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Non-Financial Factors in Creation and Preservation of Company Value in Telecommunication Industry

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Abstract

This paper investigates the impact of financial and non-financial factors on the value of companies in the telecommunications industry. Such variables as the debt ratio, tangibility, return on assets, etc. were selected as financial factors. ESG indicators were used as non-financial factors. The research topic is relevant for decision-making and the development of recommendations for companies, as it assesses the level of companies' involvement in solving environmental, social, and governmental problems. The work uses data from two databases (Bloomberg and Capital IQ) for 94 companies in the telecommunications industry between 2011 and 2021. The results suggest that the companies' disclosure of information about the overall ESG ratio and the "G" indicator has a positive effect on the company's value, while the disclosure of "E" and "S" indicators does not affect the value of a business.

Keywords: value of companies in the telecommunications industry, non-financial factors, ESG indicators, financial factors, debt ratio, tangibility, return on assets

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Introduction

The current shifts are among the crucial challenges of our time as we work to transition to a sustainable, inclusive, and resilient business world in the nearest future. Today the business sphere is being transformed by such enormous processes as climate change, continuous calls for racial and gender equality, depletion of natural resources, an increasing demand for improvements in working conditions, COVID-19, and changing expectations of the role of corporations.

To continue succeeding in value creation processes, companies need to operate with greater commitments that embrace the broader demands of both people and nature. The World Economic Forum, Deloitte and other organizations “urge business leaders to pause and consider how ESG transparency and mandatory reporting will impact them, and what they can do to contribute” [1].

This paper contributes to the topic of ESG disclosure, which is a major component of company value in the telecommunication sector. The abbreviation stands for Ecological, Social and Governance, which are the main elements of the sustainable development concept.

Sustainable development is one of the major global trends that affect the success of modern companies. The concept requires companies to develop and implement managerial methods and tools to achieve ecological, social, and governmental development goals. Nowadays, many companies seek to succeed in sustainable development and disclose their ESG results to be assessed at a higher value.

The conversation about environmental, social, and governmental (ESG) is rapidly progressing. The importance of ESG is now recognized in the discussion of long-term value creation, the number of boards that are focused on this concept is increasing, and they are disclosing how their sustainability parameters are evolving. The integration of ESG into company strategy and its disclosure help to demonstrate the significance and prioritization of ESG efforts of the top management to both investors and shareholders. As investors update and finalize their proxy voting guidelines for 2022, “there is the potential for more votes to be cast against board directors who do not demonstrate an adequate understanding of ESG and sufficient disclosure” [1].

In this paper, the specific influence of ESG disclosure on company value is studied using the Tobin Q concept as an indicator of the value of a company. This indicator allows to identify the factors underlying the creation of value of telecommunication companies by taking investors’ expectations into account.

An understanding of the influence of these factors contributes to building a motivation system in organizations that are willing to meet the growth of the value, promoting efficient asset use and considering long-term economic benefits when making managerial and financial decisions.

Purpose: to investigate the effect of ESG rating disclosure and its individual components, which is expressed by Tobin Q coefficient, on value when controlling for debt ratio, tangibility and return on assets.

There are several questions that this paper seeks to investigate in order to contribute to the existing literature. The most important one is the connection between value and ESG disclosure. Very few studies explore the effect of ESG disclosure, thus, this research paper augments them. Another important feature is the focus of this study on the telecommunications industry.

The research provides the results regarding the role of ESG disclosure factors in the process of creating value by analyzing individual and common disclosure factors.

An analysis of the influence of ESG and its components’ disclosure is conducted using the Tobin Q indicator, which is utilized here as a measure of the value created.

The study seeks to identify the factors that assist managers of telecommunications companies in the process of creating value and making decisions regarding external and internal company policy. The results could subsequently be extrapolated to the entire business sphere, providing useful input and suggestions for managers about the importance of ESG disclosure.

The study incorporates a review of the results of existing research on the topic and a regression analysis of the impact of ESG disclosure characteristics on the value of telecommunication companies in 2011–2021. The work uses data from two databases (Bloomberg and Capital IQ) for 94 companies in the telecommunications industry for the 2011–2021 period.

Related Literature and Research Hypothesis

ESG development in telecommunication industry

It is important to start with the definition of ESG¹, as it is one of the key concepts in this work. Environmental, social, and corporate governance (ESG) is an important measure of corporate sustainable development, and it also extends and enriches the concept of socially responsible investment (SRI) [2].

According to the RBC article (2021) [3], the modern form of ESG principles was first formulated by former UN Secretary General Kofi Annan. He suggested that the leaders of large global companies should include these principles in the strategies of their firms, especially the intention to resist climate change.

Sustainable development is the idea that human societies must live and meet their needs without compromising the ability of future generations to meet their own needs. The phenomenon has spread around the globe only in the last

¹ In this paper, the term ESG is interchangeably used with CSR (corporate social responsibility). Both terms are widely used in both the academic literature and in corporate practice.

several years, but it has already gained worldwide traction. According to Tinkoff Vice President Neri Tollardo, global funds will soon stop investing in companies that ignore sustainable development principles. Therefore, companies must pay attention to society and nature, rather than exclusively to their profits.

The environmental pillar includes major issues, such as climate change, biodiversity, waste, natural resources, and pollution (both air and water). In this sense, environmental principles stand for the level of companies' involvement in protecting the environment and trying to reduce the damage it brings to the habitat. For example, the global lifestyle footwear brand Timberland collaborates with tire manufacturer and distributor Omni United. The purpose of the collaboration is the utilization of recycled tires in the footwear production [4].

Social principles represent companies' relations with staff, consumers, manufacturers, and suppliers. The major issues in this sphere include human rights, health, local and indigenous community engagement, and workforce diversity. To comply with the standards, a company must be diverse, gender-balanced, offer high-quality working conditions, and make regular investments in social projects, including charity. For example, the American outerwear brand Patagonia does not own its production factories, so it has no influence on the workers' wages. To resolve this situation, Patagonia is channeling a proportion of its sales proceeds to factories as part of its Fairtrade program to raise employees' wages to the living wage level.

The governance principle refers to the quality of companies' governance estimated by the level of information disclosure, salary, and absence of corruption. Its major themes are business ethics, politics, executive payouts, tax approach, and cybersecurity. However, the importance of factors varies by industry: for example, in the oil and gas industry the environmental principle is the most significant; for the service industry, social parameters play the most important role; and in the financial sector the governance principles receive the most attention.

The telecommunications industry is emerging in a rapid manner, and it's difficult to figure out which of the three factors should receive particular attention, since the sector does not produce excess emissions, have major gender biases, or cause growing inequality.

However, the industry is still facing problems related to its compliance with the CSR standards. For example, in addition to connecting people to the Internet, it is important to educate those without any network experience.

Since 2012, Russian operator MTS has launched the Mobile Academy project, which allows over 30,000 pensioners in 30 regions to learn the basics of Internet literacy. This reduces the digital division in the society.

Also, the AK&M rating agency studied the 300 largest companies with published sustainability reports for 2019 from the industrial, energy, transport, trade, and telecommunications sectors. 26 companies from this sample fell into the first two top groups, and their reports were characterized

by the completeness and content of the main indicators of their activities in the public interest. The emphasis in the AK&M research was placed on the companies' information transparency and the completeness of the provided information. The best practice is to complete the annual sustainability report in accordance with the standards or include the sustainability section in the annual report. Rostelecom, Rosseti and Russian Railways were the most precise in their disclosure; the first company is one of the largest Russian providers of digital services.

Thus, telecommunication companies are apparently engaged in the CSR trend, but the question is whether the ESG rating has an influence on company value in this sector.

Larry Fink, the chairman of multinational investment management company BlackRock, has noted that mutual and exchange-traded funds invested 288 billion dollars in sustainable assets worldwide in 2020, which was a 96% increase compared with 2019. He stated that BlackRock investments take into account companies' ESG goals, particularly environmental ones, because stakeholders are most likely to lose confidence in the companies that do not respond to the need to control climate change.

Many practice-oriented works confirm the growing interest in the ESG trend. Bloomberg Intelligence expects the value of ESG exchange-traded funds to increase from 35 trillion dollars in 2020 to 50 trillion dollars by 2025. In a survey of 200 asset owners conducted by Morgan Stanley Capital Investments (MSCI), 62% claimed ESG measurement as one of the top 3 significant trends for the next 3–5 years and 73% planned to increase ESG investments. Another MSCI study revealed that 1136 billion dollars invested in telecommunications were funneled to ESG funds. Besides, half of the funds was based in Europe where, as MSCI notes, ESG adoption has been long established.

Specifically, within the telecommunications industry, there has been an increase in the issuance of green bonds by such companies as NTT, Orange, Telefónica, Verizon and Vodafone. Investors understand that by integrating ESG standards in their businesses, companies can: boost employee motivation, attract talented staff, align with consumer demands for sustainable products, reduce operational costs, and take part in diversification opportunities.

The GSMA, the mobile operators' industry association, conducted research that demonstrated that ESG reduces the cost of capital, provides better operational performance, and has a positive influence on stock prices.

In general, ESG reports promote the long-term and sustainable approach that is attractive to investors. This resilient thinking is especially valuable today as industries face serious and unpredictable challenges. ESG reports also reduce risks that are associated with poor ESG development, including reputational damage and social stigma.

ESG impact on firms' value: overall and by components

Even though the trend is relatively new, numerous studies have been conducted to test the relationship between

environmental performance and company value, and the results are still inconclusive. The adoption of ISO 14001 seems to have a negative effect on company value, according to the cross-country analysis conducted by I. Miroshnychenko et al. (2017) [5].

Similarly, F. H. Verbeeten et al. (2016) [6] suggest the adverse impact of environmental parameters on the financial performance of German companies. M. Friedman (1970) [7] states that it is due to the maximization of owners' profits being the firm's only social responsibility. The underlying assumption is that the payoffs of ESG activities do not exceed their costs.

The cost-concerned school argues that environmental investments only increase costs, resulting in decreased earnings and lower market value. The value-creation school doubts that environmental efforts are a way to increase competitive advantage and improve financial returns to the investors. The L. Hassel et al. (2005) [8] research supports the stance of the cost-concerned school, since the results indicated that environmental performance has a negative influence on the market value of firms.

Although some research studies report a neutral or even negative relationship, most demonstrate that environmental performance strengthens financial performance. For example, the analytical results of J. Endrikat et al. (2014) [9] reveal a positive relationship between the environmental factor and accounting, and market-based corporate performance. J. Derwall et al. (2005) [10] studied the relationship of the share prices with corporate environmental performance in 1995–2003 and found that companies with better corporate environmental performance gained higher returns.

Secondly, it has also been argued that socially responsible behaviour has a net positive impact on performance and firm value (Fatemi et al., 2015) [11].

Within the framework of the stakeholder theory (Freeman, 1984) [12], it can be argued that socially responsible behaviour better satisfies the interests of nonowner stakeholders (e.g., debtors, employees, customers, and regulators), allowing for more efficient contracting (Jones, 1995) [13] and opening new paths to further development and risk reduction (Fatemi & Fooladi, 2013) [14].

As for the governance component, many studies have also investigated this factor's impact on firm value (using the Tobin's Q and price-to-book ratio parameters). As for the results, good governance seems to lead to an increase in investor confidence, which, in turn, results in greater firm value. Analysis by R. Bubbico, M. Giorgino and B. Monda (2012) [15], which uses 2010 data, proves that there is a positive and statistically significant correlation between corporate governance and performance: this finding supports the hypothesis that governance creates value for companies and that investments in the implementation of effective governance systems provide a net positive benefit and should therefore be pursued. Hence, financial institutions should be encouraged to improve their corporate governance systems.

In general, most research papers find a positive relationship between sustainability and firm value. However, some

authors, i.e., K. Fisher-Vanden and K. Thorburn (2008) [16], discover negative relationships between sustainability measures and stock price performance. They also found that firms with weak corporate governance standards that give managers the discretion to make voluntary environmentally responsible investment decisions are more likely to become Climate Leaders.

Several studies have found either a negative or a nonsignificant association between ESG performance and financial performance or firm value (e.g., Horváthová, 2010 [17]). Others have found a positive association (Fatemi et al., 2015) [11].

Despite the many years of research on the relationship between corporate environmental performance and corporate financial performance, there is no generally accepted theoretical framework that explains the contradictory results that have emerged.

This unsatisfactory status may, however, be attributed to the fact that linear models dominate the research works. Based on the research by C. Trumpp and T. Günther, which was conducted on an international sample of 2361 firm-years in 2008–2012, the empirical evidence of a non-linear, specifically a U-shaped, relationship was found [18].

Similar results were presented after their investigation of the non-linear models, which provided evidence of a U-shaped relationship, suggesting that in the longer run corporate social performance effects are positive. Most prominent among these results is that fact that by disentangling the ESG Disclosure score into its environmental, social and governance sub-components, they found that a U-shaped relationship exists only with the governance sub-component.

Moreover, G. Moore (2001) [19] finds a correlation between corporate social performance and the value in the UK using a sample of eight supermarkets. The data sources of the study are the annual company reports. The results of the study indicate a negative correlation between social performance and company value, and a positive correlation between the social and lagged financial performance of the firm. Thus, according to this, investments in sustainable growth bring results in the future. Similar results were presented by S. Chen et al. (2019) [20], who demonstrated that the social responsibility of listed enterprises had a lagged impact on their economic performance, specifically, a negative impact on the short-term and a positive impact on the long-term indicators.

A straightforward implication of the findings suggests that, given that the expenditure pays off only after a certain threshold of corporate social performance, a long-term plan and assessment of resources are required. Furthermore, the fact that governance is the key driver affecting the relationship suggests that investments should be funneled to this component.

ESG disclosure

Another important topic is the impact of ESG reporting, or disclosure, on a firm's financial performance and its val-

uation. The issue reflects the fact that there may be various motives for reporting.

Using voluntary disclosure theory, developed by R. Verrecchia (1983) [21], among others, it can be argued that a firm's ESG disclosure is a predictor of its ESG score: firms with positive ESG performance would choose to report their complete ratings, while those with a negative ESG performance would choose to report minimally.

According to this framework, firms disclose their ESG performance to present themselves as good performers and thus avoid the consequences of adverse selection.

This argument is supported by S. Cahan et al. (2015) [22], who find that good ESG performance generates favorable publicity, and that firms with good ESG performance achieve a higher firm value (or lower cost of capital) only if they also have favorable media coverage.

Alternatively, a firm may use ESG disclosure to influence the public's perception by explaining the changes in its ESG-related policies. For example, it may disclose its ESG information to prevent the adverse effects of environmental damage on its reputation and market value (Cho & Patten, 2007) [23].

The third important issue is called "the theory of information costs." It helps managers make decisions about information disclosure, while taking cost advantages into consideration (Verrecchia, 2001) [24]. Investors assess a firm's financial performance using regulated and non-regulated disclosure.

As for D. Cormier and M. Magnan (2007) [25], there is a working strategy that results in a compromise between the economic benefits of disclosure, the associated risks arising from shareholder pressure and various regulatory constraints. The value relevance of non-financial disclosure is consistent with companies often revealing much more about their social and environmental activities than is required by law. M. Plumlee and T. Yohn (2009) [26] linked voluntary communication on environmental issues to companies' performance. Based on a study performed on a small sample of American companies, they identified a positive correlation between environmental disclosure and company valuation.

Moreover, D. Cormier, M.-J. Ledoux and M. Magnan (2011) [27] investigated whether social disclosure and environmental disclosure have a substituting or a complementing effect in reducing information asymmetry between managers and stock market participants.

Voluntary disclosure reduces information asymmetry among investors. From an empirical perspective, there is widespread evidence that confirms the positive effect of enhanced voluntary disclosure, both in terms of enhancing firm value and stock market liquidity.

Research conducted by Y. Tan and Z. Zhu (2022) [28] demonstrates that ESG-rated companies are associated with a 6.45% increase in the number of green patent applications and a 9.35% increase in the number of green patent citations.

Moreover, the results indicate that the positive promotion effects are statistically and economically significant.

The article by Fatemi et al. (2017) [11] demonstrates that ESG disclosure helps companies to lower the negative valuation effects of concerns regarding its ESG performance. Furthermore, the findings show that for firms with strong ESG, disclosure is negatively related to firm value.

Empirical research has produced conflicting findings regarding the nature of the relationship between ESG performance and ESG disclosure. Some earlier studies find no significant relationship between firms' ESG performance and the intensity of their ESG disclosure [29]. Others find a negative relationship between environmental performance and environmental disclosure (Patten, 2002) [30].

More recent studies report positive associations.

Finally, A. Fatemi et al. (2017) [11] finds that when evaluating the relevance of disclosure, investors differentiate among the three components of ESG scores in regard to the nature of their informational content.

In addition, telecom companies are not the main antagonists of sustainable development: they do not produce excess emissions, do not have significant gender bias, and are not a source of increasing inequality.

The largest companies in the sector generate positive momentum and are involved in sustainable development projects, both through traditional corporate social responsibility programs and through the use of technology [4].

D. S. Dhaliwal et al. (2014) [31] examined the relationship between ESG disclosure and cost of equity capital in an international sample that included 31 countries. They divided these countries into two groups: more and less shareholder-oriented. They generally found a negative association between ESG disclosure and the cost of equity capital, with this relationship being more pronounced in shareholder-oriented countries.

Finally, M. Plumlee et al. (2015) [32] found no significant association between the overall level of voluntary ESG disclosure and the value of the firm, its component cash flows, or its cost of capital. However, after controlling for ESG performance and differentiating between the nature (positive, negative, neutral) and the type (soft, hard) of ESG disclosures, they found that high-quality soft disclosure is significantly associated with both the cash flows and the cost of capital components of firm value.

Building upon the findings and the insights of this literature, we proceed to develop the research hypothesis.

Main goal and Research Hypothesis

The aim of this work is to estimate the effect of the overall and specific ESG indicator disclosure on company value. Following the results of prior research, the relationship of ESG factors with firm value in this study is hypothesised as follows:

H1: *There is a positive relationship between company value and its ESG rating disclosure in the Telecommunication sector.*

H2: *There is a non-significant relationship between company value and the disclosure of the E-component of its ESG rating in the Telecommunication sector.*

H3: *There is a non-significant relationship between company value and the disclosure of the S-component of its ESG rating in the Telecommunication sector.*

H4: *There is a positive relationship between company value and the disclosure of its G-component of its ESG rating in the Telecommunication sector.*

Data and Methodology

Model Specification

In this study, panel data over the eleven-year period (2011–2021) from Capital IQ and Bloomberg is used to estimate the effect of ESG disclosure on company value. A longitudinal dataset follows the same firms over time and changes over time can be analyzed. The definition and the description of variables can be found in Tables 1 and 2 (Appendix 1).

A panel regression model is used to assess the impact of ESG disclosure on firm value in terms of Tobin's Q. The regression model to test the hypothesis 1 is estimated as follows:

$$TQ_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 ROA_{it} + \beta_3 TANG_{it} + \beta_4 DEBT_{it} + \varepsilon$$

The regression model to test the hypothesis 2–4 is estimated as follows:

$$TQ_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 S_{it} + \beta_3 G_{it} + \beta_4 ROA_{it} + \beta_5 TANG_{it} + \beta_6 DEBT_{it} + \varepsilon$$

where TQ_{it} – Tobin's Q for company i in period t ;

β_i – corresponding coefficients;

β_0 – constant variable;

ESG_{it} – ESG disclosure score for company i over period t ;

E_{it} – Environmental disclosure score for company i over period t ;

S_{it} – Social disclosure score for company i over period t ;

G_{it} – Governance disclosure score for company i over period t ;

ROA_{it} – Return on Assets for company i over period t ;

$TANG_{it}$ – Tangibility for company i over period t ;

$DEBT_{it}$ – Debt ratio for company i over period t .

Tobin Q is market indicator and was selected as an expression of the value to assess investor expectations. It was calculated as the sum of market capitalization, total liabilities, preferred equity and minority interest divided by total assets.

The common ESG disclosure score, and individual Environmental, Social, and Governance disclosure scores were calculated as dummy variables. The value of the variables equals 1 when the information was disclosed, and 0 otherwise.

In the sample, the mean value for the ESG disclosure score is 0.88, the mean value is 0.75 for the Environmental disclosure score, 0.81 – for the Social disclosure score, and 0.88 – for the Governance disclosure score. So, a decision was made to disclose all the four disclosure scores for the greatest number of years.

The control variables are: Return on Assets, Debt ratio, and Tangibility.

The Return on Assets control variable was calculated by dividing net income by total assets, resulting in a mean value of 6.1%.

The Debt ratio control variable was calculated by dividing total debt by total assets, resulting in a mean value of 39.5%.

Tangibility was measured by dividing Net fixed assets by total assets, resulting in a mean value of 79.0%.

Data

In this research panel data is used for the period between 2011 and 2021. The dataset is longitudinal as it includes the same corporations over the same 11-year period between 2011 and 2021. Longitudinal data, or panel data, tracks the same sample at different points in time, and it has been selected because of a number of advantages, for example, it allows for the measurement of intra-sample change over time.

Company screening was conducted through Capital IQ, an American company that provides information and analytical services to investment companies, banks, corporations, consulting firms and universities around the world, with the following search criteria:

- Industry Classification: Telecommunication Services;
- EBITDA (LTM in \$USD) is strictly greater than 0;
- Total Enterprise Value (Latest in \$USD) is strictly greater than 0.

The screening resulted in a dataset of 306 companies, from which top-100 were selected by their market value. All the financial data (Balance sheets, Income Statements, Market Capitalization analysis, etc.) was downloaded from Capital IQ for every year.

Subsequently, a search for these companies was conducted in Bloomberg Terminal, which is a computer system provided by Bloomberg, and their ESG scores (or absence thereof) were downloaded (ESG score, Environmental score, Social score, Governance score). Bloomberg's Environmental, Social & Governance (ESG Data) dataset offers ESG metrics and ESG disclosure scores for more than 11,800 companies in 100+ countries for over 410,000 active securities. The product includes as-reported data and derived ratios, as well as sector and country-specific data points.

However, to be able to perform our analysis, we required company data on net fixed assets, total assets, total debt, sales, and net income, Tobin's Q, ESG disclosure data, environmental disclosure data, social disclosure data and governance disclosure data, thus, we had to reduce the sample from 100 to 94 companies by excluding all the companies

with missing data. Ultimately, the total sample consisted of 1034 observations.

Regression Results

Table 1 (Appendix 2) demonstrates that the combined ESG disclosure score is significant at a 10% confidence level and increases company's value by increasing the Tobin's Q coefficient. Individual information disclosure scores of both Environmental and Social performance are all statistically insignificant in influencing Tobin's Q. These results could be contingent on the limited sample of companies studied (94 companies) over a relatively short period of time (11 years). For example, I. and S. Eccles (2014) [33] argued that the relationship between sustainability and financial performance is only significant in the long term and not in the short term. And C. Cho et al. (2012) [29] stated that this may sometimes be explained by the immaterial nature of the activities undertaken to develop social and environmental behavior. The result also coincides with the earlier papers by A. Fatemi et al. (2017) [11], which revealed that when evaluating the relevance of disclosure, investors differentiate among the three components of ESG scores, and, finally, M. Plumlee et al. (2015) [32], which stated that there is no significant association between the overall level of voluntary ESG disclosure and the value of the firm.

Moreover, most studies suggest that a positive correlation is observed between the factors in wider samples and over longer periods. This issue was discussed in I. and S. Eccles's study entitled "The Impact of Corporate Sustainability on Organizational Processes and Performance," where the authors use a sample consisting of 90 companies over a 20-year period [33].

The findings from this work coincide with the results of the preceding papers that analyze the link between corporate social performance and market value, using the same indicator as in this research – Tobin Q. Their results showed that the social performance indicator had no significant effect on company value.

However, the Governance performance appears to be significant at 10% confidence level, depending on the Fixed Effect regression. Governance-related disclosures have a more substantial effect on corporate performance, which is consistent with the current literature, especially P. Velte's (2017) [34] research, where governance performance had a stronger impact on company value than environmental and social performance, and A. Fatemi et al. (2017) [11], who discuss the differences in investor behaviour towards different ESG components.

The analysis by R. Bubbico et al. (2012) [15] produced similar results in regard to the connection between company value and corporate governance. They claimed that there is a positive and statistically significant correlation between corporate governance and performance, and the study confirmed the hypothesis about corporate governance creating value for companies. Therefore, investments are required to implement effective governance systems,

hence, financial institutions should be encouraged to improve their corporate governance systems.

This trend can also be explained by the specifics of the telecommunications sector, where investors pay particular attention to the level of governance culture. Meanwhile, debt ratio and return on assets (ROA) both positively and significantly increase Tobin's Q. These results imply that a company with higher leverage will have higher firm value; and the same trend works for firms with high profitability.

Tangibility has the opposite effect: it negatively and significantly decreases Tobin's, which coincides with the findings in the article by J. Lei et al. (2017) [35] about firms with a smaller proportion of tangible assets growing faster, as "rising intangible assets on corporate balance sheets around the world could limit borrowing capacity and consequently hinder growth if firms must preserve cash and forgo investment opportunities".

This study conducted the Hausman test to identify the best estimator among the three. The Hausman test confirms that the fixed effect (FE) estimator is the most efficient one, thus, the study focuses on the FE estimators to explain the results.

Conclusion

The main explanatory variables are the ESG disclosure score and its components. Besides the mandatory requirements for basic disclosure, ESG disclosure is usually voluntary and, from a regular shareholder's point of view, is regarded as an expression of transparency and accountability. Thus, the ESG disclosure score reflects a company's specific level of disclosure.

Fortunately, Bloomberg provides ESG disclosure scores for large public firms. The ESG disclosure score proprietary provided by Bloomberg is based on the extent of a company's ESG disclosure, the data being compiled from all available firm information, including websites, CSR reports, annual reports, and Bloomberg surveys.

In this paper the influence of ESG parameters disclosure on company value in the telecommunications sector was investigated by examining their Tobin's Q.

The ESG trend pervades various sectors, including Oil & Gas, Mining, Pharmaceuticals and so on; investors from all around the globe have started to pay attention to a company's involvement in corporate social responsibility.

However, the question about the real impact of ESG parameter disclosure, and the special attention to the effect of its components on the business value in telecommunications industry is dual, and we have managed to answer both of its parts.

The results of OLS, Fixed and Random effects models confirmed some significant implications, such as the disclosure of the overall ESG factor and individual Governance factor being important drivers of telecommunication companies' value, while Environmental and Social factors disclosure having no significance.

The previous papers about these determinants are controversial. They did not investigate either overall or individual effects of ESG disclosure parameters, besides, they did not exclusively study the telecommunications sector.

However, the results coincide with those of the preceding research papers, which describe the telecommunications industry as being more vulnerable because of governance disclosure. Investors pay greater attention to this particular factor out of the three, as the sector does not have to deal with such environmental issues as the Oil & Gas sector, and or major social biases such as financial institutions. Governance seems to contribute to increased investor confidence, which, in turn, results in greater firm value.

The examination of the individual components reveals that investors discriminate among the three different dimensions of ESG scores. Governance score disclosure leads to higher valuation than social concerns or environmental score disclosure. The effect may also be explained in terms of differences in opacity.

Governance-related disclosures are often mandated and regulated by institutions, and investors can assess their veracity with relative ease and confidence. On the other hand, disclosures related to social and environmental concerns are mostly voluntary and are therefore more opaque and more difficult to verify.

ESG score disclosure has a significant positive effect on company value, which confirms the hypothesis about ESG score disclosure positively affecting market value and the hypothesis about Governance score disclosure positively affecting market value.

This implication may serve as an additional incentive for governments, organizations, and financial institutions to spend their financial and non-financial resources on engaging in activities related to corporate social responsibility. Also, the results can be a driver for future research of ESG in other sectors and in larger samples.

Moreover, the second and the third hypothesis about Environmental and Social score disclosure having no significant effect on the value are also approved.

This study is limited by the time period during which ESG disclosure has been presented in Bloomberg, which is since 2011.

Also, the regressions used in this paper did not separate the effect of the disclosure of the ESG itself and its components into two groups – short term and long term; also, the possibility of a U-shaped relationship was not studied.

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Appendix 1

Table 1. Definition of variables

Value	Description
Dependent variables	
TQ	The sum of market capitalization, total liabilities, preferred equity and minority interest divided by total assets.
Independent variables	
ESG	ESG score disclosure
E	E-score disclosure
S	S-score disclosure
G	G-score disclosure
Control Variables	
Tangibility	Net fixed assets divided by total assets.
Debt ratio	Total debt divided by total assets.
ROA	Net income divided by total assets.

Source: Author's calculation.

Table 2. Descriptive Statistics

N = 1304	Mean	St. Dev.	Min	Max
Debt ratio	0.395	0.403	0	9.860
Tangibility	0.790	0.092	0.220	0.990
ROA	0.061	0.179	-0.32	5.320
ESG	0.882	0.323	0	1
E	0.748	0.435	0	1
S	0.806	0.396	0	1
G	0.882	0.323	0	1

Source: Author's calculation.

Appendix 2

Table 1. Regression outputs

Variable	Pooled OLS	FE	RE	Pooled OLS	FE	RE
ESG	0.117* (0.116)	0.149* (0.088)	0.152* (0.089)			
E				-0.056 (0.161)	-0.274 (0.167)	-0.217 (0.160)
S				0.054 (0.204)	0.102 (0.163)	0.089 (0.182)
G				0.169* (0.175)	0.273** (0.136)	0.244* (0.137)
Debt ratio	0.914*** (0.094)	0.984*** (0.092)	0.964*** (0.089)	0.916*** (0.945)	1.006*** (0.093)	0.978*** (0.090)
Tangibility	-1.582*** (0.458)	-2.073*** (0.549)	-1.996*** (0.508)	-1.567*** (0.460)	-2.046*** (0.549)	-1.970*** (0.508)
ROA	1.669*** (0.212)	0.476*** (0.160)	0.629*** (0.161)	1.673*** (0.212)	0.470*** (0.160)	0.623*** (0.161)
Observations	1 034	1 034	1 034	1 034	1 034	1 034
R-squared	0.140	0.306	0.146	0.140	0.309	0.148
Number of companies	94	94	94	94	94	94

***, **, * indicate the value is significant at 1%, 5% and 10% level.

Source: Author's calculation.

Table 2. Hausman test

	(1)	(2)
FE-OLS	58.08 (0.000)	65.27 (0.000)
RE-OLs	5.02 (0.485)	7.53 (0.127)
FE-RE	53.03 (0.000)	60.04 (0.000)

Source: Author's calculation.

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