and human well-being, we can talk about corporate social responsibility. Therefore, an urgent problem of economic development in connection with the growth of the economy of developed countries has become the question of the interdependence of the economic growth of corporations and the influence on this process of such social requirements as social standards, ecology, corporate governance systems, etc. The authors' researches in this area have not reached consensus and the results are mixed. Some scholars argue that this relationship is positive[5], others argue that this relationship is negative[6] or simply irrelevant[7]. Accordingly, the purpose of this work was to study the relationship between Corporate Social Performance (CSR) and Corporate Financial Performance (CFP), i.e. as a corporate social responsibility, namely, the environmental, social aspects of the activities of companies, the system of its corporate governance affects the financial performance.

Starting from the second half of the 20th century, due to the growth in the number and size of corporations in the USA, Europe and Asia, the concept of corporate social responsibility (hereinafter – CSR) appears. CSR issues and problems often become the subject of heated discussions among companies and in society. For a long time, many scholars have believed that socially responsible investments are not profitable for companies from a financial point of view, as conflicts can arise with maximizing the value of equity capital[8][9]. However, this opinion did not become dominant among economists[10] [11]. Margolis,

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[4] *Laufer, W. S.* (2003). Social Accountability and Corporate Greenwashing. *Journal of Business Ethics, 43*, 253-261.

[5] Waddock, S. A. & Graves, S. B., (1997). The Corporate Social Performance-Financial Performance Link. *Strategic Management Journal, 18,* 303-319.

[6] Iwata, H. & Okada, K. (2011). How does environmental performance affect financial performance? Evidence from Japanese manufacturing firms. *Ecological Economics, 70*(9), 1691-1700.

[7] Klassen, R.D. and Whybark, D.C. (1999). The Impact of Environmental Technologies on Manufacturing Performance. *Academy of Management Journal, 42*, 599-615.

[8] Friedman, M. (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine, 32*(3), 122-126.

[9] Brummer, J. (1991). Corporate responsibility and legitimacy: An interdisciplinary analysis, Greenwood Press New York.

[10] Scholtens, B., (2008). A Note on the Interaction Between Corporate Social Responsibility and Financial Performance. *Ecological Economics, 68*, 46–55.

[11] Ameer, R. & Othman, R. (2011). Sustainability Practices and Corporate Financial Performance: A Study Based on the Top Global Corporations. *Journal of Business Ethics, 108.*

Elfenbein and Walsh[12] state, after analyzing 252 scientific papers that investigated the relationship between social and financial performance, and in most of them found a positive effect that investing in CSR is beneficial for the firm and its stakeholders, naming potential benefits such as competitive advantage, high quality workforce, unique customer base and even insurance against an unexpected crisis. Similar findings were obtained in studies by Orlitzky M., Schmidt F. L., Rynes S.L[13]. These benefits also include increased long-term sales and sustainable income from product manufacturing[14]. Therefore, as can be seen from the above, there is still no consensus on the effectiveness of CSR for corporations.

The essence of Corporate Social Responsibility and its importance in investment activities

In the past two decades, there has been a significant increase in attention to the relationship between economic sustainability and the financial performance of firms. One of the reasons is that the contribution of corporations to sustainable development has become the main concern of stakeholders – investors, lenders, government and other environmental institutions, etc[15]. The fact that investors hold USD 650 billion in social investment funds supports this statement[16]. As social investment now are more and more corporate, managers are paying equal attention to this cost item, creating a strategy that would justify such a financial cost. In addition, participation in CSR activities increases the value of the firm and makes the company more attractive to investors.

According to Boeger, N., Murray, R., Villiers, C.[17] there is no single internationally recognized CSR definition. Friedman, M.[18] defines CSR as "the responsibility of a company to increase its income by following the rules of the game", and McWilliams, A. & Siegel, D.[19] describe CSR

[12] Margolis, J. D., Elfenbein, H.A., Walsh, J.P. (2009). Does it Pay to Be Good...And Does It Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance

[13] Orlitzky M., Schmidt F. L., Rynes S. L. (2003). Corporate Social and Financial Performance: A Meta-analysis. *Organization Studies, 24*(3), 403–441.

[14] *Flammer, C.* (2013). Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. *Academy of Management Journal, 56*(3), 758-781.

[15] *Scholtens, B.* (2008). A Note on the Interaction Between Corporate Social Responsibility and Financial Performance. *Ecological Economics, 68*, 46–55.

[16] *Jensen, M. C.* (2001). Value Maximization, Stakeholder Theory, and the Corporate Objective Function. European Financial Management, 7(3), 297-317.

[17] *Boeger, N., Murray, R., Villiers, C.* (2008). Perspectives on corporate social responsibility. Corporations, Globalisation and the Law series. — 264 c

[18] *Friedman, M.* (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine, 32*(3), 122-126.

[19] *McWilliams, A. & Siegel, D.* (2000). Corporate social responsibility and financial performance: correlation or misspecification? Strategic Management Journal, 21(5), 603-609.

as a responsibility "for the achievement of a certain social good" outside the interests of the firm and what is required by law. In its memorandum, the European Commission[20] proposed a definition of CSR as "the responsibility of enterprises for their impact on society" and emphasized what an enterprise must do to fulfill this responsibility. In addition, businesses must implement a process for integrating social, environmental, ethical human rights and consumer interests into their business operations and core development strategy in close collaboration with their stakeholders.

Carroll, A. B.[21] defines CSR in another dimension, saying that the main issue is to create strong links between stakeholders and firms by using information transparency and making social and environmental contributions, thus generating interest for stakeholders. Ukrainian authors define *corporate social responsibility* **as** the enterprise's responsibility for direct and indirect impact on the economic, environmental and social systems in which it is embedded. Little is known about CSR in Ukraine and this issue has not yet become a subject of public discussion. This is due to the fact that the history of Ukrainian business development differs from the Western one and has its own characteristics.

Ukrainian Wikipedia gives the following rather complex and systemic definition – «Corporate social responsibility, as well as social business responsibility (SBR) is a responsible attitude of a company to its product or service, to consumers, employees, partners; an active company's social position, which consists in harmonious coexistence, interaction and constant dialogue with society, participation in solving the most pressing social problems"[22].

According to Sila & Cek[23], CSR functioning usually involves the impact of environmental, social and governance aspects on economic performance. (Environmental performance, Social performance, and/or the Governance systems – given by ESG).

According to Richard, P. J., Devinney, T. M., Yip, G. S., Johnson, G.[24], such social performance assessments are effective because investors consider the performance of the ESG when they make decisions about their investments. Most companies in order to control the impact they

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[20] European Commission/ Memo25 October 2011/ Corporate Social Responsibility: a new definition, a new agenda for action.

[21] *Carroll, A. B.* (1999). A Corporate Social Responsibility: Evolution of A Definitional Construct. Business and Society, 38(3), 68–295.

[22] https://uk.wikipedia.org/wiki

[23] *Sila, I. & Cek, K.* (2017). The Impact of Environmental, Social and Governance Dimensions of Corporate Social Responsibility on Economic Performance: Australian Evidence. *Procedia Computer Science*, 120, 797-804.

[24] *Richard, P. J., Devinney, T. M., Yip, G. S., Johnson, G.* (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.

have on the natural environment have implemented Corporate Environmental Management (CEM). The company's environmental performance is the CEM's result and relates to all of the company's activities and products, such as the consumption of water and energy or a range of environmentally friendly products offered to consumers[25]. In developed countries, special attention is paid to environmental activities, since this can have a positive effect on financial performance[26]. If a firm neglects environmental regulation, it will lose its reputation and be boycotted by environmental civil society organizations, potentially leading to lower profits. On the contrary, a firm can try to solve existing environmental problems, such as pollution prevention, and not only improve its reputation, but also save on operating costs by reducing production waste[27]. Therefore, for example, the public Dutch-British company "Unilever", one of the world leaders in the market of food products and household chemicals, launched the Sustainable Living Plan (USPL) in 2010 with the goal of "growing business while addressing the environmental impact of growth and enhancing positive social impact". The advances have resulted in a 47 percent reduction in CO2 emissions and 98 percent in waste per tonne of product, as well as more than EUR 490 million in savings in energy costs since 2008 (Unilever's Environmental Policy, 2018).

Corporate Social Performance (CSP) is defined[28] as "the configuration in the business organization of the principles of social responsibility, social responsibility processes and policies, programs and observable results as they relate to the firm's public relations". Social performance is determined by factors such as:

- degree of firms' participation in social events and initiatives (such as charity, housing and education support, volunteer programs, etc.)),
- participation in the protection of human rights,
- relations with employees (health and safety; pension payments),
- diversity (e. g. employment of women and minorities),
- product characteristics (such as quality and safety).

Employee rights, training, customer issues and other social practices have become important to stakeholders as their implementation improves the firm's reputation. Protecting workers' rights and benefits, such as cash income distribution, attracts a talented and productive

[25] *Klassen, R.D. and Whybark, D.C.* (1999). The Impact of Environmental Technologies on Manufacturing Performance. *Academy of Management Journal*, 42, 599-615.

[26] *Albertini, E.* (2013). Does Environmental Management Improve Financial Performance? A Meta-Analytical Review. *Organization & Environment*, 26(4), 431–457.

[27] *Tarmuji, I., Maelah, R., Tarmuji, N.* (2016). The Impact of Environmental, Social and Governance Performance on Economic Performance: Evidence from ESG score. *International Journal of Trade, Economics and Finance*, 7, 67-74.

[28] *Wood, D. J.* (1991) Corporate Social Performance Revisited. *The Academy of Management Review*, 16, 691-718.

workforce[29]. In addition, social practices can be used as a marketing tool for firms to increase demand for the goods and services they provide[30].

Corporate governance systems can be defined as "a system of rules, practices and processes by which a company is managed and controlled"[31]. Corporate governance essentially involves balancing the interests of the many company's stakeholders, such as shareholders, management, customers, suppliers, financiers, government and the community." Good corporate governance supports four principles: transparency, accountability, responsibility and fairness[32]. Such good corporate governance practices can attract the attention of different stakeholders and improve their attitude towards the company, which can have a positive impact on financial performance.

Motivation of companies in corporate social responsibility

Some scholars argue that firms should not engage in CSR activities, such as Friedman, M., who stated[33], that companies should only make minimal ethical obligations to maximize shareholder return. Konar, S. & Cohen, M. A. state[34], that investing in environmental protection may limit a firm's ability to make other investments. Supporting this opinion, Chan, M. C., Watson, J., Woodliff, D. state[35] CSR activities will negatively affect the results of the firm's activities, since, due to the need for additional resources, they increase operating costs and reduce the company's competitiveness. This statement is supported by Statman, M., Fisher K. L., Anginer, D.[36], who demonstrate that a higher CSR rating in companies has a negative impact on stock returns.

Other researchers argue that companies should be involved in CSR activities. Their arguments are usually based on stakeholder theory or legitimacy theory.

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[29] *Chen R. C. Y. & Lee C. H.*, (2017). The Influence of CSR on Firm Value: An Application of Panel Smooth Transition Regression on Taiwan. *Applied Economics*, 49(34), 3422-3434.

[30] *Sila, I. & Cek, K.* (2017). The Impact of Environmental, Social and Governance Dimensions of Corporate Social Responsibility on Economic Performance: Australian Evidence. *Procedia Computer Science*, 120, 797-804.

[31] Ibid.

[32] *Aras, G. & Crowther, D.* (2008). Governance and sustainability: An investigation into the relationship between corporate governance and corporate sustainability. *Management Decision*, 46(3), 433-448.

[33] *Friedman, M.* (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine*, 32(3), 122-126.

[34] *Konar, S. & Cohen, M. A.*, (2001). Does the market value environmental performance? *The Review of Economics and Statistics*, 83(2), 281-289.

[35] *Chan, M. C., Watson, J., Woodliff, D.* (2014). Corporate Governance Quality and CSR Disclosures. *Journal of Business Ethics,* 125(1), 59-73.

[36] *Statman, M., Fisher K. L., Anginer, D.* (2008). Affect in a Behavioral Asset Pricing Model. *Financial Analysts Journal*, 64(2), 20–29.

The s*takeholder theory* is a theory of organizational governance and business ethics that takes into account the multi-stakeholder interest groups that are influenced by business entities. In other words, one of the most important goals of an organization is to meet the needs of interested parties, since they have an indirect impact on the firm, providing it with the resources it needs to achieve its strategic goals[37]. Consequently, it can be concluded that positive financial and economic performance depends on whether companies take into account the interests of stakeholders[38].

On the other hand, *legitimacy theory* argues that in order to continue the exist of a corporation, it must act in accordance with the society's values and norms. That is, society as a whole is already an interested party. Chan et al. states[39] that "the legitimacy theory relies on the assumption that managers will adopt strategies to prove to society that the organization is trying to meet society's expectations." This means that if an organization takes part in CSR activities, social requirements will be met, which means that the organization will be perceived by society.

Some researchers, including Fauzi, H. suggest[40] that companies should engage in CSR activities due to numerous economic benefits, such as increased profitability and long-term sales of goods. As consumers become more aware of environmental issues, they tend to give preference to environmentally friendly products. Moreover, clients have become economically very strong over time. They can be considered as pressure groups whose impact should not be underestimated, especially from a financial point of view. Due to the approval of certain products, actions or lack thereof, companies can lose huge amounts of money, as well as company value. Thus, one of the main advantages of investing in CSR is the impact on the reputation and image of the company, which can potentially lead to the loyalty of buyers and suppliers. All of the above advantages of CSR can be used as a tool to gain a competitive advantage over competitors and increase market value[41]. In addition to the obvious financial benefits, it should be borne in mind that CSR can

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[37] *Chan, M. C., Watson, J., Woodliff, D.* (2014). Corporate Governance Quality and CSR Disclosures. *Journal of Business Ethics*, 125(1), 59-73.

[38] *Tarmuji, I., Maelah, R., Tarmuji, N.* (2016). The Impact of Environmental, Social and Governance Performance on Economic Performance: Evidence from ESG score. *International Journal of Trade, Economics and Finance*, 7, 67-74.

[39] *Chan, M. C., Watson, J., Woodliff, D.* (2014). Corporate Governance Quality and CSR Disclosures. *Journal of Business Ethics,* 125(1), 59-73.

[40] *Fauzi, H.* (2008). Corporate Social and Environmental Performance: A Comparative Study of Indonesian Companies and Multinational Companies (MNCs) Operating in Indonesia. *Journal of Knowledge Globalization*, 1, 1-26.

[41] *Fishman, R., Heal, G., Nair, V.B.* (2006). A Model of Corporate Philanthropy. Working Paper, University of Pennsylvania.

increase employee productivity, as well as increase public confidence and well-being, which can enhance brand image[42].

Summarizing the authors' assessments regarding CSR, the following advantages of enterprises applying CSR principles can be noted:

- Employees perform their duties with greater dedication and feel more loyal to the employer.
- Suppliers and buyers are interested in stable cooperation and associate their reputation with the reputation of a responsible partner.
- Local authorities, tax authorities, investors have great confidence in such enterprises.

As for the stages of CSR development in Western companies, the main focus of the company was on the elimination of environmental crises and accidents, e. g. contamination with mercury in Minamata Bay (Japan), dioxin spill in Seveso (Italy), oil spill by Amoco Cadiz corporation (France), nuclear accident in Harrisburg (USA). In response to environmental disasters, new institutions for environmental protection have emerged, and a new legal framework has been created. The main challenge at this stage was the need to become familiar with the rapidly growing number of environmental laws and minimize the cost of implementing environmental regulations at enterprises. The next stage can be considered a more active CSR, requiring compliance with regulations and rules and the full use of business opportunities. Regulatory and legal acts have been developed, which has given more freedom for companies on internal environmental policy. Laws and regulations that previously focused on one element of the environment have been replaced by more complex ones. Economic instruments such as the emissions trading scheme began to be introduced.

A review of the results of empirical studies of the CSR impact on companies' activities

Is the investment in CSR really pays off? With the aim to answer this question, it is important to take into account the results of previous studies. The literature on corporate social responsibility and its impact on the financial performance of companies provides mostly different and inconclusive empirical results. On the one hand, CSR activities increase costs and attention should be focused on maximizing the value of the shares. On the other hand, given the requirements of stakeholders, the benefits of CSR would be more significant, according to many authors. Therefore, the authors hereof have put forward the following hypothesis

[42] *Chan, M. C., Watson, J., Woodliff, D.* (2014). Corporate Governance Quality and CSR Disclosures. *Journal of Business Ethics,* 125(1), 59-73.

– *a corporate social responsibility has a significantly positive effect on financial performance.*

To measure companies' CSR, we used ratings from the MSCI KLD ESG database. The investigation is concerned with US public companies, as the MSCI (KLD) database includes only US companies. The data hereof cover the period from 2009 to 2013 with the aim to analyze the relevant relationship between CSR and financial performance. Margolis, J. D., Elfenbein, H.A., Walsh, J.P. state[43] that there is need of more time to draw conclusions about the relationship between social and financial performance. This time period was chosen for several reasons. First of all, one of the objectives hereof was to avoid the effects of the 2008 financial crisis, as this is in line with preliminary studies and affects the results of the analysis[44]. In addition, after 2013, the evaluation in this database has changed, which affects the study's results.

The study used financial data from companies in the Computstat database. For calculating the system of characteristics, the size of assets, the market price of the company, net income, total capital of shareholders, long-term debt, research and development costs, EBIT, net sales are included (Table 1).

Table 1

THE SYSTEM OF INDICATORS FOR ASSESSING THE CSR'S IMPACT

Indicator	Definition
Tobin's Q	The ratio of the company's market value to total assets
ROA	The ratio of net profit to total assets
ROE	The ratio of net profit to average equity
ROS	EBIT to total sales
CSR	The sum of the total benefits minus the sum of the general problems in all seven categories of the KLD database (MSCI ESG KLD STATS)
Environmental (E)	The number of strengths minus the total number of issues in the environment category
Social (S)	The number of strengths minus the number of problems related to social issues (labor protection, workers' rights, relations with workers, etc.)
Governance (G)	The number of strengths minus the total number of problems in the corporate governance system
Firm Size	Asset volume
Risk	Risk ratio is a long-term debt divided by the volume of assets
R&D	R&D expenditure divided by asset volume

43 Margolis, J. D., Elfenbein, H.A., Walsh, J.P. (2009). Does it Pay to Be Good...And Does It Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance.

44 Deng, X., Kang, J., Low, B. S. (2013). Corporate social responsibility and stakeholder value maximization: Evidence from mergers. Journal of Financial Economics, 110(1), 87-109.

As a result, data from 670 companies were obtained for each of 5 years, the total number of observations is 3350. The assessment of the relationship between corporate social and financial indicators of companies was carried out using the method of correlation and regression analysis.

Table 2 shows the correlation matrix of dependent and independent variables. The table shows that social performance indicators E (Environmental), S (Social), G (Governance) do not significantly correlate (at the level of 5%) for the most part with the financial indicators of Tobins Q, ROA, ROE, ROS. Thus, this result suggests that corporate social responsibility or ESG performance *do not* affect financial performance.

Table 2

OBSERVATION CORRELATION MATRIX

Indicators	TobinsQ	ROA	ROE	ROS	E	S	G	Size	Risk	R&D
TobinsQ	1.00									
ROA	**0.09**	1.00								
ROE	**0.07**	**0.56**	1.00							
ROS	**-0.10**	**0.58**	0.37	1.00						
E	-0.04	-0.03	0.03	-0.03	1.00					
S	-0.01	**0.09**	**0.10**	**0.09**	**-0.30**	1.00				
G	**0.05**	-0.01	0/03	-0.04	**-0.09**	**0.18**	1.00			
Size	**-0.30**	**0.18**	**0.17**	**0.21**	-0.02	**0.40**	**-0.08**	1.00		
Risk	**-0.24**	-0.03	-0.03	-0.01	0.01	**0.05**	-0.02	**0.30**	1.00	
R&D	0.00	**-0.23**	**-0.07**	**-0.13**	-0.03	-0.03	**-0.05**	0.03	**0.06**	1.00

Bold type indicates a value at the 5% level.

Linear regression analysis uses four different financial reporting metrics of companies with the aim to understand the relationship between corporate social responsibility (the explanatory variable) and financial performance, risk, company size, and research and development costs. The results are presented in Table 3. Each of the four columns represents one of the dependent variables — TobinsQ, ROA, ROE, ROS. The results show that the CSR coefficient is significant only in the first regression with TobinsQ as the dependent variable. CSR coefficient is not significant in the three regressions measuring ROA, ROE and ROS. Thus, the results indicate that there is no relationship between CSR and the financial performance of firms (ROA, ROE, ROS), which contradicts both the theory of legitimacy and the theory of stakeholders. It can be concluded that activities with CSR are not beneficial to stakeholders, but they are quite neutral for them. On the other hand, regression with TobinsQ suggests that the ratio between CSR and this indicator is positive, and the ratio is very statistically significant (0.1 percent). This finding supports the theories of stakeholders and legitimacy and supports the hypothesis put forward.

Table 3

REGRESSIONS OF FINANCIAL PERFORMANCE INDICATORS BY CSR VARIABLES

Variable	Tobin's Q	ROA	ROE	ROS
KCB	0.0433 *** (0.000)	-0.000797 (0.248)	0.00233 (0.316)	-0.00358 (0.082)
Size	-0.460 *** (0.000)	0.0437 *** (0.000)	0.0986 *** (0.000)	0.133 *** (0.000)
Risk	-0.129 ** (0.003)	-0.00827 (0.114)	-0.0746 * (0.025)	-0.0453 (0.114)
R&D	-0.738 (0.069)	-0.178 *** (0.000)	-0.0694 (0.524)	-0.210 (0.120)

p- value in brackets: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Total number of observations – 3350.

Size coefficient weighing 0.1 percent in all four regressions, consistent with research results[45]. An interesting observation is that in the first regression the coefficient is negative, while in the other three it is shown that it is significant and positive. The Risk indicator has negative coefficients in the regressions, it confirms our opinion that more leverage leads to financial constraints and, therefore, limited ability to invest in CSR. However, Risk is only statistically significant in the first and third regressions. R&D also has negative coefficients in all four regressions, as expected, but weighted only in the second regression.

[45] *Waddock, S. A. & Graves, S. B.,* (1997). The Corporate Social Performance-Financial Performance Link. *Strategic Management Journal*, 18, 303-319.

Table 4 presents the results of four regressions. In these regressions, the indicators E, S, G are presented as separate independent variables with the aim to see which of the CSR effects dominates. In the first regression with the TobinsQ coefficient, all three indicators have statistically significant coefficients. However, S is somewhat more significant in comparison with environmental indicators. This conclusion illustrates that the value of the CSR ratio depends mainly on social indicators. However, the S coefficient is not significant in any other regression, while both G and E have statistically significant coefficients in the ROS regression, and G also in the ROE regression.

Table 4

REGRESSIONS OF FINANCIAL INDICATORS FOR E, S, G VARIABLES

Veriable	TobinsQ	ROA	ROE	ROS
E	0.0249 * (0.018)	-0.00111 (0.552)	-0.00201 (0.793)	-0.00528 * (0.029)
S	0.240 *** (0.000)	-0.00339 (0.414)	-0.00143 (0.930)	-0.00609 (0.585)
G	0.0342 * (0.035)	-0.00130 (0.538)	0.0130 * (0.029)	-0.0123 * (0.049)
Size	-0.464 *** (0.000)	0.0434 *** (0.000)	0.103 *** (0.000)	0.129 *** (0.000)
Risk	-0.129 ** (0.003)	-0.00825 (0.115)	-0.0751 * (0.024)	-0.0449 (0.117)
R&D	-0.739 (0.068)	-0.178 *** (0.000)	-0.0675 (0.535)	-0.212 (0.117)

P- value in brackets: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Total number of observations — 3350.

Conclusions

Four different financial metrics are used for regression analysis: TobinsQ, ROA, ROE and ROS. The results show that the CSR coefficient is weighted only in the first regression with Tobins Q as a dependent variable. The results of four regressions with fixed effects confirm that there is a positive relationship between CSR and Tobins Q. Company size and risk ratio are not significant in the Tobins Q regression. In addition, the R&D ratio becomes significant.

We see significant positive coefficients for CSR as well as for company size, because if the company is larger, it will put more pressure on society's expectations to perform CSR. It is also seen negative ratios for risk ratio and R&D as they add financial constraints to the company and limit its ability to invest in CSR. There is also a significant positive relationship between CSR and financial performance in the regression with Tobins Q, which is the dependent variable. Results do not support regressions with ROA, ROE, and ROS as dependent variables. The results of the regression with the calculations of CSR show that all three – E, S, G have significant coefficients. The strongest effect comes from social effectiveness. However, the effect is not well understood, as environmental efficiency has a significant coefficient in the fourth regression with ROS as the dependent variable.

References

1. *Albertini, E.* (2013). Does Environmental Management Improve Financial Performance? A Meta-Analytical Review. *Organization & Environment*, 26(4), 431–457.
2. Ameer, R. & Othman, R. (2011). Sustainability Practices and Corporate Financial Performance: A Study Based on the Top Global Corporations. *Journal of Business Ethics, 108*.
3. *Aras, G. & Crowther, D.* (2008). Governance and sustainability: An investigation into the relationship between corporate governance and corporate sustainability. *Management Decision*, 46(3), 433-448.
4. *Boeger, N., Murray, R., Villiers, C.* (2008). Perspectives on corporate social responsibility. Corporations, Globalisation and the Law series. – 264 c
5. Brummer, J. (1991). Corporate responsibility and legitimacy: An interdisciplinary analysis, Greenwood Press New York.
6. *Carroll, A. B.* (1999). A Corporate Social Responsibility: Evolution of A Definitional Construct. Business and Society, 38(3), 68–295.
7. *Chan, M. C., Watson, J., Woodliff, D.* (2014). Corporate Governance Quality and CSR Disclosures. *Journal of Business Ethics,* 125(1), 59-73.
8. *Chen R. C. Y. & Lee C. H.*, (2017). The Influence of CSR on Firm Value: An Application of Panel Smooth Transition Regression on Taiwan. *Applied Economics*, 49(34), 3422-3434.
9. Deng, X., Kang, J., Low, B. S. (2013). Corporate social responsibility and stakeholder value maximization: Evidence from mergers. Journal of Financial Economics, 110(1), 87-109.
10. European Commission/ Memo25 October 2011/ Corporate Social Responsibility: a new definition, a new agenda for action.

11. *Fauzi, H.* (2008). Corporate Social and Environmental Performance: A Comparative Study of Indonesian Companies and Multinational Companies (MNCs) Operating in Indonesia. *Journal of Knowledge Globalization*, 1, 1-26.

12. *Fishman, R., Heal, G., Nair, V.B.* (2006). A Model of Corporate Philanthropy. Working Paper, University of Pennsylvania.

13. *Flammer, C.* (2013). Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors. *Academy of Management Journal, 56*(3), 758-781.

14. *Friedman, M.* (1970). The social responsibility of business is to increase its profits. *The New York Times Magazine, 32*(3), 122-126.

15. Iwata, H. & Okada, K. (2011). How does environmental performance affect financial performance? Evidence from Japanese manufacturing firms. *Ecological Economics, 70*(9), 1691-1700.

16. *Jensen, M. C.* (2001). Value Maximization, Stakeholder Theory, and the Corporate Objective Function. European Financial Management, 7(3), 297-317.

17. *Klassen, R.D. and Whybark, D.C.* (1999). The Impact of Environmental Technologies on Manufacturing Performance. *Academy of Management Journal*, 42, 599-615.

18. *Konar, S. & Cohen, M. A.*, (2001). Does the market value environmental performance? *The Review of Economics and Statistics*, 83(2), 281-289.

19. *Laufer, W. S.* (2003). Social Accountability and Corporate Greenwashing. *Journal of Business Ethics, 43*, 253-261.

20. Margolis, J. D., Elfenbein, H.A., Walsh, J.P. (2009). Does it Pay to Be Good…And Does It Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance

21. *McWilliams, A. & Siegel, D.* (2000). Corporate social responsibility and financial performance: correlation or misspecification? Strategic Management Journal, 21(5), 603-609.

22. Orlitzky M., Schmidt F. L., Rynes S. L. (2003). Corporate Social and Financial Performance: A Meta-analysis. *Organization Studies, 24*(3), 403–441.

23. *Richard, P. J., Devinney, T. M., Yip, G. S., Johnson, G.* (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.

24. *Scholtens, B.* (2008). A Note on the Interaction Between Corporate Social Responsibility and Financial Performance. *Ecological Economics, 68*, 46–55.

25. *Sila, I. & Cek, K.* (2017). The Impact of Environmental, Social and Governance Dimensions of Corporate Social Responsibility on Economic Performance: Australian Evidence. *Procedia Computer Science*, 120, 797-804.

26. *Statman, M., Fisher K. L., Anginer, D.* (2008). Affect in a Behavioral Asset Pricing Model. *Financial Analysts Journal*, 64(2), 20–29.

27. *Tarmuji, I., Maelah, R., Tarmuji, N.* (2016). The Impact of Environmental, Social and Governance Performance on Economic Performance:

Evidence from ESG score. *International Journal of Trade, Economics and Finance*, 7, 67-74.

28. Waddock, S. A. & Graves, S. B., (1997). The Corporate Social Performance-Financial Performance Link. *Strategic Management Journal, 18,* 303-319.

29. *Wood, D. J*. (1991) Corporate Social Performance Revisited. *The Academy of Management Review*, 16, 691-718.

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