ADRIAN GAWĘDA

adrian.gaweda@uni.lodz.pl
University of Łódź. Faculty of Economics and Sociology
3/5 P.O.W. St., 90-255 Łódź, Poland
ORCID ID: https://orcid.org/0000-0002-3663-7076

## *Does the Sustainability of the Country Differentiate the ESG of Companies and How It Affects the Relationship between ESG and Firm Value? Evidence from the European Union*

## Abstract

**Theoretical background:** The paper draws on two relevant theories – stakeholder theory and institutional theory. Non-financial information on how the operations of a company impact its surroundings in environmental, social, and governance (ESG) areas is more and more important in terms of firm value and according to stakeholders theory, a positive relationship between these two is expected. However, although the research on the relationship between company ESG performance (ESGP) and firm value origins since the beginning of the 1970s, the authors document no conclusive results. The above is theorised to be conditioned by the role of institutions as they reflect a rational purpose that guides behaviours of entities toward certain ends.
**Purpose of the article:** Two aims were set in the study. First, to examine the impact of the sustainability level of the European Union (EU) Member States in the years 2012–2021 on ESGP of non-financial sectors stock companies. The second aim of the paper was to assess the country sustainability level as the factor differentiating the nature and the strength of ESGP impact on firm value of non-financial sectors stock companies listed on the regulated financial markets of EU Member States in the years 2012–2021.

**Research methods:** For the purpose of achieving set goals, the study utilised two econometric models. Models were estimated using Panel Least Squares (PLS) regression with Fixed Effects (FE). Tobin's Q proxied firm value, ESG scoring from Refinitiv proxied company ESGP. Global Sustainability Competitiveness Index (GSCI) from Solability was used as the measure of country sustainability. Company financial and ESG data was sourced from Refinitiv EIKON, while country data was accessed from Solability, Eurostat, Human Development Index and Transparency International.

**Main findings:** Countries of both low and high sustainability level impact company ESGP positively. However, almost twice as big influence of highly sustainable countries was noted for low ones. Research results documented ESG to impact firm value positively. An increase in ESG score of a company from the country with low sustainability level decreased its firm value and the opposite was noted in case of companies of countries with high sustainability level. Investors tend to value positively companies with good ESGP and strong nation-level institutions in the field of sustainability and to punish (i.e. with a lower valuation) firms from countries of poor sustainability, even if these entities reached unexceptionally good ESGP.

## Introduction

According to shareholders theory – in a narrow sense – firm ultimate goal is to maximize shareholders value (Jensen, 2001). In this concept, the firm should not account for externalities of its operations as the costs of moral issues constitute a pure loss for its owners (Egorova et al., 2022). However, the exclusive focus on activities towards the shareholders value maximization has led to numerous detriments in environmental, social and governance (ESG) areas such as climate erosion, deepening of social differences and corruption (Dixon, 2019). This caused the need for the paradigm shift in the way firms operate so as to ensure greater concern for their surrounding (Dziawgo, 2019) and that is where the stakeholders theory comes in place. The theory suggests that when a company cares about its stakeholders as well as the surrounding in general, so in other words runs its operations in a sustainable way and performs well in terms of ESG, it can build a strong reputation and create a stable development environment, thereby enhancing its firm value (Cheng et al., 2023). It was extensively proved by many scholars that ESG performance (ESGP) impacts firm value (Cornell & Damodaran, 2020), however, the findings are not fully conclusive (Wong et al., 2021) and new studies bring more and more inconsistencies in the area. It is theorised that varied impact of ESGP on firm value is due to nation-level institutions (Khan, 2022), thus, finds it explanation in institutional theory. According to institutional theory, firms are embedded within broader social structures, comprising different types of institutions (i.e. set of formal rules, informal norms, shared understandings, trends, etc.) which exert significant influence on company decision-making processes (Campbell, 2007). Scholars argued that ESGP is framed in the national context and is thus influenced by the prevailing institutions in such context (Jackson & Apostolakou, 2010) of which the level of sustainability of the country can be distinguished. Given nation-level institutions reflect a rational purpose that guides behaviours of firms toward certain ends (Lammers & Garcia, 2017) and can lead to comparative institutional advantages for companies (Jackson & Apostolakou, 2010), the paper supports the notion that

sustainability level of the country determines ESGP of its companies and affects the relationship between ESGP and firm value.

Two aims were set in the study. First, to examine the impact of the sustainability level of the European Union (EU) Member States in the years 2012–2021 on ESGP of non-financial sectors stock companies. The second aim of the paper was to assess the country sustainability level as the factor differentiating the nature and the strength of ESGP impact on firm value of non-financial sectors stock companies listed on the regulated financial markets of EU Member States in the years 2012–2021. The motivation of the paper is to understand if the fundamentals of heterogenous relationship between ESGP and firm value are related to nation-level institutions. To date, the author did not find studies that have theoretically or empirically explained the mechanisms through which variation in countries sustainability level influences varied impact of ESGP on firm value. The unique contribution that the article provides is then the fulfilment of the research gap in terms of what makes the relationship between ESGP and firm value inconsistent. The novelty of the study is the introduction of country's sustainability as a determinant of company ESGP and moderator of its link with firm value. This research has broad implications for academia, managers, and investors, highlighting the crucial role of ESGP in determining firm value.

The rest of the paper is structured as follows. Section 2 includes a literature overview and the hypotheses development. Section 3 contains a description of the methodology, research sample and data used in the study. In Section 4, results along with discussions are documented, while Section 5 concludes.

**Theoretical background and hypotheses development**

Recently, an increase of investors interest in company ESGP was observed (Gawęda, 2021; Samborski, 2024; Szewczuk & Więcek-Janka, 2024). ESGP relates to companies policies, its results in ESG areas (such as pollution, water usage, equal treatment of employees, inclusion, board diversity) and the overall impact of their operations on the surrounding. As Friede et al. (2015) documented, research on ESGP and firm value relation can be traced back to 1970s. Despite ongoing studies, the empirical evidence on the relevance of ESGP in the context of firm value is not uniform (Kuram et al., 2022).

Early understandings assumed that the relationship between ESGP and firm value was uniformly negative. The payoffs of ESGP were not able to exceed their costs. Many found that firms engaging in ESGP improvement experienced non-positive abnormal share returns (Jacobs et al., 2010) and lower market valuation in comparison to entities which did not consider ESG at all (Marsat & Williams, 2014). Crisóstomo et al. (2011) added that ESGP requires the allocation of resources move from the shareholders to other company stakeholders, therefore, it is natural to expect ESGP to be penalised by the market as such is not a rational corporate action. On

the contrary, e.g. Porter and Kramer (2018) found that ESGP has the positive and statistically significant impact on the market value. Companies which performed better in terms of ESG achieved higher firm value than companies of worse ESGP. These are supported by Dorfleitner et al. (2018) who in addition documented that the longer the period of analysis is, the relation between ESGP and firm value is stronger. Others also reported that ESGP contributes to higher stock price (Khan, 2019) and abnormal returns (Hong & Kacperczyk, 2009), while some highlight that crucial for firm value improvement is rather ESG disclosure (i.e. making ESG-related information publicly available) than ESGP in and of itself (Plumlee et al., 2015). This may be explained by the fact that companies which disclose ESG are perceived by investors as stable and trustworthy entities of strong market position that are more likely to strive through the times of financial difficulties and economic crises even if they reach poor ESGP. Even though scholars present either strictly positive or negative effect of ESGP on firm value, some studies found mixed results in this matter (Orlitzky et al., 2003) or report no relationship between these two at all (Humphrey et al., 2012). Xie et al. (2019) documented inconclusive impact of ESGP on firm value, but simultaneously stated that the positive association is undoubted. Han et al. (2016) analysed company performance in E, S and G areas separately and proved a negative relationship between E performance and firm value, no correlation for S and positive impact of G. In addition, Humphrey et al. (2012) evidenced the independent effect of firm performance in each of the individual ESG fields on company market results and concluded no significant costs or benefits for the company were recognized with engagement in ESG.

New studies on ESGP and firm value deliver more doubts and uncertainty (Gregory, 2021). The question of what makes these results inconclusive is then of key importance and states the notable gap in the literature. The reasons for the discrepancy in the relationship between ESG and market performance of the company are only hypothetical. Researchers most frequently highlight the role of external determinants of company operations (Eccles et al., 2014) such as the industry to which company belongs (Mervelskemper & Streit, 2017), regulatory clarity (Liang & Renneboog, 2017), society welfare and education level as well as other nation-level characteristics including $CO_2$ pollution and the extent of absence of corruption in the country (Durand et al., 2013; Ioannou & Serafeim, 2012; Ahlström, 2019). The above is explained in accordance with the institutional theory which analyzes the company forms and explains the reasons behind the homogenous performance of firms operating within the same environment (Khan, 2019). Aguilera et al. (2007) argued that as companies are embedded in different countries, they will experience various internal and external pressures to engage in ESGP which are an expression of a given set of values norms, and assumptions of societies that constitute a reasonable economic behavior. Since this theory considers a company as a subset of the society or the nation in the broader sense (Scott, 1987), it links ESGP and firm value to their characteristics.

Institutional theory is widely used by the researchers working in the field of sustainability to identify the determinants of company ESGP (Brammer et al., 2012) and firm value (Wang et al., 2023). Thus, it is used in the paper to understand the role of the sustainability level of the country in the divergent impact on company ESGP and ESGP and firm value connection as well. In correspondence to the set aims of the paper, two research hypotheses were examined:

**H1:** Country with high sustainability level has a positive and greater impact on company ESGP than country with low sustainability level.

**H2:** In countries with high sustainability level, company ESGP has a greater impact on firm value than in countries with low sustainability level.

Company ESGP is the subject to countries sustainability level as countries run specific politics in this area which at least to some extent determine companies operations expected outcomes in this area. Therefore, if there are stronger institutions, i.e. higher country sustainability level expressed, e.g. in the form of specific regulations, companies by obeying these norms should perform better in terms of ESG. Given it is expected that country sustainability influences ESGP of its companies positively and there is evidence for ESGP to impact firm value positively (which supports stakeholders theory), in countries with higher sustainability level the association of ESGP with firm value should be greater than in other countries.

**Research methods**

The research sample was composed of the non-financial sectors companies publicly traded on the regulated financial markets in the EU Member States, including the United Kingdom (i.e. EU-28). Following Limkriangkrai et al. (2017), companies of financial sector were excluded from the analysis, given their significantly different specification from the rest of the sample. The rationale to focus on EU-28 market was in three ways. Firstly, the EU provides strongly harmonised financial reporting regulations (Janicka et al., 2020) according to which all stock companies are required to uniform their consolidated financial statements according to International Financial Reporting Standards (IFRS) as adopted by the EU. Secondly, the EU for at least a decade now delivers one of the most sufficient non-financial reporting and sustainability-related regulations for companies globally (Ahlström & Monciardini, 2021) such as Non-Financial Reporting Directive, EU Taxonomy, European Climate Law and European Sustainability Reporting Standards. Finally, although the EU consists both of countries that deliver positive and negative externalities, in comparison to the rest of the world, they make the most effective efforts in combating such ESG issues as global warming, lack of inclusion and unethical business practices (Solability, 2023). Despite Brexit in 2020, companies publicly traded on the London Stock Exchange were included in the research as they still have numerous similarities in terms of the financial and non-financial reporting regulations.

Research period spanned 10 years – from 2012 to 2021. The predominant reasoning of such is it allowed to analyse the changes of countries and companies operations in the long term which is the sufficient time horizon for improvements in the field of sustainability. The period was limited to the year 2012, as no comprehensive and comparable sustainability performance measures for the country existed before.

Research sample consisted of 6,830 companies whose shares were publicly traded on EU-28 regulated markets in 2021. In the next step, availability of firms financial and ESG data was analysed (see Table 1).

**Table 1.** Companies financial and ESG performance data availability in the years 2012–2021 across the EU Member States and the United Kingdom

| Country | In 2021 | Fin. data in every year | ESG data in at least: | | | | | | | | ESG data in every year | |
| | | | 1 year | | 3 years | | 5 years | | 7 years | | | |
| | Number of companies | | | Share [%] | No. of comp. | Share [%] | No. of comp. | Share [%] | No. of comp. | Share [%] | No. of comp. | Share [%] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 58 | 47 | 27 | 0.8 | 26 | 0.7 | 12 | 0.3 | 12 | 0.3 | 9 | 0.3 |
| Belgium | 185 | 94 | 37 | 1.0 | 36 | 1.0 | 22 | 0.6 | 19 | 0.5 | 14 | 0.4 |
| Bulgaria | 192 | 86 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Croatia | 80 | 55 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Cyprus | 99 | 49 | 10 | 0.3 | 7 | 0.2 | 1 | 0.0 | 1 | 0.0 | 0 | 0.0 |
| Czechia | 18 | 6 | 1 | 0.0 | 1 | 0.0 | 1 | 0.0 | 1 | 0.0 | 0 | 0.0 |
| Denmark | 170 | 83 | 42 | 1.2 | 31 | 0.9 | 23 | 0.6 | 19 | 0.5 | 18 | 0.5 |
| Estonia | 29 | 15 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Finland | 167 | 85 | 48 | 1.5 | 31 | 0.9 | 23 | 0.6 | 22 | 0.6 | 18 | 0.5 |
| France | 664 | 448 | 129 | 4.2 | 118 | 3.3 | 81 | 2.3 | 76 | 2.1 | 63 | 1.8 |
| Germany | 662 | 459 | 165 | 5.6 | 131 | 3.7 | 80 | 2.2 | 68 | 1.9 | 43 | 1.2 |
| Greece | 172 | 138 | 22 | 0.6 | 20 | 0.6 | 12 | 0.3 | 10 | 0.3 | 4 | 0.1 |
| Hungary | 40 | 23 | 4 | 0.1 | 4 | 0.1 | 3 | 0.1 | 3 | 0.1 | 2 | 0.1 |
| Ireland | 87 | 56 | 38 | 1.0 | 33 | 0.9 | 29 | 0.8 | 29 | 0.8 | 19 | 0.5 |
| Italy | 351 | 137 | 55 | 1.8 | 51 | 1.4 | 27 | 0.8 | 22 | 0.6 | 16 | 0.4 |
| Latvia | 12 | 9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Lithuania | 26 | 18 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Luxembourg | 68 | 27 | 16 | 0.5 | 11 | 0.3 | 9 | 0.3 | 7 | 0.2 | 0 | 0.0 |
| Malta | 37 | 18 | 3 | 0.1 | 2 | 0.1 | 1 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Netherlands | 129 | 78 | 46 | 1.1 | 40 | 1.1 | 30 | 0.8 | 29 | 0.8 | 26 | 0.7 |
| Poland | 665 | 419 | 28 | 0.7 | 26 | 0.7 | 19 | 0.5 | 18 | 0.5 | 8 | 0.2 |
| Portugal | 44 | 36 | 13 | 0.3 | 12 | 0.3 | 7 | 0.2 | 6 | 0.2 | 3 | 0.1 |
| Romania | 353 | 85 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Slovakia | 41 | 9 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Slovenia | 103 | 16 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Spain | 272 | 91 | 49 | 1.4 | 48 | 1.3 | 36 | 1.0 | 34 | 0.9 | 25 | 0.7 |
| Sweden | 936 | 301 | 146 | 4.7 | 98 | 2.7 | 56 | 1.6 | 49 | 1.4 | 31 | 0.9 |
| United Kingdom | 1,170 | 691 | 332 | 10.3 | 263 | 7.3 | 216 | 6.0 | 210 | 5.9 | 174 | 4.9 |
| EU-28 | 6,830 | 3,579 | 1,211 | 33.8 | 989 | 27.6 | 688 | 19.2 | 635 | 17.7 | 473 | 13.2 |

Source: Author's own study based on Refinitiv EIKON data.

Out of 6,830 companies, 3,579 (52.4%) reported financial data in every year of 2012–2021 period. Data availability on ESGP was analysed in five different scenarios: data availability in at least one, three, five, seven years, and in every year. Out of 3,579 firms, data on ESGP was available for:

- 1,211 (33.8%) companies in at least one year;
- 989 (27.6%) companies in at least three years;
- 688 (19.2%) companies in at least five years;
- 635 (17.7%) companies in at least seven years;
- 473 (13.2%) companies consecutively in the whole period.

The above findings proved relatively weak availability of ESGP related data among analysed companies and differences in this field across EU-28. Surprisingly, the companies in as many as eight countries (Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia) did not include ESGP data at all throughout the whole period under investigation, so these were excluded from the study. The research results documented companies of the United Kingdom, Germany, Sweden and France at the top in this manner. The observation may be related to the high overall number of stock companies in these countries. Furthermore, as the first scenario (companies reporting on ESG in at least one year) offered the greatest representativeness of the research sample the focus was put on these (1,211) firms. Next, companies were split into three groups (see Table 2) based on the Global Sustainability Competitiveness Index (GSCI) from Solability as the measure of country sustainability.

**Table 2.** Research sample classification based on countries sustainability level

| Countries sustainability level | Condition of qualification | Definition | Countries included |
|---|---|---|---|
| Low | GSCI score equal to or lower than 1st quantile in at least five years | Countries of relatively poor performance in terms of sustainability | Cyprus, Greece, Hungary, Malta, Spain |
| Moderate | GSCI score higher than 1st quantile and lower than 3rd quantile in at least five years | Countries of relatively moderate performance in terms of sustainability | Belgium, Czechia, France, Germany, Italy, Luxembourg, Netherlands, Poland, Portugal, UK |
| High | GSCI score equal to or higher than 3rd quantile in at least five years | Countries of relatively high performance in terms of sustainability | Austria, Denmark, Finland, Ireland, Sweden |

GSCI – Country Global Sustainability Competitiveness Index (GSCI) from Solability. Countries GSCI scores in detail presented in Appendix 1.

Source: Author's own study based on Solability data.

Research utilised two econometric models estimated using Panel Least Squares (PLS) regression with Fixed Effects (FE) based on the results of Hausman test. Following other scholars (e.g. Ferrell et al., 2016) Tobin's Q ratio (TQ) proxied firm value while ESGP of the company was expressed by the ESG score from Refinitiv

(e.g. Duque-Grisales & Aguilera-Caracuel, 2021). Similarly to Cai et al. (2016), to confirm the country sustainability level (variables LOW and HIGH) impact on company ESGP (i.e. ESG), a model (1) including controls both on country (GDPpc, GHG, EDU, CORR) and company level (RoA, SIZE, GROW) was used:

$$ESG_{i,t} = \beta_0 + \beta_1 LOW_{i,t} + \beta_2 HIGH_{i,t} + \beta_3 GDPpc_{i,t} + \beta_4 EDU_{i,t} + \beta_5 GHG_{i,t} + \beta_6 CORR_{i,t} + \beta_7 RoA_{i,t} + \beta_8 SIZE_{i,t} + \beta_9 GROW_{i,t} + \varepsilon_{i,t} \tag{1}$$

where: ESG – company ESG score from Refinitiv (range from 0 to 100/higher score means better ESGP); LOW – dummy 1 for countries with "LOW" sustainability level, 0 otherwise; HIGH – dummy 1 for countries with "HIGH" sustainability level, 0 otherwise; GDPpc – log for GDP per capita; EDU – education index measured by Human Development Index (range from 0 to 100/higher score means better educated society); GHG – log for $CO_2$ emission; CORR – Corruption Perception Index measured by Transparency International (range from 0 to 100/higher score means relatively less corrupted country); RoA – return on assets ratio computed as EBIT/year-average book value of total assets; SIZE – log for book value of company total assets; GROW – one-year growth of book value of total assets; $i$ – company; $t$ – year; $\varepsilon$ – error term.

To examine if country sustainability level affected the relationship between ESGP and firm value (TQ), the study introduced two interaction terms (ESGxLOW, ESGxHIGH) in the model (2) along with controls for company characteristics (i.e. RoA, SIZE, GROW):

$$TQ_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 LOW_{i,t} + \beta_3 ESGxLOW_{i,t} + \beta_4 HIGH_{i,t} + \beta_5 ESGxHIGH_{i,t} +$$
$$\beta_6 RoA_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 GROW_{i,t} + \varepsilon_{i,t} \tag{2}$$

where: TQ – Tobin's Q ratio computed as the relation of market capitalization to book value of total assets; ESGxLOW – interaction term between ESG and LOW variables; ESGxHIGH – interaction term between ESG and HIGH variables. The rest of the variables used as previously.

Country data were sourced from Solability (GSCI), Eurostat (GDPpc and GHG), Human Development Index (EDU) and Transparency International (CORR). Company financial and ESGP related data were sourced from Refinitiv EIKON. Company financials used in the analysis were consolidated. All ratios measured at the end of the year. Missing data were deleted pairwise.

**Results and discussions**

Table 3 provides the descriptive statistics of TQ, ESG and control variables on company and country level.

**Table 3.** Selected descriptive statistics

| Company/country level variable | Variable | Mean | Median | Min. | Max. | Std. dev. |
|---|---|---|---|---|---|---|
| Company | TQ | 1.330 | 0.819 | 0.070 | 9.319 | 1.527 |
| | ESG | 55.908 | 57.527 | 9.122 | 91.158 | 19.745 |
| | RoA | 0.075 | 0.070 | -0.354 | 0.365 | 0.091 |
| | SIZE* | 9,031.46 | 1,743.13 | 9.93 | 145,345.90 | 21,989.03 |
| | GROW | 1.098 | 1.052 | 0.621 | 2.573 | 0.257 |
| Country | GDPpc* | 38,265.12 | 37,050.00 | 11,180.00 | 98,260.00 | 12,163.75 |
| | EDU | 83.152 | 84.697 | 72.766 | 91.092 | 5.084 |
| | GHG* | 448.43 | 486.06 | 10.38 | 1.117.23 | 305.28 |
| | CORR | 75.667 | 78.000 | 43.000 | 90.000 | 10.587 |

"*" indicates the nominal value of variables was presented. GDPpc was expressed in EUR per person, SIZE in million EUR, and GHG in million tonnes (Mt) of $CO_2$ equivalent.

Source: Author's own study based on Refinitiv EIKON, Eurostat, Human Development Index and Transparency International data.

Mean firm value proxied by TQ was equal to 1.330 which suggests that on average investors valued analysed companies more than it could be identified based on their book value of total assets. TQ standard deviation on the level of 1.527 proved that the research sample was diversified in this manner. Similar observation was noted with regard to ESG. On the range from 0 (the lowest ESG score/worst possible ESGP) to 100 (the highest ESG score/the best possible ESGP) ESG score of analysed firms amounted from 9.122 to 91.158 with median equal to 57.527. RoA documented studied companies on average were profitable, however, loss-making entities were included as well, as the minimum, in this case, was -0.354. Research sample consisted of both relatively small and large companies as SIZE ranged from EUR 9.93 million to EUR 145,345.90 million. What is more, analysed firms were generally growing on a year-to-year basis as GROW mean and median equalled 1.098 and 1.052. When it comes to statistics of countries of analysed companies, GDPpc and EDU confirmed countries of relatively prosperous and well educated societies. Simultaneously, these polluted from 10.38 Mt to 1,117.23 Mt of $CO_2$, while CORR mean (median) of 75.667 (78.000) indicated observations with high absence of corruption.

Interestingly, countries of both low and high sustainability levels contributed to higher ESGP of their companies (see Table 4).

**Table 4.** Country sustainability level effect on company ESGP

| Variable | Coef. | Prob. |
|----------|-------|-------|
| LOW | 6.091 | 0.000 |
| HIGH | 3.202 | 0.000 |
| GDPpc | 3.857 | 0.000 |
| EDU | -0.761 | 0.000 |
| GHG | 1.473 | 0.000 |
| CORR | 0.190 | 0.000 |
| ROA | 19.240 | 0.000 |
| SIZE | 0.000 | 0.000 |
| GROW | -8.668 | 0.000 |
| $\varepsilon$ | 59.076 | 0.000 |
| Adj. R-squared | | 0.205 |
| F-statistics | 122.501 | 0.000 |
| Hausman test | 151.850 | 0.000 |
| Fixed effects | Yes | |
| N | 8,937 | |

Source: Author's own study based on Refinitiv EIKON, Eurostat, Human Development Index and Transparency International data.

All variables in this study were considered statistically significant for *p*-value less than 0.01. Both LOW and HIGH had a positive impact on ESG score of companies, however, almost twice as big influence as in case of HIGH was noted for LOW. Namely, high level of country sustainability raised company ESG score by 3.202, while for countries with low sustainability this increase was equal to 6.091. Countries with low sustainability level may have less rigid and demanding regulations for companies in terms of ESGP than countries with high sustainability level, thereby, the firms abuse imperfections of the system and engage in greenwashing (i.e. act of making false or misleading statements about the operations impact on the environment) which falsifies overall ESGP in favour of such entities. The other scenario constitutes that in countries with low sustainability level there are no external pressures on firms to perform well in ESG areas, thus, ESGP of a company which would be interpreted as "good" in LOW, in HIGH could be perceived as relatively "poor". Although the coefficient for HIGH was positive, it influenced ESG to a smaller extent than LOW, thus, results falsify the first research hypothesis. The rise of the GDPpc increased company ESG which is in concur with Cai et al. (2016). It seems that in countries with higher welfare (i.e. higher GDPpc) – as they are in a favourable position to do so – societies insist on firms to consider their impact on the surrounding and entities adapt to such requirements. Surprisingly, EDU was negatively associated with ESG. Perhaps companies operating in countries with relatively poorer educated people undertake greenwashing as they expect that societies will not see through their intentions, so these firms move their resources from ESG to other areas of operations, for example, those that allow them to make a higher profit. GHG had a positive impact on ESG. It involves kind of a paradox as for the company to reach better ESGP

a certain amount of $CO_2$ needs to be emitted. Similarly to the observations of Ioannou and Serafeim (2012), CORR positively influenced ESG. The absence of corruption supports the fundamentals for companies to act responsibly and sustainably, thus, it creates a proper background for entities to improve their ESGP. What is more, higher company profitability led to higher ESG score. More profitable firms generated more resources which then can be used for ESGP improvements. In contrast to Dobrick et al. (2023), the impact of SIZE on ESG was negligible. The coefficient for GROW documented negative relationship with ESGP. Given growth companies focus on multiplying their assets, there may be little left for ESGP enhancements. According to the adjusted R-squared, the model explained 20.5% of variation of the dependent variable. F-statistics proved the model was built correctly and based on Hausman test results, FE were used. The study consisted of 8,937 firm-year observations.

Table 5 presents the country sustainability level impact on company ESGP and firm value relationship.

**Table 5.** Country sustainability level effect on company ESGP and firm value relationship

| Variable | Coef. | Prob. |
|---|---|---|
| ESG | 0.007 | 0.000 |
| LOW | -0.162 | 0.002 |
| ESGxLOW | -0.005 | 0.026 |
| HIGH | 0.385 | 0.000 |
| ESGxHIGH | 0.012 | 0.000 |
| RoA | 8.641 | 0.000 |
| SIZE | -0.500 | 0.000 |
| GROW | 0.522 | 0.000 |
| ε | 0.433 | 0.000 |
| Adj. R-squared | | 0.300 |
| F-statistics | 213.651 | 0.000 |
| Hausman test | 122.871 | 0.000 |
| Fixed effects | Yes | |
| N | 8,937 | |

Source: Author's own study based on Refinitiv EIKON and Eurostat data.

ESG, LOW and HIGH variables independently were considered statistically significant at $p$-level less than 0.01. A positive association of ESG with firm value was recognized. More precisely, an increase of company ESG by 1.000 led to an increase (*ceteris paribus*) of 0.007 in its market value as measured by TQ. Findings support the notion that transparent companies that care about their environment and which operate in a sustainable way are appreciated by the market participants and are rewarded in the form of a higher market valuation. This phenomenon is in line with stakeholders theory and the studies of Friede et al. (2015) who proved that although studies on the relationship between ESGP and firm value provide heterogeneous conclusions, as a general rule the influence has a positive direction. The same was documented by Giannopoulos et al. (2021) as well as Naffa and Fain (2022). HIGH relationship with TQ was positive,

while LOW effect on firm value was negative. Therefore, variation in the sustainability level of countries in which companies operate has its role in shaping firm value. With regard to the interaction terms utilised in the study, both were statistically significant – ESGxLOW at $p$ less than 0.05 and ESGxHIGH at $p$ less than 0.01. An increase of ESG score of a company from country with low sustainability level decreased its firm value and the opposite was noted in case of companies of countries with high sustainability level. It appears that investors tend to value positively companies with good ESGP and strong nation-level institutions in the field of sustainability and to punish (i.e. with a lower valuation) firms from countries of poor sustainability, even if these entities reached unexceptionally good ESGP. In countries with high sustainability level, companies may find it difficult to perform well on ESG or to perform at a minimum based on relevant regulations, therefore, investors are more likely to reward firms engagement in this field as it is more likely that these companies undertook all necessary actions to reach a certain level of ESGP. The effect of ESGxHIGH (0.012) on firm value was greater than ESGxLOW (-0.005). Research results thus did not provide a basis for falsifying the second research hypothesis. Nevertheless, it should be emphasised that the impact of variables involving ESG, compared to the impact of the other variables – of a financial nature – is relatively low. The most impactful variable was RoA (8.641). Between profitability measure and firm value, a positive association was recognised which is in concur with Yoo and Managi (2022). Profit-making entities are perceived by investors as prosperous and less risky ones, given they have the prerequisites to continue their operations in the future. SIZE had a negative effect on TQ which is consistent with findings of Velte (2017). Although bigger companies are perceived as more stable entities, they have fewer possibilities to grow and are not appreciated by the market. The above perception is supported by the positive direction of the impact of GROW on TQ. As was noted by Fatemi et al. (2018) companies with documented tendencies of growth bear the premises of prosperity and, thereby are rewarded by investors with higher valuation. Dependent variables explained 30.0% of TQ variation, the model was built well, included FE and utilised 8,937 firm-year observations.

**Conclusions**

Company ESGP as well as firm value is the subject of factors of various character. Although ongoing discussion on the relationship between these two originated in the 1970s, no unified conclusion has been drawn so far. Recent studies instead of clarifying the issue, added further doubts and inconsistencies in the research area. However, supported by stakeholders theory, scholars state that the positive association between ESGP and firm value is undoubted. In explaining what shapes ESGP and the heterogenous impact of ESGP on firm value the paper utilised institutional theory as nation-level institutions, among others, can lead to comparative institutional advantages for companies. The paper provides empirical evidence of the role that

nation-level institutions play in shaping how companies perform in terms of ESG and how it impacts their market valuation.

Findings proved that although both low and high sustainability level of the country contributed to better ESGP of companies of these countries, the greater impact of sustainability level was documented in the first case. Countries with low sustainability level hold greater nation-level institutions allowing companies to outperform in ESG than other countries. Therefore, the results falsified the first research hypothesis stating that "Country with high sustainability level has a positive and greater impact on company ESGP than country with low sustainability level". As expected based on stakeholders theory, findings proved positive and statistically significant association of ESGP with firm value. Companies that run their operations sustainably are appreciated by investors in contrast to firms which deliver negative externalities. Research also documented significant impact of nation-level institutions on ESGP and firm value relationship. Companies of countries with low sustainability level suffered from the decrease in TQ even if they achieved superior ESG results while firms from countries with high sustainability level were rewarded in the form of higher market valuation for improvements in ESGP. Given the above, the research results did not falsify the second hypothesis: "In countries with high sustainability level company ESGP has a greater impact on firm value than in countries with low sustainability level". However, the impact of ESG related activities on firm value is of much weaker strength, than other factors of financial nature.

According to the author's best knowledge, no studies have articulated how different factors affect ESGP and ESGP relation with firm value so far. With this paper a contribution both to the theoretical as well as the empirical literature on companies ESGP and firm value is made. Undertook studies fulfil the research gap within business ethics and finance research areas that seek to understand the issue of institutional diversity and its implications for the valuation of stock companies. Findings may be used by investors and fund managers interested in optimizing their portfolios by including stocks of companies operating in countries of specific level of sustainability. Findings may be also used by company management in formulating optimal strategies for firm value maximization.

The research focused on non-financial sectors stock companies of EU Member States, including the United Kingdom and the research period spanned 10 years from 2012 to 2021. Given PLS regression with FE was utilised, the conclusions are limited to firms of the above-mentioned characteristics only. Future work could expand the research sample to companies of other countries as well. As used models explained from 20.5 to 30.0% of dependent variables, the study is exposed to the risk of omitted variables. Further studies should include wider set of variables. Finally, as company ESGP consists of measures relating to E, S and G areas solely and the same applies to country sustainability, future research could focus on the assessment of impact of country results in each of sustainability field on companies E, S and G performance separately.

# References

Aguilera, R.V., Rupp, D.E., Williams, C.A., & Ganapathi, J. (2007). Putting the S back in corporate social responsibility: A multilevel theory of social change in organizations. *Academy of Management Review*, *32*, 1–8. **https://doi.org/10.5465/amr.2007.25275678**

Ahlström, H. (2019). Policy hotspots for sustainability: Changes in the EU regulation of sustainable business and finance. *Sustainability*, *11*(2), 1–22. **https://doi.org/10.3390/su11020499**

Ahlström, H., & Monciardini, D. (2021). The regulatory dynamics of sustainable finance: Paradoxical success and limitations of EU reforms. *Journal of Business Ethics*, *177*, 193–212. **https://doi.org/10.1007/s10551-021-04763-x**

Brammer, S., Jackson, G., & Matten, D. (2012). Corporate social responsibility and institutional theory: New perspectives on private governance. *Socio-Economic Review*, *10*(1), 3–28. **https://doi.org/10.1093/ser/mwr030**

Cai, Y., Pan, C.H., & Statman, M. (2016). Why do countries matter so much in corporate social performance? *Journal of Corporate Finance*, *41*, 591–609. **https://doi.org/10.1016/j.jcorpfin.2016.09.004**

Campbell, J.L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, *32*(3), 1–12. **https://doi.org/10.5465/amr.2007.25275684**

Cheng, R., Kim, H., & Ryu, D. (2023). ESG performance and firm value in the Chinese market. *Investment Analysts Journal*, *54*(1), 1–15. **https://doi.org/10.1080/10293523.2023.2218124**

Cornell, B., & Damodaran, A. (2020). Valuing ESG: Doing good or sounding good?. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3557432; **https://doi.org/10.2139/ssrn.3557432**

Crisóstomo, V.L., Fatima, S.F., & Felipe, C.V. (2011). Corporate social responsibility, firm value and financial performance in Brazil, *Social Responsibility Journal*, *7*(2), 295–309. **https://doi.org/10.1108/17471111111141549**

Dixon, F. (2019). Sustainable finance. *Cadmus Journal*, *4*(1), 47–64.

Dobrick, J., Klein, C., & Zwergel, B. (2023). Size bias in Refinitiv ESG data. *Finance Research Letters*, *55*, 104014. **https://doi.org/10.1016/j.frl.2023.104014**

Dorfleitner, G., Utz, S., & Wimmer, M. (2018). Patience pays off – corporate social responsibility and long-term stock returns. *Journal of Sustainable Finance & Investment*, *8*(2), 132–157. **https://doi.org/10.1080/20430795.2017.1403272**

Duque-Grisales, E., & Aguilera-Caracuel, J. (2021). Environmental, social and governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *Journal of Business Ethics*, *168*(2), 315–334. **https://doi.org/10.1007/s10551-019-04177-w**

Durand, R.B., Koh, S., & Tan, P.L. (2013). The price of sin in the Pacific-Basin. *Pacific-Basin Finance Journal*, *21*(1), 899–913. **https://doi.org/10.1016/j.pacfin.2012.06.005**

Dziawgo, D. (2019). Sustainable finance as a new financial investment model. *Research Paper of Wroclaw University of Economics and Business*, *63*(2), 23–34. **https://doi.org/10.15611/pn.2019.12.02**

Eccles, R.G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, *60*(11), 2835–2857. **https://doi.org/10.1287/mnsc.2014.1984**

Egorova, A.A., Grishunina, S.V., & Karminskya, A.M. (2022). The impact of ESG factors on the performance of information technology companies. *Procedia Computer Science*, *199*, 339–345. **https://doi.org/10.1016/j.procs.2022.01.041**

Fatemi, A., Glaum, M., & Kaiser, S. (2018). ESG performance and firm value: The moderating role of disclosure. *Global Finance Journal*, *38*, 45–64. **https://doi.org/10.1016/j.gfj.2017.03.001**

Ferrell, A., Liang, H., & Renneboog, L. (2016). Socially responsible firms. *Journal of Financial Economics*, *122*(3), 585–606. **https://doi.org/10.1016/j.jfineco.2015.12.003**

Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, *5*(4), 210–233. **https://doi.org/10.1080/20430795.2015.1118917**

Gawęda, A. (2021). Sustainability reporting: Case of European stock companies. *European Journal of Sustainable Development*, *10*(4), 41–53. **https://doi.org/10.14207/ejsd.2021.v10n4p41**

Giannopoulos, G., Kihle, F.R.V., Elmarzouky, M., & Afzal, H.K.A.B.M. (2022). The ESG disclosure and the financial performance of Norwegian listed firms. *Journal of Risk and Financial Management*, *15*(6), 1–16. **https://doi.org/10.3390/jrfm15060237**

Gregory, R.P. (2021). Why ROE, ROA, and Tobin's Q in regressions aren't good measures of corporate financial performance for ESG criteria. https://ssrn.com/abstract=3775789; **https://doi.org/10.2139/ssrn.3775789**

Han, J., Hyun, J., & Jeongmin Y. (2016). Empirical study on relationship between corporate social responsibility and financial performance in Korea. *Asian Journal of Sustainability and Social Responsibility*, *1*, 61–76. **https://doi.org/10.1186/s41180-016-0002-3**

Hong, H., & Kacperczyk, M. (2009). The price of sin: The effect of social norms on markets. *Journal of Financial Economics*, *93*, 15–36. **https://doi.org/10.1016/j.jfineco.2008.09.001**

Humphrey, J.E., Lee, D.D., & Shen, Y. (2012). The independent effects of environmental, social and governance initiatives on the performance of UK firms. *Australian Journal of Management*, *37*(2), 135–151. **https://doi.org/10.1177/0312896211410081**

Ioannou, I., & Serafeim, G. (2012). What drives corporate social performance? The role of nation-level institutions. *Journal of International Business Studies*, *43*, 834–864. **https://doi.org/10.1057/jibs.2012.26**

Jackson, G., & Apostolakou, A. (2010). Corporate social responsibility in Western Europe: An institutional mirror or substitute? *Journal of Business Ethics*, *94*(3), 371–394. **https://doi.org/10.1007/s10551-009-0269-8**

Jacobs, B.W., Singhal, V.R., & Subramanian, R. (2010). An empirical investigation of environmental performance and the market value of the firm. *Journal of Operations Management*, *28*(5), 430–441. **https://doi.org/10.1016/j.jom.2010.01.001**

Janicka, M., Pieloch-Babiarz, A., & Sajnóg, A. (2020). Does short-termism influence the market value of companies? Evidence from EU countries. *Journal of Risk and Financial Management*, *13*, 1–22. **https://doi.org/10.3390/jrfm13110272**

Jensen, M.C. (2001). Value maximization, stakeholder theory, and the corporate objective function. *Journal of Applied Corporate Finance*, *14*(3), 8–21. **https://doi.org/10.1111/j.1745-6622.2001.tb00434.x**

Khan, M. (2019). Corporate governance, ESG, and stock returns around the world. *Financial Analysts Journal*, *75*(4), 103–123. **https://doi.org/10.1080/0015198X.2019.1654299**

Khan, M. (2022). ESG disclosure and firm performance: A bibliometric and meta-analysis. *Research in International Business and Finance*, *61*, 101668. **https://doi.org/10.1016/j.ribaf.2022.101668**

Kuram, S., Sharma, D., Rao, S., Weng, M.L., & Mangla, S.K. (2022). Past, present, and future of sustainable finance: Insights from big data analytics through machine learning of scholarly research. *Annals of Operations Research*, *309*(2), 1199–1205. **https://doi.org/10.1007/s10479-022-04535-4**

Lammers, J.C., & Garcia, M.A. (2017). Institutional theory approaches. In C.R. Scott, J.R. Barker, T. Kuhn, J. Keyton, P.K. Turner & L.K. Lewis (Eds.), *The International Encyclopedia of Organizational Communication* (pp. 195–216). John Wiley & Sons. **https://doi.org/10.1002/9781118955567.wbieoc113**

Liang, H., & Renneboog, L. (2017). On the foundations of corporate social responsibility. *The Journal of Finance*, *72*(2), 853–910. https**://doi.org/10.1111/jofi.12487**

Limkriangkrai, M., Koh, S., & Durand, R.B. (2017). Environmental, social, and governance (ESG) profiles, stock returns, and financial policy: Australian evidence. *International Review of Finance*, *17*(3), 461–471. **https://doi.org/10.1111/irfi.12101**

Marsat, S., & Williams, B. (2014). Does the market value social pillar? https://ssrn.com/abstract=2419387; **https://doi.org/10.2139/ssrn.2419387**

Mervelskemper, L., & Streit, D. (2017). Enhancing market valuation of ESG performance: Is integrated reporting keeping its promise? *Business Strategy and the Environment*, *26*(4), 536–549. **https://doi.org/10.1002/bse.1935**

Naffa, H., & Fain, M. (2022). A factor approach to the performance of ESG leaders and laggards. *Finance Research Letters*, *44*, 102073. **https://doi.org/10.1016/j.frl.2021.102073**

Orlitzky, M., Schmidt, F, & Rynes, S. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, *24*(3), 403–441. **https://doi.org/10.1177/0170840603024003910**

Plumlee, M., Brown, D., Hayes, R.M., & Marshall, R.S. (2015). Voluntary environmental disclosure quality and firm value: Further evidence. *Journal of Accounting and Public Policy*, *34*, 336–361. **https://doi.org/10.1016/j.jaccpubpol.2015.04.004**

Porter, M.E., & Kramer, M.R. (2018). Creating shared value: How to reinvent capitalism – and unleash a wave of innovation and growth. In G.G. Lenssen & N.C. Smith (Eds.), *Managing Sustainable Business: An Executive Education Case and Textbook* (pp. 323–346). Springer Netherlands. **https://doi.org/10.1007/978-94-024-1144-7_16**

Samborski, A. (2024). ESG reporting as a corporate governance mechanism. The case of publicly listed energy companies. *Annales Universitatis Mariae Curie-Skłodowska, Sectio H – Oeconomia*, *58*(1), 169–183. **https://doi.org/10.17951/h.2024.58.1.169-183**

Scott, R.W. (1987). The adolescence of institutional theory. *Administrative Science Quarterly*, *32*(4), 493–511. **https://doi.org/10.2307/2392880**

Solability. (2023, December 31). *The Global Sustainable Competitiveness Index*. https://solability.com/the-global-sustainable-competitiveness-index/the-index/downloads

Szewczuk, S., & Więcek-Janka, E. (2024).Exploring sustainable investment: In-depth analysis of socially responsible investing (SRI) and ESG strategies. *Annales Universitatis Mariae Curie-Skłodowska, Sectio H – Oeconomia*, *58*(3), 103–114. **https://doi.org/10.17951/h.2024.58.3.103-114**

Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, *80*(2), 169–178. **https://doi.org/10.1108/JGR-11-2016-0029**

Wang, K., Yu, Y., Wang, X., & Zheng, H. (2023). Walk your reputation: The impact of corporate social responsibility decoupling on the hospitality and tourism firm value in the time of crisis. *Tourism Economics*, *30*(6), 1580–1599. **https://doi.org/10.1177/13548166231220286**

Wong, W.C., Batten, J.A., Mohamed-Arshad, S.B., Nordin, S., & Adzis, A.A. (2021). Does ESG certification add firm value? *Finance Research Letters*, *39*, 101593. **https://doi.org/10.1016/j.frl.2020.101593**

Xie, J., Nozawa, W., Yagi, M., Fujii, H., & Managi, S. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, *28*(2), 286–300. **https://doi.org/10.1002/bse.2224**

Yoo, S., & Managi, S. (2022). Disclosure or action: Evaluating ESG behaviour towards financial performance. *Finance Research Letters*, *44*, 102108. **https://doi.org/10.1016/j.frl.2021.102108**

Appendix 1. Sample composition by country and year including country ESG rank in the years 2012–2021

| Country | Firm-year obs. | 2012 GSCI | 2012 SL | 2013 GSCI | 2013 SL | 2014 GSCI | 2014 SL | 2015 GSCI | 2015 SL | 2016 GSCI | 2016 SL | 2017 GSCI | 2017 SL | 2018 GSCI | 2018 SL | 2019 GSCI | 2019 SL | 2020 GSCI | 2020 SL | 2021 GSCI | 2021 SL | No. of SL L | No. of SL H | 2012–2021 SL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Austria | 171 | 57.6 | H | 56.7 | M | 51.3 | M | 52.5 | M | 53.8 | H | 54.8 | H | 55.2 | H | 54.2 | H | 56.7 | M | 56.6 | M | 0 | 5 | H |
| Belgium | 250 | 52.5 | M | 51.5 | M | 45.4 | L | 45.9 | M | 48.4 | M | 49.9 | M | 51.2 | M | 51.3 | M | 52.1 | M | 53.0 | M | 1 | 0 | M |
| Cyprus | 33 | 45.3 | L | 44.6 | L | 42.2 | L | 42.0 | L | 41.2 | L | 42.3 | L | 44.1 | L | 45.8 | L | 47.6 | L | 47.5 | L | 10 | 0 | L |
| Czechia | 9 | 52.3 | M | 53.0 | M | 47.0 | M | 48.6 | M | 50.8 | M | 52.7 | M | 52.3 | M | 53.1 | M | 55.2 | M | 52.9 | M | 0 | 0 | M |
| Denmark | 260 | 58.8 | H | 62.8 | H | 51.6 | H | 52.7 | H | 56.0 | H | 57.2 | H | 57.2 | H | 57.0 | H | 61.0 | H | 60.2 | H | 0 | 10 | H |
| Finland | 286 | 57.6 | H | 60.9 | H | 53.6 | H | 54.4 | H | 56.2 | H | 57.4 | H | 58.7 | H | 59.5 | H | 60.4 | H | 60.7 | H | 0 | 10 | H |
| France | 949 | 54.4 | M | 54.3 | M | 50.3 | M | 50.4 | M | 51.8 | M | 52.9 | M | 52.4 | M | 52.0 | M | 55.5 | M | 56.8 | M | 0 | 1 | M |
| Germany | 995 | 56.2 | H | 59.7 | H | 52.0 | H | 52.8 | H | 52.1 | M | 53.4 | M | 53.8 | M | 53.5 | M | 54.6 | M | 56.6 | M | 0 | 4 | M |
| Greece | 130 | 46.8 | L | 45.3 | L | 42.8 | L | 42.4 | L | 45.2 | L | 46.9 | L | 47.4 | L | 47.4 | L | 50.0 | L | 49.6 | L | 10 | 0 | L |
| Hungary | 35 | 44.2 | L | 50.4 | L | 45.7 | M | 45.0 | L | 47.3 | M | 47.8 | L | 48.8 | L | 49.2 | L | 52.9 | M | 50.8 | L | 7 | 0 | L |
| Ireland | 286 | 55.7 | M | 57.1 | H | 49.9 | M | 50.8 | M | 53.9 | H | 55.4 | H | 55.5 | H | 53.6 | M | 56.8 | H | 57.6 | H | 0 | 6 | H |
| Italy | 350 | 49.2 | M | 52.0 | M | 46.4 | M | 45.9 | M | 46.6 | L | 48.8 | M | 50.2 | M | 49.9 | M | 51.6 | L | 51.6 | L | 3 | 0 | M |
| Luxembourg | 91 | 55.0 | M | 56.3 | M | 51.6 | H | 52.8 | H | 53.7 | M | 53.6 | M | 53.2 | M | 54.5 | H | 58.0 | H | 53.9 | M | 0 | 4 | M |
| Malta | 14 | 47.2 | L | 46.9 | L | 41.7 | L | 45.2 | L | 45.2 | L | 48.1 | L | 47.6 | L | 46.6 | L | 50.9 | L | 51.7 | M | 9 | 0 | L |
| Netherlands | 326 | 56.1 | M | 55.9 | M | 47.1 | M | 46.7 | M | 48.2 | M | 49.6 | M | 49.8 | M | 50.5 | M | 52.9 | M | 53.9 | M | 0 | 0 | M |
| Poland | 193 | 46.6 | L | 49.9 | L | 47.2 | M | 46.8 | M | 49.2 | M | 51.2 | M | 51.5 | M | 51.9 | M | 52.8 | M | 51.2 | L | 3 | 0 | M |
| Portugal | 80 | 50.3 | M | 52.2 | M | 45.9 | M | 45.8 | M | 48.9 | M | 48.9 | M | 50.0 | M | 51.1 | M | 55.0 | M | 54.8 | M | 0 | 0 | M |
| Spain | 383 | 49.9 | M | 52.5 | M | 45.9 | M | 46.4 | M | 46.9 | L | 48.1 | L | 48.9 | L | 48.5 | L | 51.8 | L | 52.7 | M | 5 | 0 | L |
| Sweden | 767 | 58.5 | H | 61.6 | H | 54.1 | H | 55.5 | H | 60.9 | H | 60.5 | H | 61.3 | H | 60.6 | H | 62.1 | H | 61.2 | H | 0 | 10 | H |
| UK | 2,387 | 49.5 | M | 51.6 | M | 43.8 | L | 44.9 | L | 51.0 | M | 51.9 | M | 52.6 | M | 52.8 | M | 56.1 | M | 54.6 | M | 2 | 0 | M |
| Total | 7,995 | | | | | | | | | | | | | | | | | | | | | | | |
| 1st quantile | n.a. | 48.7 | n.a. | 51.2 | n.a. | 45.6 | n.a. | 45.7 | n.a. | 47.2 | n.a. | 48.6 | n.a. | 49.6 | n.a. | 49.7 | n.a. | 52.0 | n.a. | 51.7 | | | n.a. | |
| 3rd quantile | n.a. | 56.1 | n.a. | 56.8 | n.a. | 51.4 | n.a. | 52.6 | n.a. | 53.7 | n.a. | 53.9 | n.a. | 54.2 | n.a. | 53.8 | n.a. | 56.7 | n.a. | 56.7 | | | | |

Global Sustainability Competitiveness Index (GSCI) ranges from 0 to 100, where the higher score means the country is more sustainable than ones with lower scores. "SL" denotes "Sustainability level". "L", "M" and "H" denotes "Low", "Moderate" and "High" sustainability level of the country, respectively. "n.a." denotes "not applicable".