Matuszewska-Pierzynka, A., & Pieloch-Babiarz, A. (2026). Sustainability performance and dividend policies: Insights from the Fortune Global 500 companies. *Journal of International Studies, 19*(1), 82-106. doi:10.14254/2071-8330.2026/19-1/5

Journal of International Studies

Centre of Sociological Research

Scientific Papers

Sustainability performance and dividend policies: Insights from the Fortune Global 500 companies

Agnieszka Matuszewska-Pierzynka
Department of International Business and Trade,
University of Lodz, Poland
agnieszka.matuszewska@uni.lodz.pl
ORCID 0000-0003-1119-6347

Aleksandra Pieloch-Babiarz
Department of International Finance and Investment,
University of Lodz, Poland
aleksandra.pieloch@uni.lodz.pl
ORCID 0000-0001-7885-1284

Abstract. The objective of the article is to identify the relationship between corporate sustainability performance and the amount of dividend payout. The research hypothesis is that improvements in the economic, environmental, social and governance scores lead to higher dividend payments. The corporate sustainability scores are used as the primary variables in the panel regression model. The analysis is conducted for the period of 2012-2023 and the sample comprises the largest companies from the Fortune Global 500 as of 2022. Over the twelve-year research period, the overall ESG score has demonstrated a positive and statistically significant impact on the dividend payout. However, the decomposition of this aggregate score revealed that only the corporate sustainability scores in the environmental and social pillars remained positive and statistically significant. Furthermore, corporate sustainability performance stopped being statistically significant when the economic sustainability score was incorporated into the models for the seven-year research period.

Keywords: dividend payout, ESG performance, global companies, sustainability performance.

JEL Classification: F23, G35, M14

Received: March, 2025
1st Revision: January, 2026
Accepted: March, 2026

DOI: 10.14254/2071-8330.2026/19-1/5

1. INTRODUCTION

The concept of sustainable development emerged as a reflection of the intergenerational agreement on the optimal path for global growth (WCED, 1987). Over the decades, it has evolved, with increasing emphasis being placed on the business activity of corporations (Giovannoni & Fabietti, 2013). At present, global companies could potentially play a key role in the implementation and dissemination of sustainable development principles and practices due to their vast capacity to exert influence and create innovations; they could reduce environmental deterioration and social inequality, as they are usually the ones perpetuating these issues (Gray, 2010). Therefore, international corporations should strive to satisfy their direct and indirect stakeholders through full and real integration of their activities undertaken in the economic, environmental, social and governance dimensions of sustainability both in the short- and long-term (Gond et al., 2012; UN, 2012). Such integration would facilitate the resolution of the most pressing issues of the modern world (Dyllick & Hockerts, 2002). Notably, the simultaneous enhancement and maintenance of financial, natural, and human capital in compliance with applicable laws has been found to generate the long-term value not only for various groups of corporate stakeholders (Oželienė, 2017), but for the company itself (Barnett, 2007).

The theoretical business models of sustainability, which describe how the integration of economic, environmental, social and governance initiatives increases the value for multiple stakeholders, indicate that the implementation of sustainability principles stimulates the financial performance of a company (Kantabutra & Ketprapakorn, 2020; Perrini et al., 2011). This positive relationship between corporate sustainability performance (CSP) and corporate financial performance (CFP) is supported by a number of empirical studies. However, such research usually focuses on the impact of ESG performance on the profitability and the market value of a company (Ziegler et al., 2007; Wagner, 2010; Przychodzeń, 2013; Lu & Taylor, 2016; Nollet et al., 2016; Xiao et al., 2018; Jha & Rangarajan, 2020; Gillan et al., 2021; Matuszewska-Pierzynka, 2021; Bruna & Lahouel, 2022; Hussain, 2024). Thus, very few studies sufficiently address these issues in the context of dividend payout (Matos et al., 2020).

Corporate sustainability and dividend payouts are linked through fundamental financial theories of the company, including agency theory, signalling theory, and stakeholder theory.

According to agency theory (Jensen & Meckling, 1976), the misalignment of managers' and shareholders' goals leads to agency conflict, particularly in companies with high free cash flows. Such cash flows can lead managers to overinvest in environmental, social, and governance (ESG) activities, which can result in a decline in shareholder value (Jensen, 1986). To limit this overinvestment and prevent agency conflict, dividends are used (Driver et al., 2020; Hu et al., 2020; Salvi et al., 2024). As Matos et al. (2020) showed, companies with high ESG scores are expected to pay out high dividends to avoid overinvestment in ESG initiatives.

Regarding signalling theory and the information content of dividends, many research has shown that dividends reduce information asymmetry, as they are treated as a positive signal (Miller & Rock, 1985; Lin et al., 2017; Alaeto, 2020; Kim et al., 2021; Che & Fuller, 2020; Lin & Lee, 2021; Agarwal & Chakraverty, 2023; Zhao, 2023). However, the research results on the relationship between ESG initiatives and dividend signalling, are mixed. For instance, Ellili (2022) claimed that ESG practices and dividends can be seen as substitutes, whereas Benlemlih (2019) emphasized the necessity of balancing the interests of shareholders and other stakeholders. Consequently, socially responsible companies distribute dividends to convey a positive signal, indicating their consideration of all stakeholders' interests (Benlemlih, 2019; Matos et al., 2020; Salvi et al., 2024).

This approach aligns with the third theoretical framework, namely stakeholder theory (Freeman et al., 2010), which posits that managers ought to distribute wealth fairly among those who contribute to its

creation (Samet & Jarbouri, 2017). However, Matos et al. (2020) have argued that fair wealth distribution can yield contrasting outcomes. On one hand, it may imply a decrease in dividends for shareholders, while on the other, companies that adopt ESG initiatives can gain from the perception of diverse stakeholders, especially creditors. This may result in preferential treatment, potentially leading to lower financing costs. As a consequence, funds for dividend payouts can become available.

Bearing in mind these fundamental theories, the authors set the goal of the study. The essential aim of this paper is to identify the relationship between corporate sustainability performance and the amount of dividend payout. In order to achieve the established goal, the research hypothesis stating that the improvement of economic, environmental, social and governance scores leads to higher dividend payments, has been formulated. The main method of empirical verification of this hypothesis is the panel regression model that includes variables of corporate sustainability scores. The selection between the pooled OLS model, random-effects model and fixed-effects model has been made with the use of the F-test, the Breusch-Pagan test and the Hausman test. Additionally, the descriptive statistics and the Pearson correlation coefficients have been analysed. The empirical studies were conducted in the period 2012-2023 among the largest global companies listed in the Fortune Global 500 of 2022. The required data were retrieved from the Refinitiv Eikon (Thomson Reuters) database and all calculations were conducted using the Gretl statistical package.

The further part of the paper is structured as follows. The next section presents a review of selected literature related to the empirical research on the relationship between corporate sustainability performance and corporate financial performance as well as dividend policy. The section of research methodology contains a description of the data and specifies estimated panel regression models. The next section shows the results of empirical studies on the relationship between corporate sustainability performance and the dividend payout ratio and discusses them. The last section presents the main findings and provides concluding remarks.

2. LITERATURE REVIEW

2.1. Exploring the nexus between ESG performance and corporate financial results

The empirical research on corporate sustainability usually aims to describe the relationship between corporate sustainability performance (CSP), expressed as ESG scores and corporate financial performance (CFP), measured by accounting and/or market indicators.

Ziegler et al. (2007) examined the effect of the sustainability performance of 212 European companies on their average monthly stock return in the years between 1996 and 2001 with the use of cross-sectional regressions based on time-series regressions of asset pricing models. The sustainability performance in their study was considered in the form of the average sustainability performance of the industry and the relative sustainability performance of the company within a given industry divided into environmental and social performance. This data stemmed from the Swiss bank Sarasin & Cie in Basel. The main result of the econometric analysis was that the variables of average environmental and social performance of the industry had a significantly positive and negative impact on the average monthly stock return, respectively. In the case of relative environmental and social performance, the econometric analysis proved that no variables of relative sustainability performance of the company within a given industry had a significant impact on the dependent variable.

Wagner (2010) estimated a random-effects panel model to investigate the effect of CSP on Tobin's q among U.S. companies in the period from 1992 to 2003 (2,478 observations). In regard to CSP, the author of the research used not only separate measures for environmental and social performance but also the joint

sustainability performance, while taking into account the interactions between sustainability performance and the intensity of advertising and R&D. All data were retrieved from the KDL database. The findings of the performed estimations revealed that joint CSP influences the Tobin's q positively and significantly through the advertising intensity. As far as the environmental and social performance is concerned, the advertising intensity fully moderates the positive impact of social performance while the positive impact of environmental performance is direct.

Przychodzeń (2013) conducted the comparative analysis based on statistical measures to explain the relationship between the implementation of economic, environmental, and social sustainability into corporate strategy and chosen aspects of creating value for shareholders in the largest companies listed on the U.S., British, Polish, and Hungarian markets from 2006 to 2010. The author of this study distinguished sustainable companies and compared them to other companies on a given market in terms of the rate of return on shares, the rate of revenue growth, and the resistance of share prices to stock exchange crises. The wide analysis allowed us to formulate the following four conclusions:

- the average annual rate of return on the portfolio of sustainable companies is higher than the rate of return on the market portfolio, and sustainable companies are characterized by higher average stability of valuation compared to the market index,
- the average annual rate of revenue growth for sustainable companies is lower than the average annual rate of revenue growth for non-sustainable companies, but sales revenues in sustainable companies are more stable than in non-sustainable companies,
- the rate of return on the portfolio of sustainable companies is not counter-cyclical in relation to the rate of return on the market portfolio, with some significant differences between countries,
- in general, shareholders benefit from investments in corporate sustainability, but the scale of these benefits is much greater in developed markets than in the developing markets.

Nollet et al. (2016), conducting research on S&P500 companies in the period from 2007 to 2011 based on Bloomberg's data, extended the linear relationship between CSP and CFP to find evidence for a U-shape relationship. The authors used the overall ESG score and scores for its particular components as measures of CSP, while the CFP was expressed by the return on assets and the return on capital, and the excess stock returns. The panel regression results in linear specifications suggested that the effect of overall ESG score and scores for its three components was rather positive, albeit insignificant for all measures of CSP. Consequently, the results of panel regression for quadratic specifications pointed out the significant U-shape relationship only between accounting measures of CFP and CSP expressed by the overall ESG score and the governance score.

Xiao et al. (2018), based on cross-sectional data of 2013 about the country-level sustainability performance from 22 countries (811 cases) at different levels of development, evaluated how the sustainability level of a country affects the CSP-CFP relationship. The estimations of the fixed-effects model indicated that the country-level sustainability performance negatively moderates the positive impact of CSP on CFP, because the coefficient between CSP and CFP is significantly positive when country-level sustainability performance is low, and insignificant when it is high.

Jha and Rangarajan (2020) explored the bidirectional causality and intensity of the CSP-CFP relationship for a sample of the top 500 Indian companies (S&P BSE 500) in the period from 2008 to 2018. They analysed the CSP at both aggregate and disaggregate levels, taking into consideration accounting and market measures of CFP. The financial and sustainability data were collected from Bloomberg and the Prowess database. The results of estimating of the fixed-effects panel model implied that the joint ESG score and the environmental score have a significantly negative impact on the return on assets while the return on equity is not influenced by any of corporate sustainability scores. At the same time, the impact of

joint ESG score, as well as environmental and governance scores on the Tobin's q is also significantly negative. Finally, the authors of the research confirmed the existence of the same significantly negative effects with regard to the reverse relationships.

Matuszewska-Pierzynka (2021) used panel regression models based on the Cobb-Douglas production function to find evidence for the CSP-CFP link in the 59 largest non-financial U.S. companies between 2014 and 2019. Her research hypothesis could not be positively verified, as the improvement of ESG scores at both aggregate and disaggregate levels did not lead to an increase in total revenues, which reflected corporate financial performance. The novelty of this paper was the incorporation of economic sustainability performance, measured by a long-term return pillar score, as a variable alongside other sustainability variables in the estimated panel regression models. However, the long-term return pillar score also turned out to be statistically insignificant, implying that economic sustainability performance does not affect total revenues. The financial and sustainability data were retrieved from the Refinitiv Eikon database.

Hussain et al. (2024) investigated 697 companies from the Asia-Pacific emerging economies between 2013 and 2022 to determine the moderating role of firm internationalization in the relationship between ESG disclosures and corporate financial performance. The authors used a panel dataset retrieved from the Refinitiv Eikon – DataStream database and revealed that the impact of ESG disclosure (ESGD) on Tobin's q and return on assets is significantly negative, while international intensity and geographical extensity promote ESGD, which in turn enhances the financial performance of a company.

Summarizing, the previous empirical studies on the relationship between CSP and CFP are very extensive but due to different methodological approaches (Bruna & Lahouel, 2022) they provide mixed conclusions. Lu and Taylor (2016) performed the meta-analysis of 198 studies and a generalized least square analysis for the moderator effects to demonstrate that the positive impact of CSP on CFP is observed especially when:

- simple methods such as correlation coefficient, regression and survey are used,
- the sample consists of non-U.S. companies operating in different industries,
- the research is conducted over a long period, which covers the years before 2000,
- financial performance is expressed by accounting measures such as profitability indicators, earnings per share, or sales growth,
- sustainability performance is environmentally related rather than socially related.

2.2. Exploring the nexus between ESG performance and dividend payouts

Among the studies on the relationship between CSP and CFP, a new research field concerns the impact of CSP on dividend policy. Preliminary studies identified corporate sustainability with corporate social responsibility (CSR). This was the case with the research conducted by Samet and Jarboui (2017), who examined how the CSR efforts influence payout policy. They used 397 non-financial companies listed in the Stoxx Euro 600 index between 2009 and 2014 and employed the regression analysis using data collected from the Datastream database and Thomson Reuters-Asset4. The authors found that the CSR positively affects the total payout, and socially responsible companies tend to substitute dividend with share repurchases.

In the meantime, the understanding of CSR started to change, and an approach identifying CSR with environmental, social, and governance (ESG) dimensions began to intensify in scientific research. As Porter and Kramer (2006) claimed, this approach is sometimes called strategic CSR. In addition, some researchers have proposed extending the acronym of CSR not as corporate social responsibility, but more broadly as corporate sustainability and responsibility (Ashafi et al., 2018).

An example of this approach is the research conducted by Cheung et al. (2018), who understood CSR as the inclusion of environmental, social, and governance concerns in corporate decision-making. Their research included 1,945 American listed companies between 1991 and 2010. The data for the study were retrieved from Compustat. Taking into account seven scores, i.e., environmental score, social scores (community relations, human rights and product safety), as well as governance scores (corporate governance, diversity, and employee relations), they proposed the overall CSR score as an aggregate measure of environmental, social, and governance performance. Their results indicated that the overall CSR score does not affect the company's propensity to pay dividends, but it has a positive impact on the amount of dividend payout. However, when they focused on its components, i.e., seven CSR scores, their study showed that only five of them could explain the dividend payout decision. Both the environmental and product safety dimensions are negatively related to the dividend payout, while the community relations, diversity, and corporate governance dimensions have a positive impact on the dividend payout.

Subsequently, the theoretical concepts of CSR and ESG began to diverge in the literature. At the same time, a separation of the research conducted in these two areas, i.e., the impact of CSR performance and ESG performance on the dividend policy, was introduced.

In the first research area, i.e., the impact of CSR performance on dividend policy, the study was carried out, among others, by Benlemlih (2019), who used 3,040 American companies operating in the years 1991–2012. The data were drawn from MSCI ESG STATS, and the main method was OLS regression. The author argued that high CSR companies pay out higher dividends than low CSR companies because they use their dividend policy to manage their agency problems and over-investment in CSR initiatives. It is worth emphasising that five out of the six CSR dimensions used in the analysis (i.e., corporate governance, community, diversity, employee relations, and the environment) were associated with high dividend payouts. In addition, the study showed that dividend payouts are more stable in high CSR companies than in low CSR ones. Finally, the author found that companies involved in two controversial activities (i.e., the military and alcohol) pay out lower dividends due to high external funding costs.

According to the best knowledge of the authors, only a few studies have been published in the second research area, i.e., in the field of the impact of ESG performance on dividend policy. Their results, however, are not consistent, and the studies themselves focus on various aspects of dividend policy implementation.

Matos et al. (2020) assessed the relationship between ESG performance and dividend policy. Their research was conducted among companies listed on the Stoxx Euro 600 index at the end of 2019 (1,914 firm-year observations). The study period covered the years 2000-2019, and data were collected from Thomson Reuters Eikon. The method of research was the logit panel regression model with fixed-effects. The authors showed that companies with high CSP exhibit more stable dividend payout, i.e., as the overall ESG score increases, the probability that the dividend payout ratio is stable (i.e., it will not increase by more than 2% compared to the previous year) also increases. Moreover, the research revealed that the higher stability in the dividend payout ratio results from higher environmental and governance pillar scores, while the increase in social pillar score has a positive impact on the dividend yields.

Casey et al. (2020) focused on the relationship between ESG ratings and dividend yields. Their research was conducted on 50 transnational companies operating in the information technology sector. The data from Yahoo! Finance were used. Since data were collected only for 2019, the research method was OLS regression. The authors evaluated the impact on dividend yield using the overall ESG percentile score, as well as the individual components of the ESG rating. They showed a positive relationship between ESG ratings and dividend yields, i.e., that companies with higher overall ESG percentile scores have higher dividend yields. In turn, when the individual components of ESG score were taken into consideration, the coefficients for environmental, social, and governance percentage scores are statistically insignificant. Furthermore, the research was extended by adding the controversy rating computed by Sustainalytics, which

is based on the latest controversies involving a specific company. However, no impact of the controversy rating on dividend yield is observed.

Nirino et al. (2020) tested the impact of ESG strategies on dividend policy. They analysed Chinese listed companies using OLS regression. Their studies showed a negative impact of ESG strategies on dividend payout. In the next step, they studied all three components of ESG score (i.e., environmental, social, and governance pillars) to show the influence of a company's decisions regarding the investments in sustainable and social practices on dividend payments to shareholders. Their studies showed that making investments related to ESG initiatives has a negative impact on the amount of dividend payout.

Ellili (2022) examined the impact of ESG disclosure on the dividend policy of Arab companies focusing on the major role of corporate governance. The research sample consisted of companies listed on two emerging markets, i.e., the DFM and ADX, in the period from 2010 to 2020. The financial data and ESG scores were retrieved from Bloomberg and covered 30 companies operating in eight sectors. The author applied panel regression models with fixed-effects. Her results indicated that the ESG disclosure has a positive and significant impact on dividend payout. However, the estimation results of the individual impacts of environmental, social and governance disclosures on dividend policy revealed that the coefficients for separated ESG pillar scores, which were examined together in one model, are statistically insignificant. In addition, when environmental, social and governance scores were studied individually in three separate models, the research showed the positive and statistically significant influence of social disclosure, while environmental and governance disclosures did not have any impact on dividend payments. Furthermore, the research proved that the institutional ownership plays a negative role in the relationship between ESG and dividend payout, while in the companies with foreign ownership, a positive impact of ESG disclosure on dividend payments is observed.

Dahiya et al. (2023) conducted a study on companies listed in India and found evidence that corporate social responsibility (CSR) has a positive influence on the dividend payout ratio. They suggested that this relationship may result from higher earnings and reduced financial constraints. In addition, their findings indicate that strong corporate sustainability performance can align the interests of shareholders with those of other stakeholder groups, supporting a more balanced approach to corporate decision-making.

Among the empirical studies on the relationship between CSP and dividend payout, none have include economic sustainability as a key determinant of CFP alongside the three basic dimensions of corporate sustainability (i.e., environmental, social, and governance). The authors of this paper found only one study (Matuszewska-Pierzynka, 2021) that incorporated economic sustainability performance into panel regression models, but it measured CFP by total revenues. This identified research gap strongly motivated the authors to conduct their own empirical study, considering all dimensions of corporate sustainability: environmental, social, governance, and economic, in the context of dividend policy. Therefore, the prior empirical results and the revealed research gap allowed the authors to assume the following research hypotheses:

H: The improvement of economic, environmental, social and governance scores leads to the higher dividend payment.

3. METHODOLOGY

3.1. Research period and sample

The required data – financial ratios and corporate sustainability scores – were drawn from Refinitiv Eikon (Thomson Reuters) database, in which Sustainable Leadership Monitor provided data on all dimensions of corporate sustainability, namely, environmental, social, and governance, as well as economic ones. Unfortunately, the corporate sustainability scores for environmental, social, and governance pillars

were available for a long period, covering twelve years, while the economic sustainability score could be collected only for seven years. This non-typical situation meant that our empirical studies were conducted in two different research periods:

- in the years 2012-2023 when the specifications of panel regression models incorporate only environmental, social, and governance scores and
- in the years 2017-2023 when the specifications of panel regression models take into account all corporate sustainability scores, including the economic one.

The empirical research was conducted among the largest global companies listed in the Fortune Global 500 of 2022 without financial corporations as their specificity could lead to the lack of comparability among some variables considered in the panel regression models. At the beginning, the research sample comprised 265 non-financial global corporations, but some of them, mostly Chinese companies, had to be excluded from the analysis for various reasons. From the original research sample, the excluded companies were those:

- which did not appear in the Refinitiv Eikon (Thomson Reuters) database (33 companies),
- with incomplete data for the considered research periods – financial ratios (32 companies) and corporate sustainability scores (30 companies),
- characterized by a negative return on equity (38 companies).

Finally, we included 132 largest non-financial global companies for the research sample.

3.2. Description of the panel regression models

The empirical verification of the research hypothesis was carried out by estimating eight panel regression models, which are divided into two groups. The first group consists of four panel regression models (models 1-4), which take into account the regular variables of corporate sustainability based on the ESG scores, i.e., environmental, social, and governance dimensions (with the overall score as well as individual pillar scores included in the panel regression models sequentially one by one). The second group includes the other four panel regression models (models 5-8), in which an additional variable of corporate sustainability is included. This variable, the long-term returns pillar score, represents the economic sustainability performance of a company. In addition, the models incorporate control variables, which are commonly used in research on dividend policy (Baker & Powell, 2000; Alaeto, 2020). The way the variables are calculated is presented in Table 1.

Table 1

Characteristics of the variables used in the panel regression models.

Variable	Measure	Description
Dividend	Dividend payout ratio	The ratio is calculated as the total dividend over the net earnings of a company. It takes values from 0 to 1.
ESG_Score	Environmental, social, and governance score	The overall sustainability score, whose value is estimated on the basis of the information reported by the company in the area of environmental, social, and governance dimensions of sustainability. Its value, which ranges from 0 to 100, is the sum of weighted scores in environmental, social, and governance pillars. The value of the weights depends on the sector in which the company operates.
E_Score	Environmental pillar score	The measure, which shows the effectiveness of a company in avoiding environmental risk and taking advantage of environmental opportunities, is calculated based on the impact of the company on natural systems (i.e., the air, land, and water) and complete ecosystems (resource use, emissions, innovations).

S_Score	Social pillar score	The measure, which shows the reputation of a company and its ability to inspire trust and loyalty of the employees, customers, and society, as well as refers to the status of a company's licence to operate (workforce, human rights, product responsibility).
G_Score	Governance pillar score	The measure, which refers to the capacity of a company to manage and control the corporate rights and obligations, as well as the systems and processes inside the company, which make the board members and executives act in the best interests of its long-term stakeholders (management, shareholders, and CSR responsibility).
LTR_Score	Long-term returns pillar score	The measure, which represents the ability of a company to manage its long-term economic sustainability. To calculate it, the earnings sustainability, credit risk, and level of investment of a company are taken into account.
Return	Return on equity	The ratio is computed as the relationship between net profit and total equity of a company.
Liquidity	Current ratio	The ratio represents the ability of current assets to cover the current liabilities of a company.
Debt	Leverage ratio	The ratio is calculated by dividing the total debts of a company by its shareholder equity.
MVBV	Market to book value ratio	The ratio is calculated by dividing the closing price of the share by the book value.
Covid	Covid-19 pandemic	The dummy variable is set to 1 if the *DPR* of the *i*-th company in year *t* is from 2020 to 2023, and 0 otherwise. The Director-General of WHO declared a state of epidemic threat due to SARS-CoV-2 infections on March 11, 2020 (WHO, 2020), and lifted it on May 5, 2023 (WHO, 2023).
War	Russia-Ukraine war	The dummy variable is set to 1 if the *DPR* of the *i*-th company in year *t* is from 2022 to 2023, and 0 otherwise. The war between Russia and Ukraine began on February 24, 2022 (UN, 2022).

Source: Refinitiv Sustainable Leadership Monitor database; Authors' elaborations. All corporate sustainability pillar scores take values from 0 to 100 and should be interpreted according to the following scale: <0;25) – poor score, <25;50) – satisfactory score, <50;75) – good score, <75;100> – excellent score

To investigate whether the improvement of corporate sustainability performance measured by the overall ESG score leads to a higher dividend payout, the first model is proposed:

$$Dividend_{i,t} = \alpha_0 + \alpha_1 ESG\_Score_{i,t-1} + \alpha_2 Return_{i,t-1} + \alpha_3 Liquidity_{i,t-1} + \alpha_4 Debt_{i,t-1} + \alpha_5 MVBV_{i,t-1} + \alpha_6 Covid_{i,t} + \alpha_7 War_{i,t} + \varepsilon_{i,t} \quad (1)$$

where:
$Dividend_{i,t}$ – it stands for dividend payout ratio of the *i*-th company in year *t*,
$ESG\_Score_{i,t-1}$ – it means combined environmental, social and governance score of the *i*-th company in year *t*-1,
$Return_{i,t-1}$ – it is return on equity of the *i*-th company in year *t*-1,
$Liquidity_{i,t-1}$ – it means current ratio of the *i*-th company in year *t*-1,
$Debt_{i,t-1}$ – it stands for leverage ratio of the *i*-th company in year *t*-1,
$MVBV_{i,t-1}$ – it means market-to-book value ratio of the *i*-th company in year *t*-1,
$Covid_{i,t}$ – it is a binary variable that equals 1 if the *DPR* of the *i*-th company in year *t* is from the period of the Covid-19 pandemic, and 0 otherwise,

$War_{i,t}$ – it is a binary variable that equals 1 if the *DPR* of the *i*-th company in year *t* is from the period of the Russia-Ukraine war, and 0 otherwise,
$\varepsilon_{i,t}$ – it is a random component.

Then, the overall ESG score is decomposed, and the influence of the three dimensions of corporate sustainability on dividend policy is considered separately. Firstly, this joint ESG score is replaced by the environmental pillar score. This is to investigate the strength and direction of the impact of environmental aspects on the amount of dividend payment. To examine this, the second panel regression model is estimated:

$$Dividend_{i,t} = \beta_0 + \beta_1 E\_Score_{i,t-1} + \beta_2 Return_{i,t-1} + \beta_3 Liquidity_{i,t-1} + \beta_4 Debt_{i,t-1} + \beta_5 MVBV_{i,t-1} + \beta_6 Covid_{i,t} + \beta_7 War_{i,t} + \varepsilon_{i,t} \quad (2)$$

where $E\_Score_{i,t-1}$ means environmental pillar score of the *i*-th company in year *t*-1; other markings as above.

Secondly, we change the model replacing the environmental variable with a variable representing the second corporate sustainability dimension, i.e., the social aspects. Therefore, the third panel regression model takes the following form:

$$Dividend_{i,t} = \gamma_0 + \gamma_1 S\_Score_{i,t-1} + \gamma_2 Return_{i,t-1} + \gamma_3 Liquidity_{i,t-1} + \gamma_4 Debt_{i,t-1} + \gamma_5 MVBV_{i,t-1} + \gamma_6 Covid_{i,t} + \gamma_7 War_{i,t} + \varepsilon_{i,t} \quad (3)$$

where $S\_Score_{i,t-1}$ stands for social pillar score of the *i*-th company in year *t*-1; other markings as above.

Thirdly, we replace the social variable with a variable reflecting the third corporate sustainability dimension, i.e., the governance aspect. It means that the fourth panel regression model is as follows:

$$Dividend_{i,t} = \delta_0 + \delta_1 G\_Score_{i,t-1} + \delta_2 Return_{i,t-1} + \delta_3 Liquidity_{i,t-1} + \delta_4 Debt_{i,t-1+} + \delta_5 MVBV_{i,t-1} + \delta_6 Covid_{i,t} + \delta_7 War_{i,t} + \varepsilon_{i,t} \quad (4)$$

where $G\_Score_{i,t-1}$ stands for governance pillar score of the *i*-th company in year *t*-1; other markings as above.

Fourthly, to examine the influence of CSP on the amount of dividend payout, all ESG components are used separately. The strength and direction of the impact of environmental, social, and governance pillars on the amount of dividend payment is investigated in the fifth regression model, expressed by the equation:

$$Dividend_{i,t} = \mu_0 + \mu_1 E\_Score_{i,t-1} + \mu_2 S\_Score_{i,t-1} + \mu_3 G\_Score_{i,t-1} + \mu_4 Return_{i,t-1} + \mu_5 Liquidity_{i,t-1} + \mu_6 Debt_{i,t-1+} + \mu_7 MVBV_{i,t-1} + \mu_8 Covid_{i,t} + \mu_9 War_{i,t} + \varepsilon_{i,t} \quad (5)$$

In the other five models, we include an additional variable of economic sustainability, which is the long-term returns pillar score, representing the economic sustainability performance of a company. We do this to take into account all dimensions of corporate sustainability and to conduct an extended study, to examine not only the impact of environmental, social, and governance pillars on dividend payments, but also to include the economic pillar of a company. This will allow us to examine whether the economic sustainability of the largest global companies affects their dividend decisions.

The sixth panel regression model, in which the long-term returns pillar score is incorporated along with the aggregate ESG score, is described by the following formula:

$$Dividend_{i,t} = \theta_0 + \theta_1 ESG\_Score_{i,t-1} + \theta_2 LTR\_Score_{i,t-1} + \theta_3 Return_{i,t-1} + \theta_4 Liquidity_{i,t-1} + \theta_5 Debt_{i,t-1} + \theta_6 MVBV_{i,t-1} + \theta_7 Covid_{i,t} + \theta_8 War_{i,t} + \varepsilon_{i,t} \quad (6)$$

where $LTR\_Score_{i,t-1}$ means long-term returns pillar score of the i-th company in year t-1; other markings as above.

In the seventh model, we replace the joint ESG score with the environmental pillar score and propose the following model:

$$Dividend_{i,t} = \varphi_0 + \varphi_1 E\_Score_{i,t-1} + \varphi_2 LTR\_Score_{i,t-1} + \varphi_3 Return_{i,t-1} + \varphi_4 Liquidity_{i,t-1} + \varphi_5 Debt_{i,t-1} + \varphi_6 MVBV_{i,t-1} + \varphi_7 Covid_{i,t} + \varphi_8 War_{i,t} + \varepsilon_{i,t} \quad (7)$$

where all markings are as above.

In order to expose the strength and direction of the impact of social sustainability of a company on dividend payments, we replace the environmental variable with the social pillar score. As a result, the eighth model takes the following form:

$$Dividend_{i,t} = \lambda_0 + \lambda_1 S\_Score_{i,t-1} + \lambda_2 LTR\_Score_{i,t-1} + \lambda_3 Return_{i,t-1} + \lambda_4 Liquidity_{i,t-1} + \lambda_5 Debt_{i,t-1} + \lambda_6 MVBV_{i,t-1} + \lambda_7 Covid_{i,t} + \lambda_8 War_{i,t} + \varepsilon_{i,t} \quad (8)$$

where all markings are as above.

In the ninth model, the governance pillar score replaces a social variable. Therefore, this panel regression model is expressed as follows:

$$Dividend_{i,t} = \omega_0 + \omega_1 G\_Score_{i,t-1} + \omega_2 LTR\_Score_{i,t-1} + \omega_3 Return_{i,t-1} + \omega_4 Liquidity_{i,t-1} + \omega_5 Debt_{i,t-1} + \omega_6 MVBV_{i,t-1} + \omega_7 Covid_{i,t} + \omega_8 War_{i,t} + \varepsilon_{i,t} \quad (9)$$

where all markings are as above.

In the tenth model, we decompose corporate sustainability in terms of the environmental, social, and governance dimensions, as well as the economic one, and propose the following model with disaggregate pillar scores:

$$Dividend_{i,t} = \rho_0 + \rho_1 E\_Score_{i,t-1} + \rho_2 S\_Score_{i,t-1} + \rho_3 G\_Score_{i,t-1} + \rho_4 LTR\_Score_{i,t-1} + \rho_5 Return_{i,t-1} + \rho_6 Liquidity_{i,t-1} + \rho_7 Debt_{i,t-1} + \rho_8 MVBV_{i,t-1} + \rho_9 Covid_{i,t} + \rho_{10} War_{i,t} + \varepsilon_{i,t} \quad (10)$$

To estimate the proposed models and study the impact of CSP on dividend payments, we use two balanced panels for 132 global companies analysed in periods of ten and five years. Then, the random-effects model was employed. The decision to use the random-effects model instead of the pooled OLS model or the fixed-effects model was taken based on the results of the F test, the Breusch-Pagan test and the Hausman test, for which test statistics are given in tables 4 and 8. For all ten models, the p-value of each test exceeds 0.05, which means that the pooled OLS model was used.

Furthermore, the descriptive statistics and the Pearson correlation coefficient was used in the research. Additionally, the study was analysed using the Gretl statistical package.

4. RESEARCH RESULTS

4.1. Estimation results of models without the long-term returns pillar score

Table 2 shows the descriptive statistics of the dependent and independent variables for 1,584 firm-year observations.

Table 2

Descriptive statistics of model variables: the case of models without *LTR_Score* (n = 1,584)

Specification	Mean	Std. Dev.	Q1	Median	Q3
Dividend	0.825	6.766	0.296	0.453	0.715
Return	0.229	0.443	0.096	0.153	0.242
Liquidity	1.317	0.524	0.980	1.232	1.519
Debt	1.151	4.209	0.432	0.743	1.301
MVBV	3.718	14.682	1.138	1.814	3.484
ESG_Score	69.276	17.089	60.413	72.787	81.998
E_Score	70.302	20.336	59.857	75.896	85.129
S_Score	71.176	20.351	59.789	77.084	86.653
G_Score	64.721	21.076	49.815	69.475	81.129

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations

The mean dividend payout ratio (dependent variable) is equal to 0.82492, which indicates that the largest global companies pay out on average 82.492% of their net profits. The average return on equity is 0.229, and it is higher than the median (0.153). The investigated companies are rather highly profitable because the return on equity is higher than 0.096 (Q1) for 75% of the total observations. The current ratio is on average 1.317, while the median is equal to 1.232. Due to the fact that the current ratio for 50% of all observations ranges from 0.980 (Q1) to 1.519 (Q3), the financial liquidity of companies included in the research sample seems to be optimal. The mean leverage ratio is 1.151, and it is higher than the median (0.743). The leverage ratio is lower than 1.301 (Q3) for 75% of the total observations, therefore, the examined companies can be recognized as slightly indebted. The average market-to-book value ratio is equal to 3.718 (median is at the level of 1.814), which suggests that the market value of companies qualified for the research sample is on average over three times larger than their book value.

The analysis of corporate sustainability performance allows for the conclusion that the largest global companies are at a good sustainability level. This results from the fact that the mean joint ESG score falls within the range between 50 and 75 points, and more than 75% of all observations point to the greater than satisfactory level of corporate sustainability (Q1=60.413). Regarding the particular pillar scores, it is worth noting that the mean environmental pillar score and the mean social pillar score are higher than the average level of overall ESG score while the mean governance pillar score is lower.

Table 3 presents the coefficients of the pairwise correlation between variables in the twelve-year research period. There are no statistically significant correlations between the dependent variable and independent variables, apart from *S_Score* (significant at 10%). This correlation is positive and very weak (r_{yx}=0.043), which indicates that the improvement of corporate sustainability performance in the social pillar leads to a slight increase in the dividend payout ratio.

Analysing correlations between independent variables, it is necessary to mention that some of them are statistically significant. The strongest correlation between financial variables is found between the

leverage ratio and return on equity (r_{yx}=0.418). It is positive and moderate at 1%. The statistically significant correlations of corporate sustainability scores occur with *Return*, *Liquidity,* and *MVBV*. The correlations of the overall ESG score with *Return* (r_{yx}=0.110) and *MVBV* (r_{yx}=0.071) are positive, while its correlation with *Liquidity* (r_{yx}=-0.106) is negative. All these correlations are very weak and significant at 1%. The strongest correlation between financial variables and particular sustainability scores, which is statistically significant at 1%, is the correlation of social pillar score with the return on equity (r_{yx}=0.113). The strongest correlation at the disaggregate level of corporate sustainability is observed in the case of *S_Score* and *E_Score* (r_{yx}=0.691).

Table 3

Pearson correlation matrix for model variables: the case of models without *LTR_Score* (n = 1,584)

Specification	*Dividend*	*Return*	*Liquidity*	*Debt*	*MVBV*	*ESG_Score*	*E_Score*	*S_Score*	*G_Score*
Dividend	1.000								
Return	-0.012	1.000							
Liquidity	-0.024	**-0.044***	1.000						
Debt	0.005	**0.418*****	**-0.079*****	1.000					
MVBV	0.008	**0.310*****	-0.030	**0.147*****	1.000				
ESG_Score	0.030	**0.110*****	**-0.106*****	0.021	**0.071*****	1.000			
E_Score	0.029	**0.071*****	**-0.113*****	-0.010	**0.047***	**0.851*****	1.000		
S_Score	**0.043***	**0.113*****	**-0.098*****	0.024	**0.079*****	**0.895*****	**0.691*****	1.000	
G_Score	-0.014	**0.097*****	**-0.044***	0.033	**0.051****	**0.700*****	**0.411*****	**0.424*****	1.000

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%.

In order to summarize the correlation analysis, it must be added that the correlations among independent variables chosen for panel regression models are not strong, i.e., they do not exceed the critical threshold of |0.8| (Fooladi, 2012).

Table 4 presents the estimation results of five panel regression models, which include the independent variables representing the combined ESG performance and the basic dimensions of corporate sustainability for the entire research period.

Table 4

Panel regression analysis of corporate sustainability and dividend payouts without *LTR_Score* in the period 2012-2023 (n = 1,584)

Specification	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	**43.332****	**50.195*****	19.995	140.077	**56.773***
	(0.031)	**(0.000)**	(0.290)	(0.115)	**(0.054)**
ESG_Score	**0.864*****				
	(0.007)				
E_Score		**0.735***			0.200
		(0.062)			(0.434)
S_Score			**1.176***		1.579
			(0.082)		(0.163)
G_Score				-0.563	-1.247
				(0.523)	(0.361)
Return	-0.377	-0.368	-0.401	-0.315	-0.373
	(0.256)	(0.270)	0.261)	(0.265)	(0.255)
Liquidity	-24.946	-24.558	-23.754	-28.332	-23.399
	(0.219)	0.210)	(0.211)	(0.198)	(0.209)
Debt	0.020	0.020	0.020	0.018	0.021
	(0.271)	(0.270)	(0.274)	(0.294)	(0.276)
MVBV	**0.522*****	**0.534*****	**0.487****	**0.579*****	**0.494****
	(0.003)	**(0.002)**	**(0.021)**	**(0.000)**	**(0.027)**
Covid	3.808	5.405	-0.463	**11.007***	0.138
	(0.570)	(0.421)	(0.960)	**(0.075)**	(0.987)
War	92.055	91.541	91.444	93.128	90.387
	(0.356)	(0.356)	(0.355)	(0.352)	(0.356)

F test	1.095	1.097	1.088	1.097	1.077
p-value	0.227	0.222	0.244	0.223	0.269
Breusch-Pagan test; $\chi^2(1)$	0.380	0.345	0.315	0.388	0.171
p-value	0.537	0.557	0.575	0.533	0.680
Hausman test; $\chi^2(K)$	2.489	3.286	2.589	2.524	4.148
p-value	0.778	0.656	0.763	0.773	0.762

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%; *p-value* in parentheses.

Model 1 shows the influence of combined ESG performance on the amount of dividend payout. The coefficient for *ESG_Score* is positive (α_1=0.864) and statistically significant at 1%. Thus, the improvement of the overall ESG score leads to a higher dividend payout. Moreover, the amount of dividend increases with the increase of the market-to-book value ratio (α_5=0.522, statistically significant at 1%), which indicates that as the market value of global companies increases, the amount of dividend payout increases as well. The other control variables in model 1 (i.e., *Return*, *Liquidity,* and *Debt*) are statistically insignificant.

Table 5

Estimation results of panel regression models without *LTR_Score* in subperiods (n = 924)

Specification	**2012-2018**					**2017-2023**				
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Intercept	**34.651****	**48.597*****	**40.460*****	**56.551*****	**38.149*****	19.103	5.420	-40.267	177.309	27.066
	(0.007)	**(0.000)**	**(0.001)**	**(0.000)**	**(0.001)**	(0.484)	(0.877)	(0.569)	(0.179)	(0.326)
ESG_Score	**0.523****					0.941				
	(0.011)					(0.128)				
E_Score		**0.305***			0.014		1.094			0.392
		(0.048)			(0.949)		(0.181)			(0.326)
S_Score			**0.428*****		**0.393***			1.722		2.545
			(0.010)		**(0.063)**			(0.196)		(0.252)
G_Score				**0.234***	0.062				-1.339	-2.355
				(0.068)	(0.624)				(0.389)	(0.333)
Return	-0.069	-0.060	-0.070	-0.059	-0.071	-0.554	-0.560	-0.584	-0.477	-0.546
	(0.268)	(0.331)	(0.272)	(0.317)	(0.264)	(0.265)	(0.270)	(0.270)	(0.263)	(0.264)
Liquidity	-5.476	-5.554	-5.405	-7.004	-5.496	-21.849	-20.368	-19.998	-27.673	-21.604
	(0.551)	(0.535)	(0.557)	(0.451)	(0.538)	(0.388)	(0.400)	(0.393)	(0.352)	(0.391)
Debt	0.003	0.003	0.003	0.002	0.003	0.219	0.225	0.219	0.220	0.229
	(0.313)	(0.309)	(0.327)	(0.404)	(0.331)	(0.220)	(0.220)	(0.331)	(0.225)	(0.225)
MVBV	**0.620*****	**0.634*****	**0.621****	**0.632*****	**0.620*****	-0.057	-0.067	-0.101	0.009	-0.107
	(0.000)	**(0.000)**	**(0.000)**	**(0.000)**	**(0.000)**	(0.924)	(0.913)	(0.875)	(0.990)	(0.871)
Covid						-1.794	-1.965	-6.604	4.124	-7.052
						(0.880)	(0.876)	(0.677)	(0.640)	(0.663)
War						97.837	96.762	96.413	99.127	94.530
						(0.363)	(0.364)	(0.365)	(0.356)	(0.363)
F test	2.710	2.762	2.715	2.779	2.712	1.043	1.041	1.038	1.037	1.027
p-value	0.000	0.000	0.000	0.000	0.000	0.364	0.370	0.378	0.381	0.409
Breusch-Pagan test; $\chi^2(1)$	105.320	110.610	105.560	11.078	105.321	0.067	0.045	0.052	0.027	0.000
p-value	0.000	0.000	0.000	0.000	0.000	0.795	0.831	0.819	0.868	0.992
Hausman test; $\chi^2(K)$	8.927	7.935	9.885	8.668	10.381	1.376	1.889	1.246	2.285	4.358
p-value	0.112	0.160	0.078	0.123	0.167	0.927	0.864	0.940	0.808	0.738

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%; *p-value* in parenthese

In models 2-5, the overall sustainability score is decomposed. The estimation results of model 2 show that the coefficient for *E_Score* is positive (β_1=0.735) and statistically significant at 10%, so the improvement of the environmental sustainability performance of a global company increases the dividend payout. In model 3, the coefficient for *S_Score* is positive (γ_1=1.176) and statistically significant at 10%, which means that the improvement of social sustainability performance leads to a higher dividend paid out by global companies. However, the obtained results change when the other pillar scores are added to the model. The coefficient for *E_Score* is still positive in model 5 (μ_1=0.200), but it is no longer statistically significant. The same applies to the coefficient for *S_Score*, which is still positive (μ_2=1.579) but insignificant. Due to the coefficient for *G_Score* being statistically insignificant at the adopted significance levels in all estimated models, the improvement of governance sustainability performance does not affect the dividend payout. Furthermore, in the models 2-5, the market-to-book value ratio is positive (its coefficient ranges from 0.487 to 0.579) and statistically significant, while the other control variables are insignificant.

Since our research period of 2012-2023 includes a subperiod of 2017-2023 for which *LTR_Score* data are available, it was necessary to estimate models 1-5 for this subperiod as well. Table 5 shows the estimation results for the research sample in two subperiods of seven years each. The results are similar to the previous ones. Model 1, estimated for the years 2012-2018, shows that the coefficient for *ESG_Score* is positive (α_1=0.523) and statistically significant at 5%, indicating that a higher overall ESG score leads to an increase in dividend payout. In models 2-4, the variables describing environmental, social and governance dimensions of corporate sustainability are positive (β_1=0.305, γ_1=1.176, and δ_1=0.234), and statistically significant (at 10%, 1%, and 10%, respectively). In other words, in the period of 2012-2018, an increase in each particular dimension of corporate sustainability resulted in a higher dividend payout. However, when all individual pillars of ESG are considered together in one model – model 5, only the social pillar score is significant (μ_2=0.393 at the 10% level). As before, the amount of dividend increases with the increase of the market-to-book value ratio, while the other control variables in model 5 are statistically insignificant. Furthermore, in model 4, the coefficient for *Covid* is positive (δ_6=11.007) and statistically significant at 10%. This indicates that during the Covid-19 pandemic, global companies paid higher dividends. Companies attempted to compensate for the increased investment risk and, according to signaling theory, sent a positive market signal during a period of excessive uncertainty in the business environment caused by the global economic crisis.

The estimation results of the same five models for the second subperiod, i.e., for the years 2017-2023, did not show a statistically significant relationship between the variables describing ESG dimensions and the amount of dividend payout. The same applies to the control variables. It appears that dividend policy during an economic crisis is discretionary, meaning it does not primarily depend on objective factors, such as the company's financial situation or market value, but rather on the relations between managers and shareholders. Meeting shareholders' expectations regarding dividends becomes a priority because the lack of dividend payments in a high-risk business environment may influence investor decisions to buy or sell shares, thereby affecting the company's market value.

4.2. Estimation results of models with the long-term returns pillar score

Table 6 presents the descriptive statistics of the dependent and independent variables for 924 firm-year observations.

Table 6

Descriptive statistics of model variables: the case of models with *LTR_Score* (n = 924)

Specification	Mean	Std. Dev.	Q1	Median	Q3
Dividend	0.971	8.828	0.312	0.480	0.743
Return	0.247	0.536	0.094	0.153	0.262
Liquidity	1.296	0.544	0.947	1.210	1.488
Debt	1.170	1.362	0.470	0.848	1.398
MVBV	4.403	19.031	1.126	1.833	3.855
ESG_Score	71.990	15.580	64.215	75.157	83.057
E_Score	72.558	18.394	63.848	77.082	85.789
S_Score	74.782	18.476	66.039	80.049	87.970
G_Score	66.465	20.839	51.719	72.110	82.306
LTR_Score	62.156	13.733	52.333	62.333	72.000

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations

The mean dividend payout ratio (dependent variable) is at the level of 0.97124, which reveals that the largest global companies pay out on average a higher proportion of net profits within the seven-year period than during twelve years. The profitability (mean return on equity is 0.247) and indebtedness (mean leverage ratio is at 1.170) of companies included in the research sample are slightly higher for the seven-year period than for twelve years while the financial liquidity (mean current ratio is 1.317) is slightly lower. Within seven years, *MVBV* implies that the market value of surveyed companies is on average over four times larger than their book value, not three times as previously.

Analysing corporate sustainability performance, it should be stated that the mean joint ESG score in the period of seven years is equal to 71.990 and it is greater than that for twelve years. The average sustainability scores in particular pillars indicate that the largest global companies are characterised by the good level of sustainability. The long-term return pillar score is higher than 52.333(Q1) for 75% of all observations, so the studied companies should be regarded as economically sustainable.

A comparative analysis of the coefficient of variation for the second sub-period and the full research period suggests that the dividend payout ratio after 2017 was more diversified than during the first sub-period. The outbreak of the COVID-19 pandemic and Russia's aggression against Ukraine radically altered the conditions for conducting business activities, increasing uncertainty in the corporate environment. Economic crises on a global scale negatively impacted the firms' profits. Some companies, aiming to maintain payouts to shareholders at an unchanged level to compensate for the increased investment risk and to send a positive market signal, exhibited high dividend payout ratios. On the other hand, some companies decided to reduce dividend payouts in proportion to their lower profits or suspended payments to shareholders during periods of excessive uncertainty. As a result, dividend payout ratios became more diversified than before, and the payout policy became discretionary, meaning it was primarily dependent on the relations between the management board and shareholders rather than on changes in financial and market factors.

Table 7 shows the coefficients of the pairwise correlation between variables in the seven-year research period. There are no statistically significant correlations between the dependent variable and independent variables. Unlike the twelve-year period, even the correlation with *S_Score* is insignificant.

Table 7

Pearson correlation matrix for model variables: the case of models with *LTR_Score* (n = 924)

Specification	*Dividend*	*Return*	*Liquidity*	*Debt*	*MVBV*	*ESG_Score*	*E_Score*	*S_Score*	*G_Score*	*LTR_Score*
Dividend	1.000									
Return	-0.013	1.000								
Liquidity	-0.023	**-0.047*** **	1.000							
Debt	0.017	**0.536*** **	**-0.212*** **	1.000						
MVBV	0.007	**0.300*** **	-0.031	**0.514*** **	1.000					
ESG_Score	0.022	**0.119*** **	**-0.112*** **	**0.086*** **	**0.071** **	1.000				
E_Score	0.028	**0.087*** **	**-0.115*** **	0.045	0.047	**0.825*** **	1.000			
S_Score	0.041	**0.111*** **	**-0.091*** **	**0.087*** **	**0.073** **	**0.886*** **	**0.666*** **	1.000		
G_Score	-0.029	**0.103*** **	**-0.070** **	**0.086*** **	**0.055** *	**0.706*** **	**0.369*** **	**0.414*** **	1.000	
LTR_Score	-0.021	0.047	**0.148*** **	**-0.190*** **	**0.072** **	**0.094*** **	-0.002	**0.109*** **	**0.115*** **	1.000

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%.

The analysis of the correlation between independent variables reveals that there are some statistically significant correlations. The strongest statistically significant dependency between financial variables appears between *Debt* and *Return* (r_{yx}=0.536). The statistically significant correlations of corporate sustainability scores for the seven-year period, in contrast to the twelve-year period, exist not only with *Return*, *Liquidity,* and *MVBV*, but also with *Debt*. The correlation between joint ESG score and leverage ratio (r_{yx}=0.086) is significant at 1% and suggests a very weak but positive relationship. The strongest correlation between financial variables and particular sustainability scores, which is statistically significant at 1%, is the correlation of the environmental pillar score with the current ratio (r_{yx}=-0.115).

The correlations between the long-term returns pillar score and financial variables are quite different from those for *ESG_Score*. The correlations of the long-term returns pillar score are statistically significant with *Liquidity*, *Debt,* and *MVBV*. What is more, the correlations for *Liquidity* (r_{yx}=0.148) and *Debt* (r_{yx}=-0.190), which are statistically significant at 1%, are positive and negative, respectively, so the direction of dependency is opposite to that of the aggregate ESG score. As previously, the strongest correlation among particular sustainability scores for seven years is the relationship between *S_Score* and *E_Score* (r_{yx}=0.666). Finally, it must be stressed that the correlations among independent variables chosen for panel regression models are not strong (Fooladi, 2012).

Table 8 shows the estimation results of five panel regression models, which take into account both the variables of corporate sustainability based on environmental, social, and governance dimensions, as well as the economic sustainability variable. In models 6-8, the coefficients at the overall ESG score, as well as the environmental and social scores, are positive (θ_1=1.027, φ1=1.092, and λ_1=1.822), but statistically insignificant. In contrast, in model 9 the coefficients at the governance score and long-term returns pillar score are negative (ω_1=-1.291, and ω_2=-0.594) and insignificant. In model 10, which includes all individual ESG pillars and the economic pillar, the results are also statistically insignificant.

Table 8

Panel regression analysis of corporate sustainability and dividend payouts with *LTR_Score* (n = 924)

Specification	**Model 6**	**Model 7**	**Model 8**	**Model 9**	**Model 10**
Intercept	73.825	58.510	24.399	210.778	73.398
	(0.389)	(0.385)	(0.549)	(0.279)	(0.396)
ESG_Score	1.027				
	(0.158)				
E_Score		1.092			0.295
		(0.183)			(0.316)
S_Score			1.822		2.652
			(0.219)		(0.270)
G_Score				-1.291	-2.295
				(0.377)	(0.325)
LTR_Score	-0.987	-0.855	-1.166	-0.594	-0.825
	(0.521)	(0.558)	(0.498)	(0.605)	(0.542)
Return	-0.508	-0.517	-0.528	-0.448	-0.507
	(0.238)	(0.240)	(0.243)	(0.236)	(0.238)
Liquidity	-19.544	-18.606	-17.314	-26.331	-19.849
	(0.376)	(0.387)	(0.385)	(0.336)	(0.379)
Debt	0.180	0.191	0.173	0.197	0.196
	(0.142)	(0.143)	(0.137)	(0.161)	(0.157)
MVBV	0.095	0.067	0.077	0.102	0.020
	(0.806)	(0.868)	(0.853)	(0.794)	(0.967)
Covid	-1.217	-1.194	-6.033	4.557	-6.631
	(0.914)	(0.9185)	(0.691)	(0.595)	(0.672)
War	97.145	96.264	95.574	98.773	94.079
	(0.362)	(0.363)	(0.363)	(0.355)	(0.361)
F test	1.052	1.049	1.047	1.046	1.036
p-value	0.340	0.347	0.353	0.356	0.383
Breusch-Pagan test; $\chi^2(1)$	0.081	0.056	0.065	0.034	0.002
p-value	0.777	0.814	0.800	0.853	0.968
Hausman test; $\chi^2(K)$	2.567	3.084	2.427	3.736	5.929
p-value	0.861	0.798	0.877	0.712	0.655

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%; *p-value* in parentheses.

4.3. Robustness tests

Table 9 shows the results of robustness tests for both the entire period and the subperiods. When testing the panel regression models without *LTR_Score* for the years 2012-2023, the variables representing corporate sustainability and its dimensions are insignificant. In models 11-13, only the coefficient at *MVBV* is positive (ranging from 0.486 to 0.552) and significant at the adopted significance levels.

In the subperiod covering the years 2012-2018, the variable representing the social dimension is positive and statistically significant in each model in which it is estimated. This means that the social pillar score is robust in the models estimated for the first subperiod. In contrast, the environmental and governance pillar scores are statistically insignificant, indicating that they are not robust. the obtained results are opposite to the findings of Wagner (2010) and Lu and Taylor (2016), who claimed that the CSP-CFP link is more visible in case of environmental performance rather than the social one. However, the current level of environmental sustainability in global companies is so high that green investments no longer improve their performance, whereas social investments still have a meaningful impact. These social investments are mainly aimed at implementing programs related to social inclusion, equality, and diversity, and they determine the company's performance. Among the control variables, the coefficient at *MVBV* is positive and statistically significant in each model estimated for the subperiod covering 2012-2018.

Considering the panel regression models without *LTR_Score* for the years 2017-2023, none of the independent variables are statistically significant. This supports the estimation results of models 2-5 for the second subperiod.

Table 9

Robustness tests for panel regression models without *LTR_Score* for the entire period (n = 1,584) and subperiods (n = 924)

Specification	**2012-2023**			**2012-2018**			**2017-2023**		
	Model 11	**Model 12**	**Model 13**	**Model 11**	**Model 12**	**Model 13**	**Model 11**	**Model 12**	**Model 13**
Intercept	22.315	**84.007***	**60.636***	**39.747*****	**45.062*****	**38.380*****	-38.761	75.474	36.192
	(0.167)	**(0.075)**	**(0.063)**	**(0.000)**	**(0.000)**	**(0.005)**	(0.568)	(0.132)	(0.196)
E_Score	-0.097	1.155		0.032	0.255		-0.057	1.883	
	(0.665)	(0.185)		(0.877)	(0.130)		(0.836)	(0.249)	
S_Score	1.243		1.704	**0.406***		**0.402****	1.759		2.784
	(0.110)		(0.169)	**(0.067)**		**(0.012)**	(0.214)		(0.249)
G_Score		-1.003	-1.219		0.116	0.065		-1.928	-2.316
		(0.403)	(0.363)		(0.403)	(0.556)		(0.348)	(0.334)
Return	-0.401	-0.339	-0.374	-0.069	-0.063	-0.071	-0.582	-0.522	-0.542
	(0.261)	(0.261)	(0.255)	(0.272)	(0.309)	(0.264)	(0.269)	(0.264)	(0.264)
Liquidity	-23.932	-24.266	-23.767	-5.344	-5.826	-5.528	-20.118	-21.674	-22.402
	(0.212)	(0.208)	(-0.210)	(0.552)	(0.512)	(0.548)	(0.395)	0.398)	(0.384)
Debt	0.020	0.021	0.021	0.003	0.003	0.003	0.219	0.235	0.226
	(0.273)	(0.273)	(0.277)	(0.325)	(0.320)	(0.328)	(0.219)	(0.227)	(0.225)
MVBV	**0.486****	**0.552*****	**0.493****	**0.621****	**0.630*****	**0.619*****	-0.100	-0.060	-0.102
	(0.022)	**(0.002)**	**(0.028)**	**(0.000)**	**(0.000)**	**(0.000)**	(0.876)	(0.921)	(0.876)
Covid	-0.534	7.241	-0.020				-6.599	-0.640	-7.014
	(0.954)	(0.202)	(0.998)				(0.677)	(0.956)	(0.664)
War	91.558	90.594	90.643				96.474	95.277	94.976
	(0.355)	(0.357)	(0.356)				(0.366)	(0.361)	(0.362)
F test	1.092	1.087	1.073	2.717	2.753	2.710	1.043	1.030	1.021
p-value	0.234	0.246	0.279	0.000	0.000	0.000	0.362	0.402	0.427
Breusch-Pagan test; $\chi^2(1)$	0.318	0.226	0.178	105.686	109.565	105.250	0.053	0.001	0.001
p-value	0.573	0.634	0.673	0.000	0.000	0.000	0.818	0.972	0.981
Hausman test; $\chi^2(K)$	3.215	4.112	3.316	10.203	8.426	9.935	2.303	4.045	2.927
p-value	0.781	0.661	0.768	0.116	0.209	0.127	0.890	0.671	0.818

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%; *p-value* in parentheses

Table 10 presents the estimation results of the panel regression models with *LTR_Score*. In this case, the variables representing corporate sustainability and its dimensions are statistically insignificant. Since the environmental, social, and governance pillar scores have proven to be statistically insignificant in models 14-16, we decided to exclude these variables and focus only on the economic sustainability variable when testing the panel regression models with *LTR_Score*. Therefore, model 17 presents the impact of the long-term returns pillar score on dividend payout. The coefficient at *LTR_Score* is -0.863, and it is still statistically insignificant. Robustness tests indicate that the economic sustainability dimension has no significant impact on dividend payout during the years 2017-2023.

Table 10

Robustness tests for panel regression models with *LTR_Score* (n = 924)

Specification	Model 14	Model 15	Model 16	Model 17
Intercept	30.336	102.347	82.339	140.859
	(0.550)	(0.343)	(0.361)	(0.234)
E_Score	-0.180	1.863		
	(0.660)	(0.243)		
S_Score	1.941		2.833	
	(0.250)		(0.257)	
G_Score		-1.885	-2.263	
		(0.336)	(0.328)	
LTR_Score	-1.187	-0.458	-0.864	-0.863
	(0.501)	(0.662)	(0.541)	(0.554)
Return	-0.525	-0.500	-0.503	-0.479
	(0.241)	(0.238)	(0.239)	(0.245)
Liquidity	-17.649	-20.701	-20.359	-22.844
	(0.385)	(0.383)	(0.371)	(0.339)
Debt	0.171	0.217	0.192	0.183
	(0.131)	(0.169)	(0.158)	(0.143)
MVBV	0.082	0.012	0.030	0.116
	(0.840)	(0.980)	(0.950)	(0.753)
Covid	-6.009	-0.257	-6.582	2.247
	(0.692)	(0.981)	(0.673)	(0.821)
War	95.753	95.043	94.388	98.517
	(0.364)	(0.360)	(0.360)	(0.357)
F test	1.052	1.038	1.030	1.052
p-value	0.339	0.377	0.399	0.339
Breusch-Pagan test; $\chi^2(1)$	0.067	0.003	0.003	0.079
p-value	0.795	0.958	0.959	0.779
Hausman test; $\chi^2(K)$	3.454	5.742	4.377	2.419
p-value	0.840	0.570	0.736	0.789

Source: Refinitiv Eikon (Thomson Reuters); Authors' calculations. *, **, *** represents statistical significance at 10%, 5%, and 1%; *p-value* in parentheses.

5. SUMMARY OF THE RESEARCH RESULTS AND DISCUSSION

The analysis of the descriptive statistics has shown that the investigated global companies pay out on average more than 80% of their net profits in both research periods. They are rather highly profitable with optimal financial liquidity and with little indebtedness. Their market value in the twelve-year research period is higher than the book value by more than three times, while in the seven-year period it is higher by more than four times. The mean joint ESG score in the period of seven years is equal to 71.990, and it is greater than for twelve years. It means that the global companies qualified for the research sample are at a high sustainability level, so the improvement of corporate sustainability performance cannot lead to an above-average increase in corporate financial performance (Lu &Taylor, 2016; Xiao et al., 2018).

The correlation analysis has revealed significantly positive relationships between aggregate and disaggregate sustainability scores and CFP expressed by the return on equity and market-to-book value ratio. The correlations between social sustainability score and both measures of CFP are the strongest among others. On the one hand, the results of the correlation analysis are opposite to the findings of Jha and Rangarajan (2020), who observed no statistically significant relationship between corporate sustainability scores and return on equity. They also indicated that there is a significant effect of overall ESG score as well as environmental and governance scores on Tobin's q, but it is negative, not positive. Moreover, they did not find support for the existence of a significant effect of the social sustainability score. On the other hand, the positive correlation between all corporate sustainability scores and return on equity or market-to-book value ratio is partially in line with the research results of Nollet et al. (2016), who also observed the positive

effect of all corporate sustainability scores on accounting and market measures of financial performance, yet, although statistically insignificant.

Research conducted on global companies over twelve years has shown that CSP, as measured by the overall ESG score, has a positive impact on the dividend payout (model 1 – table 4). The obtained results are consistent with those presented by Cheung et al. (2018), Benlemlih (2019), and Ellili (2022), who found that the increase in CSP expressed in the combined environmental, social, and governance score results in an increase in the amount of dividend payout. The explanation for this positive influence can be found in the agency theory (Jensen, & Meckling, 1976). Under this approach, Matos et al. (2020) claimed that companies with high ESG scores are expected to pay higher dividends, which are regarded as a financial tool used to avoid overinvesting in the ESG initiatives and to counter agency problems (Driver et al., 2020; Hu et al., 2020; Salvi et al., 2024).

Furthermore, when the aggregate ESG score is decomposed, the corporate sustainability scores in particular pillars are positive and statistically significant except the governance pillar score (models 2 and 3 – table 4). Our result is in line with that of Casey et al. (2020) and Samet and Jarboui (2017), whose research showed a negative but statistically insignificant value of the coefficient at the governance pillar score. This result seems to indicate that the costs of governance implementation in global companies at their level of sustainability far exceed their benefits. Moreover, our results may be explained by the signalling theory (Miller & Rock, 1985). Referring to this approach, the high dividend level combined with higher levels of ESG scores indicates that the corporation is considering all stakeholders (Freeman et al., 2010; Samet & Jarbouri, 2017), which is a positive signal for the market (Miller & Rock, 1985; Lin et al., 2017; Alaeto, 2020; Kim et al., 2021; Che & Fuller, 2020; Lin & Lee, 2021; Agarwal & Chakraverty, 2023; Zhao, 2023) because, as Matos et al. (2020) claimed, it means that the ESG activities are not harming the company's financial performance.

When the economic sustainability score was added to the models, and the research period had to be shortened to seven years, the CSP ceased to be statistically significant in each of the four pillars, i.e. environmental, social, governance, and economic ones (table 8). However, the positive impact of corporate sustainability performance on dividend payout could not be revealed for three main reasons. As Lu and Taylor (2016) indicated, the studies conducted on CSP in a short-term period after 2000 on companies at the high sustainability level may not expose its positive effect on CFP. In our research, the obtained coefficients are statistically insignificant, which may result from the fact that the examined global companies have usually excellent sustainability scores, and the period covers only seven years during a period when sustainability activities of all companies must be highly advanced to maintain the competitive position on the market. The same results were presented by Matuszewska-Pierzynka (2021), while investigating the largest U.S. companies during the period of 2014-2019. She revealed that the improvement of corporate sustainability performance – not only in the environmental, social, and governance pillars but also in the economic one – does not lead to an increase in the company's total revenues.

6. CONCLUSIONS

In order to verify the research hypothesis, the top global companies from the Fortune Global 500 ranking were examined in two different periods, i.e., ten years and five years. There are three main findings, which do not allow for confirming the research hypothesis. First, the overall ESG performance has a positive impact on the dividend payout, which means that the improvement in environmental, social, and governance performance leads to higher dividend payments. Second, when the aggregated ESG score is decomposed, the corporate sustainability performance in environmental and social dimensions is positive and statistically significant, but only if they are considered separately. The social pillar score is statistically

significant in the period preceding the COVID-19 pandemic and the war in Ukraine, which indicates that global economic crises alter previous trends in the relationship between ESG performance and dividend policy, making dividend payouts more discretionary. The inclusion of the global economic crises of recent years in the analyses constitutes the added value of this article. Third, when the economic sustainability score was incorporated into the models, and the research period had to be shortened to seven years, the overall sustainability performance ceased to be statistically significant, as well as its four particular dimensions. To the best of the authors' knowledge, the previous empirical studies did not concern all four dimensions of corporate sustainability in the context of dividend policy, so considering the economic sustainability score to specifications of panel regression models should be treated as a new approach in this field of research. Unfortunately, the main limitation of the study is the relatively short research period, which did not allow revealing the statistically significant relationship between corporate sustainability scores and dividend payout. Therefore, the future studies concerning this issue should also consider all four corporate sustainability scores, but definitely in an extended research period.

The advantage of this paper lies in its use of corporate sustainability scores (Clement et al., 2023), which provide objective assessments of corporate sustainability dimensions (Kengkathran, 2018). As a result, the research findings help reduce the information gap between companies and their shareholders (Stubbs & Rogers, 2013). The evaluation of corporate sustainability performance should be publicly available to all stakeholder groups, and managers should prioritize increasing the visibility of ESG initiatives, meaning that the European Union's efforts to require large companies to report ESG performance and to establish consistent rules for its presentation should be considered appropriate. Therefore, other countries and organizations should follow the path of good practices of corporate sustainability established by the EU.

ACKNOWLEDGEMENT

The authors contributed equally to each section of the paper. No potential conflict of interest was reported by the authors. This research was funded in part by National Science Centre (Poland), Grant number: 2021/05/X/HS4/01633. For the purpose of Open Access, the author has applied a CC-BY public copyright licence to any Author Accepted Manuscript (AAM) version arising from this submission. This research was also supported by grants from the Faculty of Economics and Sociology, University of Lodz, Poland.

REFERENCES

Agarwal, N., & Chakraverty, A. (2023). Growth opportunities, information asymmetry, and dividend payout: evidence from mandatory IFRS adoption. *European Accounting Review, 32*(1), 113-139. doi: 10.1080/09638180.2021.1938622.

Alaeto, H.E. (2020). Determinants of dividend policy: Empirical evidence from Nigerian listed firms. *International Journal of Business Insights & Transformation*, *13*(2), 38-67.

Ashafi, M., Adams, M., Walker T.R., & Magnan, G. (2018). How corporate social responsibility can be integrated into corporate sustainability: a theoretical review of their relationship. *International Journal of Sustainable Development & World Ecology, 25*(8), 672-682. doi: 10.1080/13504509.2018.1471628.

Baker, H.K., & Powell, G.E. (2000). Determinants of corporate dividend policy: A survey of NYSE firms. *Financial Practice & Education*, *10*(1), 29-40.

Barnett, M.L. (2007). Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review, 32*(3), 794-816. doi: 10.5465/amr.2007.25275520.

Benlemlih, M. (2019). Corporate social responsibility and dividend policy. *Research in International Business and Finance*, *47*, 114-138. doi: 10.1016/j.ribaf.2018.07.005.

Bruna, M.G., & Lahouel, B.B. (2022). CSR & financial performance: Facing methodological and modeling issues commentary paper to the eponymous FRL article collection. *Finance Research Letters, 44*(2), 1-8. doi: 10.1016/j.frl.2021.102036.

Casey, M.K. Jr, Casey, M.K., & Griffin, K. (2020). Does good stewardship reduce agency costs in the IT sector? Evidence from dividend policy and ESG ratings. *Global Journal of Accounting and Finance*, *4*(1), 6-15.

Che, X., & Fuller, K.P. (2020). What does the timing of dividend reductions signal*?. Review of Quantitative Finance and Accounting, 55*(3), 1035-1061. doi:10.1007/s11156-019-00867-8.

Cheung, A. (W.), Hu, M., & Schwiebert, J. (2018). Corporate social responsibility and dividend policy. *Accounting and Finance, 58*, 787-816. doi: 10.1111/acfi.12238.

Clément, A., Robinot, É., & Trespeuch, L. (2023). The use of ESG scores in academic literature: A systematic literature review. *Journal of Enterprising Communities: People and Places in the Global Economy*. doi: 10.1108/JEC-10-2022-0147.

Dahiya, M., Singh, S., & Chaudhry, N. (2023). Corporate social responsibility and dividend policy in India. *Management Decision*, *61*(10), 3144-3168. doi: 10.1108/MD-08-2022-1152.

Driver, C., Grosman, A., & Scaramozzino, P. (2020). Dividend policy and investor pressure. *Economic Modelling, 89*, 559-576. doi: 10.1016/j.econmod.2019.11.016.

Dyllick, T., & Hockerts, K. (2002). Beyond the case for corporate sustainability. *Business Strategy and the Environment, 11*(2), 130-141. doi: 10.1002/bse.323.

Ellili, N.O.D. (2022). Impact of environmental, social and governance disclosure on dividend policy: What is the role of corporate governance? Evidence from an emerging market. *Corporate Social Responsibility and Environmental Management*, 1-18. doi: 10.1002/csr.2277.

Fooladi, M. (2012). Board characteristics and firm performance. *Journal of Modern Accounting and Auditing, 8*(5), 688-694.

Fortune Global 500, https://fortune.com/ranking/global500/(access: May 2024)

Freeman, R.E., Harrison, J.S., Wicks, A.C., Parmar, B.L. , & De Colle, S. (2010). *Stakeholder theory: The state of the art*, Cambridge University Press, Cambridge.

Gillan, S.L., Koch, A., & Starks, L.T. (2021). Firms and social responsibility: a review of ESG and CSR research in corporate finance, *Journal of Corporate Finance, 66*, 1-34. doi: 10.1016/j.jcorpfin.2021.101889.

Giovannoni, E., & Fabietti, G. (2013). What is sustainability? A review of the concept and its applications, In C. Busco, M.L. Frigo, P. Quattrone, & A. Riccaboni (Eds.). *Integrated reporting. Concepts and cases that redefine corporate accountability*, Berlin: Springer, 21-40. doi: 10.1007/978-3-319-02168-3_2.

Gond, J., Grubnic, S., Herzig, C., & Moon, J. (2012). Configuring management control systems: Theorizing the integration of strategy and sustainability. *Management Accounting Research, 23*(3), 205-223. doi: 10.1016/j.mar.2012.06.003.

Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability...and how would we know? An exploration of narratives of organisations and the planet. *Accounting Organizations and Society, 35*(1), 47-62. doi: 10.1016/j.aos.2009.04.006.

Hu, Y., Huang, W., & Chen, Z. (2020). Stock liquidity, agency cost, and dividend payouts. *Applied Economics Letters,* 27(4), 335-339. doi: 10.1080/13504851.2019.1616052.

Hussain, W., Ong, T., Kamarudin, F., Khan, M.A., & Bács, Z. (2024). ESG disclosure, firm internationalization, and firm financial performance: Evidence from Asia-Pacific. *Journal of International Studies, 17*(2), 240-261. doi:10.14254/2071-8330.2024/17-2/13.

Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, *76*(2), 323-329.

Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305-360. doi: 10.1016/0304-405X(76)90026-X.

Jha, M.K., & Rangarajan, K. (2020). Analysis of corporate sustainability performance and corporate financial performance causal linkage in the Indian context. *Asian Journal of Sustainability and Social Responsibility, 5*(1), 1-30. doi: 10.1186/s41180-020-00038-z.

Kantabutra, S., & Ketprapakorn, N. (2020). Toward a theory of corporate sustainability: A theoretical integration and exploration. *Journal of Cleaner Production*, *270*, 1-22. doi: 10.1016/j.jclepro.2020.122292.

Kengkathran, S. (2018). A literature review on the impact of environmental, social and governance (ESG) disclosure on financial performance of energy companies in Asean. *Global Business & Management Research, 10*(3), 1071-1079.

Kim, S., Jung, J.Y., & Cho, S.W. (2021). Does information asymmetry affect dividend policy? Analysis using market microstructure variables. *Sustainability, 13*(7), 1-19. doi: 10.3390/su13073627.

Lin, J.J., & Lee, C.F. (2021). Does managerial reluctance of dividend cuts signal future earnings?. *Review of Quantitative Finance and Accounting, 56*. 453-478. doi: 10.1007/s11156-020-00899-5.

Lin, T.J., Chen, Y.P., & Tsai, H.F. (2017). The relationship among information asymmetry, dividend policy and ownership structure. *Finance Research Letters, 20*, 1-12. doi: 10.1016/j.frl.2016.06.008.

Lu, L., & Taylor, M. (2016). Which factors moderate the relationship between sustainability performance and financial performance? A meta-analysis study. *Journal of International Accounting research, 15*(1), 1-15. doi: 10.2308/jiar-51103.

Matos, P.V., Barros, V., & Sarmento, J.M. (2020). Does ESG affect the stability of dividend policies in Europe?. *Sustainability*, *12*(21), 1-15. doi: 10.3390/su12218804.

Matuszewska-Pierzynka, A. (2021). Relationship between corporate sustainability performance and corporate financial performance: evidence from U.S. companies. *Equilibrium. Quarterly Journal of Economics and Economic Policy,16*(4), 885–906. doi: 10.24136/eq.2021.033.

Miller, M.H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of Finance*, *40*(4), 1031-1051. doi: 10.1111/j.1540-6261.1985.tb02362.x.

Nirino, N., Battisti, E., Papa, A., & Miglietta, N. (2020). Shareholder value and dividend policy: the role of ESG strategies. *Proceedings of the 2020 IEEE International Conference on Technology Management, Operations and Decisions (ICTMOD)* (pp. 29-33). Marrakech, Morocco: IEEE. doi: 10.1109/ICTMOD49425. 2020.9380585.

Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling, 52*, 400-407. doi: 10.1016/j.econmod.2015.09.019.

Oželienė, D. (2017). A review of enterprise sustainable development models: Critical appraisal. International Scientific Journal "Science. Business. Society", 2(2), 97-103.

Perrini, F., Russo, A., Tencati, A., & Vurro, C. (2011). Deconstructing the relationship between corporate social and financial performance. *Journal of Business Ethics, 102*(1), 59-76. doi: 10.1007/s10551-011-1194-1.

Porter, M., & Kramer, M. (2006). Strategy & society: the link between competitive advantage and corporate social responsibility. *Harvard Business Review*, *84*, 78-92. doi: 10.1108/sd.2007.05623ead.006.

Przychodzeń, W. (2013). *Zrównoważone przedsiębiorstwo. Teoria, praktyka, wycena, nauczanie* [A sustainable enterprise. Theory, practice, valuation, teaching]. Warszawa: Poltext.

Salvi, A., Nirino, N., Battisti, E., & Gianfrancesco, I. (2024). Payout policy and ESG: A European investigation. *Research in International Business and Finance*, *68*, 102189, doi: 10.1016/j.ribaf.2023.102189.

Samet, M., & Jarboui, A. (2017). Corporate social responsibility and payout decisions. *Managerial Finance*, *43*(9), 982-998. doi: 10.1108/MF-01-2017-0020.

Stubbs, W., & Rogers, P. (2013). Lifting the veil on environment-social-governance rating methods. *Social Responsibility Journal, 9*(4), 622–640. doi: 10.1108/SRJ-03-2012-0035.

United Nations (UN) (2012). *Future we want*. Rio de Janeiro: UN.

United Nations (UN) (2022). https://unric.org/en/the-un-and-the-war-in-ukraine-key-information/ (access: 31.07.2024)

Wagner, M. (2010). The role of corporate sustainability performance for economic performance: a firm-level analysis of moderation effects. *Ecological Economics, 69*(7), 1553-1560. doi: 10.1016/j.ecolecon.2010.02.017.

World Commission on Environment and Development (WCED) (1987). *Our common future*. Oxford: Oxford University Press.

World Health Organization (WHO) (2020). https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 (access: 31.07.2024).

World Health Organization (WHO), (2023). https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing---5-may-2023 (access: 31.07.2024).

Xiao, C., Wang, Q., van der Vaart, T., & van Donk, D.P. (2018). When does corporate sustainability performance pay off? The impact of Country-level sustainability performance. *Ecological Economics, 146*, 325-333. doi: 10.1016/j.ecolecon.2017.11.025.

Zhao, K.M. (2023). Signaling or tunneling: the dividend policies of Chinese ADRs listed in the US, *International Journal of Managerial Finance*, *19*(5), 1203-1224. doi: 10.1108/IJMF-03-2022-0111.

Ziegler, A., Schröder, M., & Rennings, K. (2007). The effects of environmental and social performance on the stock performance of European corporations. *Environmental and Resource Economics, 37*(4), 661-680. doi: 10.1007/s10640-007-9082-y.