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Do CEO Behavior Biases and Personal Traits Influence ESG Performance? The Evidence from Emerging Capital Market of Russia

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Abstract

The impact of behavioral biases and personal traits of the CEO on corporate decisions and performance has become the important agenda for management, governance and finance research. But still the empirical evidence on the influence of behavioral biases on the implementation of sustainability principles into company's strategies is missing not only in emerging markets, but for developed markets as well. We aim to fulfill this gap by findings on the role of behavioral characteristics of a CEO and how they affect the effectiveness of the ESG (Environmental, Social and Corporate Governance) approach to company management in one of the largest emerging capital market of Russia. We first focus on CEO's optimism, narcissism, self-confidence, and the lack of confidence of the CEO and their impact over ESG performance.

To identify behavioral biases, we use textual analysis and the "bag of words" method applied to the written letters to the shareholders by CEOs of Russian companies in 2017–2019 on a sample of 38 companies with official external ESG ratings. Our results confirm a significant influence of optimism and narcissism on the effectiveness of the ESG approach, but self-confidence does not appear to be statistically significant. Moreover, our findings prove significance of some personal traits such as industry experience and technical educational background. Our findings validate and complement prior research on personal characteristics of CEOs and provide novel data on the impact on ESG in emerging capital markets.

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Introduction

The evaluation of ESG (Environmental, Social, and Governance criteria) has become an important line of research in the field of corporate governance and management. ESG is an approach to management decision making which aims to ensure corporate sustainable development and mitigate risks which encompasses social, environmental and governance factors. It implies actions promoting achievement of social welfare which is not part of corporate interests and legal requirements [1], voluntary integration of society problems into commercial operations of a company, and a companies relations with concerned parties.

ESG-focused practices are ostensibly aimed at achieving public social welfare and development of inclusive capitalism focusing on the the roles of wide stakeholder base of any company. Such activities influence the operating and financial performance of businesses over the long term, and therefore require strategic planning [2; 3]. According to the Green Bond Principles of ICMA¹, a practitioner of ESG has to develop and implement their practice all through the management decisions' chain.

Such a strategic process cannot be implemented without the CEO. In accordance with the behavioral theory of corporate finance, people's beliefs do not necessarily evolve into rational and sequential decisions [4]. This means that in defining future policies, the CEO will rely not only upon economic logic based on rationality of risk-return relationship, but also upon his/her opinion, instinct, and experience. As a result, not only the CEO's desire to create value for the investors, but also personal prejudices related to environmental and social interaction problems may determine strategic actions related to ESG policy.

Data from capital markets confirm the importance of implementing the practices aimed at sustainable development. The global volume of responsible investment increased by one-third biennially from 2014 to 2018². At the end of 2020, the amount of investment only in ESG funds was \$51.1 billion³ which is twice as much as the results of 2019. Companies which observe ESG principles get capital flows from ever-growing number of investors all over the world. A poll by PWC⁴ involving 162 investment companies and direct investment funds found that as of 2019, 83% of respondents were concerned about climate-related risks in their portfolio, while 77% were anxious about the carbon footprint of companies from the portfolio⁴. Investment professionals, in their strategies of portfolio construction, also observe 'Sustainable Development Goals'

(SDG), defining and ranking them in order to develop an investment strategy. 67% of respondents spoke of such an approach in 2019. For comparison, in 2016, 38% of people polled stuck to this approach⁴. Over time the number of ESG committees inside companies has also increased. In 2016 27% of the largest global investors had on the staff specialists or a team responsible for evaluation of sustainable development, by 2019 this indicator had increased to 35%.

In Russia, creation of general approaches, principles and rules of ESG development principles is at the initial stage. The Central Bank of the Russian Federation actively regulates ESG processes. It has developed special recommendations for implementation of responsible investment principles. The Central Bank adopted a framework known as the 'Concept of Implementation of Responsible Investment Principles by the Central Bank of the RF' which accelerated practical application of the ESG approach by Russian companies. This is confirmed by a PWC report⁵, according to which in Russia legal requirements are one of the key drivers for adding ESG in the investment process (41%). Customer requests for such evaluation are at the same importance level (41%), while only the ambition to manage the portfolio risks surpasses these reasons (56%).

Polls of investors and dynamics of ESG development in Russia show a serious and growing interest of the market in transparency of company operations and their ESG practices. So, according to the poll conducted in 2017–2018 by PRI and the Professional Investors Institute CFA, 19% of respondents included ESG factors in their assessment of shares' fair value and just 4% in assessment of bonds. In the respondents' opinion, the corporate governance component had the greatest impact on investment analytics results (81% for shares and 62% for bonds). At the time of the poll the E and S components did not seem so important to the respondents. However, over the longer term they emphasized a growing importance of these aspects when taking investment decisions. Respondents have forecasted a triple growth of influence of social factors on share value by 2022 (from 11% in 2017 to 30% in 2022) while the influence of environmental factors should increase fourfold (from 7% in 2017 to 26% in 2022). At the same time, the significance of the corporate governance parameter, in the respondents' opinion, should remain almost unchanged in order to evaluate the shares' value and bond income.

In view of the above, the ESG issue for Russian companies apparently captures new trends and perceives the investors' request. Focus on ESG motivates a company to oper-

¹ ICMA (2018) Green Bond Principles. URL: <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Green-Bonds-Principles-June-2018-270520.pdf>

² PwC (2019). PwC ESG факторы в инвестировании PE Responsible Investment Survey 2019. URL: <https://www.pwc.ru/ru/sustainability/assets/pwc-responsible-investment.pdf>

³ HPA (2020). Особенности подходов к оценке ESG интеграции. URL: <https://fs.moex.com/f/14217/nra-chetverikov-viktor.pdf>

⁴ PwC (2019). PwC PE Responsible Investment Survey 2019. URL: <https://www.pwc.com/gx/en/services/sustainability/publications/private-equity-and-the-responsible-investment-survey.html>

⁵ PwC (2019). PwC ESG Factors in Investment PE Responsible Investment Survey 2019. URL: <https://www.pwc.ru/ru/sustainability/assets/pwc-responsible-investment.pdf>

ate more openly, making sustainability reports, including sections in their annual reports on social, environmental and other initiatives for the good of society, and improvement of corporate culture. According to analytical reviews of the Russian Union of Industrialists and Entrepreneurs for 2003⁶ and 2018⁷, the number of companies making non-financial reports grew from 5 to 176.

However, dependence of efficiency of ESG practices implementation on CEO's personal and behavioral characteristics still lack empirical evidence with Russian and world data. Our research objective is to determine whether the efficiency of the ESG approach in Russian business practice is affected by the CEO's personal and behavioral characteristics. We assess these characteristics by analyzing CEO announcements by the "bag of words" method.

In the first part of this paper we review literature dedicated to ESG implementation in Russian companies. On the basis of analysis of empirical research papers, we put forward hypotheses and describe the research methodology, including methods of estimating variables in models. We describe the sample used to test models and findings of the research and their interpretation.

Review of Studies of ESG Efficiency Practices

ESG Approach to Corporate Governance

Investors, analysts, and portfolio managers tend increasingly to focus not just on results in financial markets and dynamics thereof, but also take into consideration corporate ESG aspects, and their compliance with the principles of responsible investment.

Properly-made ESG reports help to get a better understanding of company operations because improvement of transparency fosters loyalty and enhances the confidence of stakeholders [2]. The improvement of a company's attractiveness in the minds of investors strengthens relations with other concerned parties, improves operational performance, and provides financial gain in the long run [5].

From the perspective of the competitive strategy theory, sustainable development activity may yield a competitive advantage to a company [6]. ESG practices may enhance the company image and raise brand recognition by improving corporate identity [7].

Studies confirm that voluntary ESG reports accelerate sales growth, attract talent, reduce the cost of capital, and consequently increase the company value over the long term [2]. Stakeholders presume that a company with high ESG indicators will be stronger in a competitive environment [2]. This is the assumption which contemplates that concerned parties will reward "good management" by means

of investments, consumption, and higher productivity. Consequently, an improvement in ESG transparency will give the management more incentives to enhance internal regulation and servicing of stakeholders' interests [2; 8], thus, causing a long-term increment in the company value. However, ESG is considered to be an efficient means of company value maximisation, not just due to its influence on demand. This practice may assist in reducing expenditures for the replenishment of corporate resources [1] and controlling corporate risks [6; 9], among other things, using ESG for hedging [6; 10].

So, according to the stakeholder theory, enterprises engaging in ESG may as a result satisfy the interests of their stakeholders, owners' needs, enhance loyalty of customers, employees and increase the asset value of the brand [6; 11]. As previously stated, ESG initiatives are a strategic choice which influences company operations [1; 12]. The CEO plays a significant part in such a strategic choice. He/she influences financing and investment decisions of the company [6]. It is assumed that corporate strategy depends heavily on the CEO's views, his/her experience, and personal qualities. In particular, a CEO's personality characteristics play a decisive part in assessment and dealing with external contextual factors (for example, uncertainty). Taking into consideration the fact that the CEO's instructions and values influence the strategic choice of companies, the logical conclusion is that the implementation of ESG in company operations is also affected by the personal values and personal qualities of the chief executive officer [13–15].

Research has shown that the personality of the senior executive is an important component of implementation of sustainable development practices [7; 16]. Of course, non-financial decisions depend on a lot of factors, but initiatives such as ESG is an important strategic decision which depends on a director's preferences and characteristics [17; 18]. This conclusion is thoroughly consistent with the core message of the upper echelons theory: "companies are indicative of top manager's values and knowledge" [19]. Also, this theory predicts that the CEO's or other top managers' personality may play an essential part in attaining operating results.

Personal Characteristics and their Influence on the Development of Corporate ESG Practices

Currently, the majority of studies of corporate behavioral finance focus on such CEO's personal characteristics as self-confidence and optimism. Self-confidence and optimism are the two strongest behavioral drivers [20; 21]. An unbiased manager, thinking in a highly rational manner, may be subject to unreasonable ideas caused by self-confidence [20].

⁶ RUIE (2006) Non-Financial Reports of Companies Operating in Russia: Practice of Social Reporting Development. Analytical Review. URL: <https://rspp.ru/12/4005.pdf>

⁷ RUIE (2017). Analytical Review of Corporate Non-Financial Reports: issues of 2015–2016. URL: <https://rspp.ru/document/1/7/4/743222fc4c6650093518c635d0e8ecdd.pdf>

Self-confidence is a common psychological trait [22–24] indicative of people's inclination to perceive themselves better than they really are from the point of view of their characteristics, aptitude, judgements, and prospects. A self-confident manager is a person overestimating prospects of success of an investment project assuming that he has all accurate and necessary information [20; 25]. As a rule, this characteristic feature manifests itself as an unrealistic optimism and an inflated self-esteem.

ESG practices may be considered a new space for corporate operations where new factors develop rhetoric and new management methods. Self-confident managers are most likely not just to invest excessively but to increase investments, especially risky ones, e.g. aimed at research and development [26; 27]. The tendency of such managers towards innovation may have a positive impact on ESG implementation because such a CEO is more likely to try something new and give the company an opportunity to develop in this field [6; 28].

An insecure manager will avoid innovation and more unpredictable decisions of change of the corporate policy including investment policy. He/she is, for example, less likely to invest a free cash flow into emission reduction projects and environmentally-friendly resource utilisation projects due to uncertainty, and a risky nature of such financial placement [20].

When managers choose a strategy, they will take sustainable development principles into consideration in order to get public support, and to obtain the community's approval of their activity and make it legitimate [29]. A company's image and its customer relations may suffer if it has no socially useful policies implemented. It may also cause consumer boycotts. But without the influence of significant external factors, even such a negative scenario over the long term is unlikely to incentivise self-confident CEOs. Aiming at bigger personal allowances and advantages such as a higher salary or status and profile, an egocentric CEO may quit the job in the company in order to improve his/her position [29; 30]. Self-confident CEOs will invest in benefits for concerned parties if it serves their interests, i.e. only when the community's benefits are in line with their own, private benefits. As long as personal interests are their motivation, they are less likely to be motivated by the philanthropic effect of the implemented ESG practice [30].

The results of study of the interrelation described above are contradictory. On the one hand, some studies show a negative dependence between self-confidence and ESG practice [10; 20; 31; 32]. For such directors, sustainable development operations are less important than their own interests and they reduce CSR (corporate social responsibility) activities [20; 31]. On the other hand, ESG is good PR for the company, a way to create a positive reputation in the minds of investors. That means that CEOs will adhere to the sustainable development principles in management and pay more attention to ESG.

It should be noted that in developed markets, such as the US market, a negative relationship of the considered

components has been found out [10] while the studies in emerging markets of Eastern Asia show significant positive relationship [33–35]. A range of factors may be responsible for the diverse effect. First, it may be a cultural pattern. The research by del Mar Miras-Rodríguez et al. [36] emphasises that norms regarding care for the environment based on laws and regulatory support have a huge impact on acceptance of environmental practices. Second, it may be the absence of government control which prompts leaders to ignore their negative impact on the environment. Third, it may be the choice of an ESG component. The same decisions will have different influence on possible components of sustainable development. Despite a great influence of personal characteristics on any corporate policy, it is important to emphasise that such an influence affects management aspects most of all [20; 37; 38].

Studies of interrelations between CEO characteristics and environmental and social indicators are worth analyzing individually. Self-confidence or its absence has no significant impact on the environmental aspect either in the long or in the short term [10; 20]. The reason is that environmental issues are of such great importance and influence that a CEO, irrespective of his/her degree of confidence, has to take environmental protection measures. But Qin [39] established that self-confident managers have lower environmental grades.

Similar results in previous papers have been obtained for the social aspect of ESG. In the short term, its dependence on CEO's self-confidence turned out to be insignificant, and besides this, long-term results are indicative of a negative dependence [20]. This may be due to the fact that often self-confident directors face the threat of unwanted personnel turnover [20; 40].

Studying behavioral traits, we first define several characteristics: overconfidence, narcissism and optimism. Cha & Park [33] and Gao, Han [6; 35] confirmed the relation between these two indicators, assuming that overconfident CEOs will use CSR as a tool of satisfying their narcissistic needs. Consequently, narcissism may also be considered a personal characteristic, exerting an especially serious impact on the perspective through which a CEO processes information. Narcissism is related to the need to be in the spotlight, to be an authority or a leader, to be better than others, or to be respectable, and it is characterised by a tendency towards excessive self-concern [37; 41]. As a result, narcissists are interested in activities clearly noticeable by the public [1]. They are constantly seeking praise, honours, and awards [1; 13; 15; 42]. In this respect, ESG is a great way to be the focus of attention and public admiration.

For narcissists, sustainable development activities provide an opportunity to heighten interest in themselves and improve their image [13; 15]. In view of this, the need to study the role of CEOs' personal characteristics as determinants of their behavior which influence corporate performance is increasingly accepted [13; 43–45]. Studies show that more narcissistic CEOs are more likely to be committed to ESG implementation, because they may consider this practice as an opportunity to improve a positive attitude to themselves

performing socially desirable actions [1]. At the same time, they are more likely to place emphasis on the outward appearances of such activity instead of the decisions aimed at the adjustment of the corporate internal state [13]. For example, it affects the corporate social profile because narcissism has a negative impact on labour remuneration equality [29; 46] and a positive impact on CEO's unethical behavior and a propensity towards exploitation [47].

A selfish type driven by self-interest will be more analytical in decision making concerning resource allocation, and in his pattern of social decision making a computational-style of reasoning will prevail [29; 48]. Such a calculation will always target external conditions, defining whether a collectively beneficial result will serve the CEO's interests [29]. Due to self-reliance, a narcissistic CEO may take less note of other people's opinions. As long as ESG activity may yield results only over the long-term the final decision will depend on a director's personal susceptibility to such changes [1]. This exacerbates the agency problem: when priorities and strategic objectives are set, only views and interests of the CEO may be taken into consideration leaving out interests of the company and its owners [1; 49].

Narcissists concentrate more on complex and bold actions, strategies, policies, and practices in order to be praised and admired. Such a director will strive to reinforce company standing and take decisions beneficial for the company because his/her drive for status and publicity may enhance entrepreneurial abilities [37; 50] or result in increased earnings of shares [37; 51]. On the other hand, due to proneness of a CEO to overestimate their ability to generate profit, narcissism may cause volatility in corporate performance [37; 52], financial risks [37; 53], risks related to implementation of breakthrough innovation [13; 54], legal vulnerability [37; 55] overinvestment strategies, and low financial productivity [37; 56].

Another trait often added to the self-confidence definition is optimism. This characteristic feature, alongside overconfidence, is the strongest convincing factor which influences decision making. CEO's self-confidence has a positive correlation with an optimistic mood of reporting [20; 57]. As mentioned above, overconfident managers are inclined towards unrealistic optimism while corporate reporting with such CEOs acquires a positive tone. The latter elicits a positive response from investors. So, an optimistic CEO gives positive signals to the market and concerned parties, thus attracting them [58].

Research on the dependence of ESG efficiency on such behavioral characteristics as narcissism and optimism, as well as the case of self-confidence, fail to provide a clear understanding how sustainable development is affected by a CEO's behavior. Despite the fact that narcissism and optimism are among the most popular characteristics considered in the literature, they have been studied insufficiently in the area of ESG. At the same time, there exist recent studies of narcissism while the interrelation with optimism we are interested in may be found in an indirect way only, through results of research dedicated to related topics.

The Influence of a CEO's Personality Characteristics on Corporate ESG Performance

An important aspect of research is the consideration of CEO views acquired under the influence of surrounding culture, epoch, experience gained, education which actually are constituent parts of human capital. These characteristics, along with psychological traits, may influence the company's activity vector and its strategic objectives.

Corporate ESG efficiency depends on experience, tenure, and functional background [7; 18]. The educational variable is the most important one for the study of corporate governance. Two categories may be applied for the research: the presence of an academic degree (bachelor, master, PhD) and the field of education. These components are used as a proxy for the top manager's cognitive framework [7].

Education is one of the most important aspects of human capital related to the influence of a CEO's personality on business performance [16; 17; 59–62]. This component is used as a proxy for a top manager's cognitive framework [7]. According to prior research, the educational level may influence disclosure of information on sustainability [7; 63]. It is interesting to note that directors with an MBA tend to be less philanthropic [64] and invest less in R&D as compared to other managers [7]. CEOs with an MBA tend to be more interested in the short-term effects of management [7; 64] which is in contradiction with the ESG concept which requires commitment to a long-term result.

According to previous papers, not only the educational level, but also the kind of education, and the branch of topic studied, all influence ESG efficiency. Pursuant to Fernandez-Gago et al. [65] three fields of education should be identified as significant: business/economics, engineering and technical, and natural sciences. The conducted studies revealed that in the majority of cases CEOs with engineering or technical education have a positive influence on the efficiency of sustainable development [66–68]. Such directors are more willing to participate in R&D and implement innovative solutions at their enterprise [7; 69]. A positive dependence between the natural science education of a manager and the efficiency of ESG practice in a company is rarer [7; 20; 67; 68]. Economic education produced no significant effect [7; 64]. However, by no means all results support the hypothesis of a significant influence of the type of education on the efficiency of corporate non-financial activity. Thus, Kutzschbach et al. [7] failed to detect significance in any of the studied models. After dividing ESG into individual components, the authors found that natural science education may influence the management component. Impact on other parameters (E and S) remained insignificant.

Tenure is another important characteristic feature of CEO's human capital. The resource-based theory [70] contemplates that an individual's tenure is related to the improvement of CSR as long as the CEO acquires more knowledge on the industry and company [17]. Therefore, it is a prerequisite for ensuring successful operations in the field of

sustainable development. Recent studies yielded diverse results: some results confirming a positive dependence [68], some affirm a negative interrelation [18; 71] and some even show no significance [7; 72; 73]. In general, tenure is considered a proxy for CEO's experience. Studying CEO's experience as such, one may assert that its positive influence not just on efficiency of ESG practices inside a company [74] but also on their diversity [75] is highly probable. However, tenure related to a position in a company or working in an industry is not the only way to measure experience. Age is often used for this purpose. Determining dependence in this way, researchers often observe that it is of an inverted U-shape with a positive sign. In other words, first a director accumulates knowledge and after some time, at the point of the so-called peak of the obtained parabola, the CEO's decisions tend to grow more conservative. If we take a linear dependence, researchers indicate that it is often negative [76; 77] or insignificant [7]. However, it should be noted that age may have a positive significant impact on the development of social factors for a company [7].

Another variable which may influence the extent of a CEO's impact on corporate performance is the CEO's power. In the majority of studies dedicated to ESG, the variable of 'efficiency duality' – a classic variable for the study of corporate governance – is the proxy used to measure it. It shows that the CEO is the chairman of the board of directors as the second job [17]. Recent studies suggest a predominantly insignificant influence of duality on ESG [17; 78; 79] but there are results indicative of a negative [17; 80] and a positive relation [2]. The positive one manifests itself in the fact that a greater CEO's power enhances the influence of ESG disclosure on the company value, because the concerned parties associate ESG information disclosure with a stronger commitment to sustainable development practice [2]. After analysing influence on the environmental, social and governance components, previous studies define a positive significant effect on environmental and social factors [2].

Research Hypotheses

The ambiguity of previous results heightens the interest in a study of the interrelation between the indicators of a CEO's personal characteristics and indicators of sustainable development. However, it is difficult to consider ESG regardless of its components, therefore we decided to test hypotheses of dependence of ESG practice elements on the CEO's personal characteristics. The reason is that the significance of a CEO's personal characteristics may vary depending on the dependent variable considered in the model. For example, an indicator may have an impact on the governance component, but have no influence on other variables and, as a result, ultimately have no effect on the overall ESG evaluation. The influence of personal characteristics on corporate performance will be verified by the following hypotheses:

Hypothesis 1. A CEO's self-confidence has a negative influence, while optimism, narcissism, and lack of confidence

have a significant positive influence on the efficiency of ESG practices.

Hypothesis 2. Self-confidence, lack of confidence, optimism, and narcissism have a significant influence on corporate environmental performance.

Hypothesis 3. Optimism, narcissism, and lack of confidence have a significant positive effect on the social factors of commercial activity while self-confidence has a negative effect.

Hypothesis 4. Optimism, narcissism, self-confidence, and lack of confidence significantly influence corporate profitability.

The influence of personality characteristics on ESG performance will be verified by the following hypotheses:

Hypothesis 5. The level of education has a significant influence on corporate environmental efficiency (E), social (S) and corporate governance (G) and a positive influence on the ESG efficiency of a company.

Hypothesis 6. Technical education exerts a positive influence on corporate ESG efficiency and has a significant effect on the environmental efficiency (E), social (S) and corporate governance (G) of a company.

However, it is possible that the methodology of considering educational fields offered by Fernandez-Gago et al. [65] is not perfect and fails to account for such important factors as management skills. It may be important because specialized management education (including an MBA or an advanced training in management) may have a significant impact on ESG efficiency. Hence, such a background grants a CEO the skill of taking unbiased decisions less exposed to his/her personal characteristics and signals.

Hypothesis 7. An advanced qualification in management (e.g. MBA, an advanced training or a professional education focusing on management) has a positive influence on ESG performance.

Another important characteristic feature of human capital often considered in the papers dedicated to the study of a CEO personality's influence on decision making is tenure. The majority of papers confirm a negative influence on corporate ESG efficiency [17; 18; 76] therefore, most probably, Russian data will show a similar relationship.

Hypothesis 8. An experience in the industry has a negative influence on corporate ESG efficiency and its components.

Research Methodology

The use of an ESG efficiency indicator or rating is a multi-aspect and reliable method for evaluating quantitatively the ESG indicator. We have chosen the S&P rating, which analyses the ESG profiles of more than 7,300 companies all over the globe. It comprises Russian companies since 2013. In the period of 2017 to 2019, the rating was assigned to 38 Russian companies.

See below for the basic model which will be modified in accordance with the change of the considered dependent variable. The variable will also influence the model illus-

trating the values of various personal characteristics: optimism, narcissism, overconfidence or nonconfidence. As a result, the model will have 16 modifications, each of them will study one of the suggested hypotheses.

$$\begin{aligned} \text{ESG}_t / \text{E} / \text{S} / \text{G} = & \beta_0 + \beta_1 \times \text{Personal Characteristic}_{i,t} + \\ & + \beta_2 \times \text{CEO_tenure}_{i,t} + \beta_3 \times \text{CEO_Power}_{i,t} + \\ & + \beta_4 \times \text{Edu_Level}_{i,t} + \beta_5 \times \text{Ind_Exp_dummy}_{i,t} + \\ & + \beta_6 \times \text{Technical_Edu}_{i,t} + \beta_7 \times \text{Managerial_Edu}_{i,t} + \\ & + \beta_8 \times \text{Leverage}_{i,t} + \beta_9 \times \text{Sales_Growth}_{i,t} + \beta_{10} \times \text{Size}_{i,t} + \\ & + \beta_{11} \times \text{Year_2018}_{i,t} + \beta_{12} \times \text{Year_2019}_{i,t}. \end{aligned}$$

Several main steps have been taken to make a sample of Russian companies which integrate ESG practices in their activity. The first stage defined the research period. As the first investors' requests for including of E and S components in the assessment of share fair value emerged in 2016, we assume that in 2017 companies perceived this request, and started to implement environmental, social and governance factors into their operations. Thus, the research uses data for the period of 2017 to 2019. Selection of companies is based on the rating of the largest Russian companies RAEX-600⁸. Companies of the financial sector, investment corporations and joint-stock companies (except for PJSC) in the rating lists were excluded from our selection. Then, we added financial data and ESG indicators from the Capital IQ database. The final sample encompassed only the companies from the RAEX list of selected companies, with performance indicators according to the S&P rating. There were just 38 of them. It should be noted that the rating of some companies within the period we are interested in was incomplete, i.e. they were not assigned points for all 3 years. As a result, the final sample comprised 89 observations for 38 companies from 10 industry sectors. Appendix 1 describes all variables used in the analysis. We collected data on the CEOs of the chosen organisations including personal characteristics. We decided to analyse optimism, narcissism, overconfidence, and nonconfidence on the basis of evaluation of the chief executive officer's address to shareholders or the so-called CEO's letters from the annual report. It was established at the data collection stage that not all companies' annual reports have the necessary address in English. For this reason, in this research we cannot analyse a range of companies (e.g. MMK (Magnitogorsk Iron and Steel Works), Bashneft) despite the fact that they have a rating for ESG efficiency practices. Some companies replaced CEO's letters with an interview or did not add them to the English version of the report, or failed to add them in all years. Therefore, the sample for them is limited, but it has not been eliminated from the research.

The optimism level was calculated using the dictionary of 'Loughran-McDonald Sentiment Word Lists' and the methodology offered in the paper by Fedorova et al. [81]. We then processed the texts, converted them into lower case, and eliminated punctuation.

The narcissism level was calculated using text data by the methodology offered in the paper by Chatterjee & Ham-

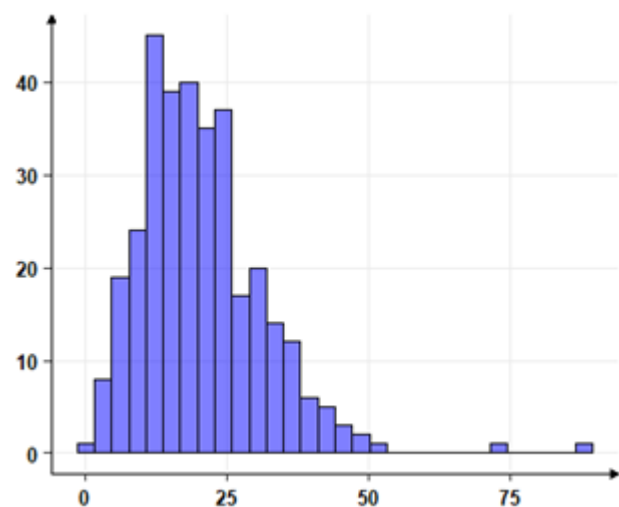
brick [82]. It was necessary to define personal pronouns such as: I, my, mine, etc. (they are also called "I-words") and pronouns denoting a lot of people: we, our, their and so on. The evaluation was obtained by division of the first group of personal pronouns by the sum of both groups of pronouns.

The last block of personal characteristics consisted of two variables of self-confidence and insufficient confidence of the CEO. We applied the methodology and lists of words described in the paper by Malmendier et al.[21] in order make calculations. We calculated the words characterising the CEO as a self-confident person ("confident", "confidence", "optimistic", "optimism") and the words with an opposite meaning characterising his/her insufficient confidence "not confident", "not optimistic"; "reliable", "cautious", "conservative", "practical", "frugal", "steady"). We calculated each word's entry for all words on the list, one word may be mentioned and calculated several times.

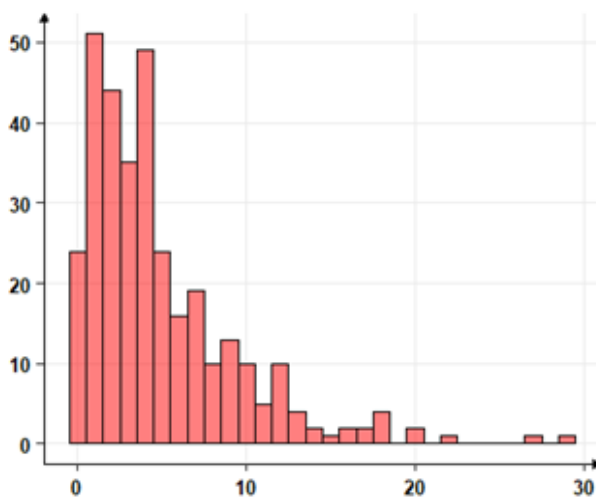
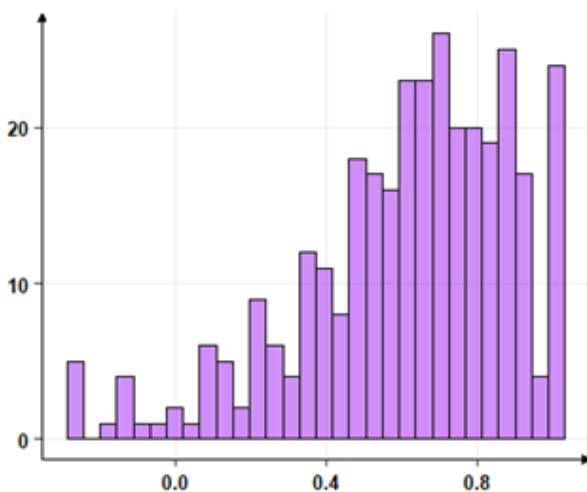
Results of Empirical Tests

We analyzed personal characteristics on the basis of the collected CEOs' addresses. Finally, we calculated the frequency of positive words (Figure 1), negative ones (Figure 2) and distribution of the optimism level (Figure 3) in the texts.

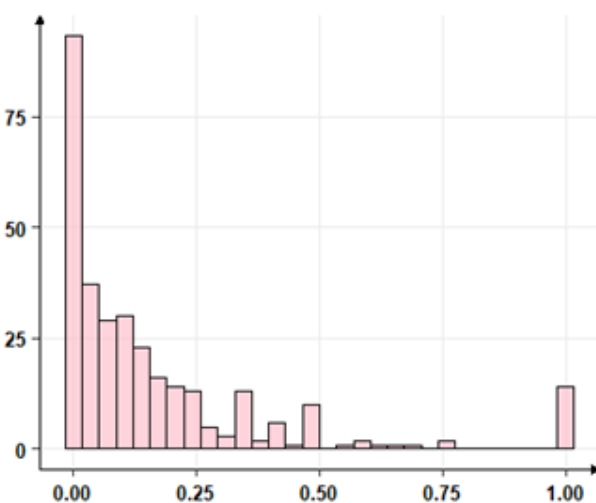
Figure 1. Distribution of positive words in CEOs' letters



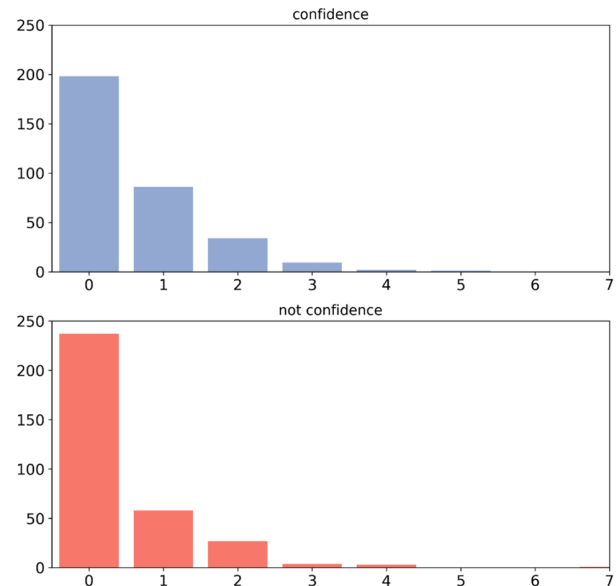
⁸ RAEX (2018) top 600 of Russian companies in terms of sales scope. URL: https://raex-a.ru/rankingtable/top_companies/2018/main

Figure 2. Distribution of negative words in CEOs' letters**Figure 3.** Distribution of the optimism level in CEOs' letters

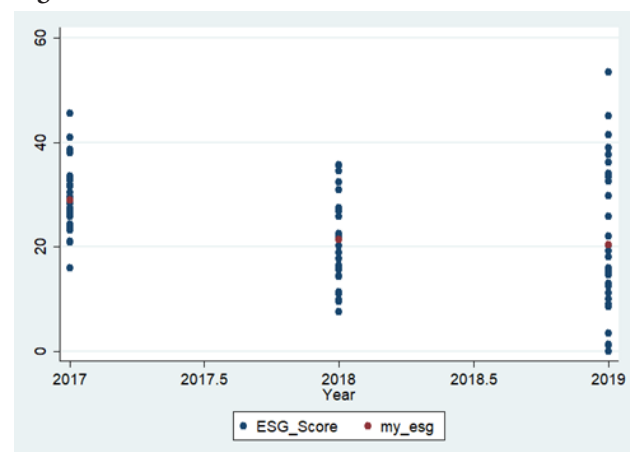
Then, we calculated the narcissism level. The obtained results showed that 24 CEOs' letters made within the period we are interested in contained no "I-words", so they had a zero narcissism level. See the distribution of assessments in other letters in Figure 4.

Figure 4. Distribution of the narcissism level in CEOs' letters

We also calculated self-confidence and non-confidence characteristics. Figure 5 shows distribution of these words in texts.

Figure 5. Distribution of words related to overconfidence in CEOs' letters

The results show that an extremely small number of words from each category (no more than 4) occur in the texts, and in the majority of texts there are no words of any of the categories. Thus, predominantly Russian CEOs avoid using words which insinuate their personal characteristics in their letters. Hence, on the basis of such data it will be difficult to make definite conclusions on dependence of ESG and its components' efficiency on CEO's self-confidence and insufficient confidence. Probably, it may cause insignificance of the effect of the studied indicators.

Figure 6. Deviation of the ESG in force from the trend

After limiting the number of observations of personal characteristics, we decided to consider the resulting sample for homogeneity. Analysis was performed on the basis of the dependent variable. As a consequence, we determined that data concerning ESG efficiency is rather diverse, and the majority of observations deviate from the trend (Figure 6). Further, this may generate the heteroscedasticity problem. Due to the limited available data it is impossible to elimi-

nate outlying data or adjust the indicators, therefore in case of the heteroscedasticity problem we will normalise results by means of introducing the robust error method in the regression models.

As for control variables, their list remains unchanged in all models, therefore the data description will be uniform. See in Appendix 2 the descriptive statistics both for control indicators and for ESG practices' and personal characteristics' indicators.

Results of Study of Personal Characteristics' Influence on Corporate ESG Efficiency

According to the results of regression analysis represented in Table 1 among all CEO's personal characteristics, only optimism exerts a significant positive influence on ESG efficiency. Human capital characteristics also showed their significance. For example, a CEO's engineering and technical education and tenure has a positive impact on ESG. Experience in the industry and the year dummy (2018 and 2019) exerted a negative influence.

It is of interest to note that the constant turned out to be significant in the models too. This means that variation of corporate ESG efficiency depends to a great extent on other factors left out of consideration in the model, hence, not related to CEO's characteristics.

Table 1. Results of testing models 1.1–1.4

	Model 1.1	Model 1.2	Model 1.3	Model 1.4
Optimism	9.748447*			
Narcissism		−7.678686		
Overconfidence			0.6024688	
Nonconfidence				0.676311
CEO_tenure	0.3482264*	0.2034229	0.2888686	0.2880416
Ind_Exp_dummy	−4.905093*	−6.524254**	−6.202394**	−6.546387**
CEO_power	0.8920204	−4.997045	−2.895095	−2.885116
Edu_level				
2	2.936184	3.011957	2.925465	2.901591
3	−8.203743	−3.694878	−6.817018	−6.421077
Technical_edu	3.483152	6.365575***	5.107188**	5.129805**
Size	−0.8783167	−0.9344737	−0.6941498	−0.7135826
Leverage	−0.0281178	−0.0432797	−0.0398979	−0.0402873
Sales_growth	−0.3203323	−0.3346762	−0.3449515	−0.3712975
Managerial_edu	−0.8063035	−0.0364078	−0.855171	−0.7941756
_Iyear_2018	−6.137969**	−6.315478**	−6.232567**	−6.048954**
_Iyear_2019	−4.503927*	−5.091331**	−5.509663**	−5.473402**
_cons	38.22782***	47.04587***	41.94846***	42.51076***

Results of the Study of Influence of Personal Characteristics on Corporate Environmental Profile

According to the obtained coefficients, no single personal characteristic has a significant impact on environmental assessment. However, we detected an interrelation with human capital components. So, tenure, engineering and

technical education and a candidate of sciences degree exerted a positive influence on environmental practices. Experience in the industry has a negative impact on implementation of the measures aimed at environmental care. The constant showed no significance in any model related to environmental efficiency. This means that there are no omitted variables in this sample which could describe additional changes of the dependent variable (Table 2).

Table 2. Results of testing models 2.1–2.4

	Model 2.1	Model 2.2	Model 2.3	Model 2.4
Optimism	8.438621			
Narcissism		–2.676294		
Overconfidence			–1.203572	
Nonconfidence				1.127798
CEO_tenure	0.4526051*	0.3183509	0.4040991*	0.3990382*
Ind_Exp_dummy	–7.638083**	–9.869949**	–9.560794***	–9.110734***
CEO_power	–8.809697	–14.55004	–11.30999	–12.28921
Edu_level				
2	8.768558***	9.38975**	8.257347**	8.860043***
3	–9.638108	–5.959847	–8.658551	–7.7156
Technical_edu	4.290533	7.002537**	5.849969**	5.691054*
Size	0.1475106	0.294005	0.3526767	0.261715
Leverage	–0.0398712	–0.0561681	–0.0534194	–0.04978
Sales_growth	–0.3492457	–0.4202961	–0.3551649	–0.4188
Managerial_edu	–4.364723	–4.131233	–4.418046	–4.30222
_Iyear_2018	–1.774941	–1.181149	–1.313355	–1.70285
_Iyear_2019	5.515476*	4.777551	4.735122	4.680065
_cons	13.1244	17.31546	16.72533	17.17631

Results of the Influence of Personal Characteristics on the Corporate Social Profile

Results show that among a CEOs' personal characteristics two parameters have a significant influence: optimism – a negative influence, and narcissism – a positive one. Also,

the CEO's technical education may exert a significant positive influence. Such characteristics as experience in the industry and CEO's power have a negative impact. Variables of the leverage and sales growth rate may have an adverse effect.

A negative impact is also noticeable for year dummy variables (Table 3).

Table 3. Results of testing models 3.1–3.4

	Model 3.1	Model 3.2	Model 3.3	Model 3.4
Optimism	11.45082**			
Narcissism		–12.53142*		
Overconfidence			0.2682911	
Nonconfidence				–0.4764856
CEO_tenure	0.2025941	–0.1377277	0.1300212	0.1273837
Ind_Exp_dummy	–6.275686*	–7.703844***	–8.317005**	–8.354481***
CEO_power	–3.857698	–14.40441*	–7.408554	–7.131891
Edu_level				
2	2.781148	3.272706	2.389058	2.240385
3	–4.754233	3.606231	–2.998227	–3.281339
Technical_edu	2.559683	5.431059***	4.494786	4.582648
Size	–0.8162348	–0.716471	–0.5468443	–0.5145155
Leverage	–0.0348587**	–0.0570691**	–0.0484279***	–0.0492421***
Sales_growth	–0.2860718**	–0.3783551	–0.2998129**	–0.2741788
Managerial_edu	0.7282884	1.683143	0.6988511	0.6457425
_Iyear_2018	–10.26674***	–9.880108***	–10.14543***	–10.03723***
_Iyear_2019	–6.694383***	–8.226287***	–7.761507***	–7.779467***
_cons	39.25529***	48.71483***	43.01215***	42.76271***

Results of the Study of Influence of Personal Characteristics in Company Profitability

We have established that among all CEO's personal characteristics, only optimism influences management practices

performed by companies. Besides this, tenure and engineering and technical education exert a significant positive influence on management quality. Experience in the industry, leverage increase, and a rise in the sales growth rate and of the dummy variable for 2018 have a negative impact (Table 4).

Table 4. Results of testing models 4.1–4.4

	Model 4.1	Model 4.2	Model 4.3	Model 4.4
Optimism	10.8742*			
Narcissism		-2.472007		
Overconfidence			1.630164	
Nonconfidence				-1.385656
CEO_tenure	0.5046112**	0.3637766	0.4628622*	0.475811*
Ind_Exp_dummy	-8.080147**	-10.13939***	-9.548786**	-10.0755***
CEO_power	8.017345	3.012007	3.546269	4.53749
Edu_level				
2	4.117173	3.327273	3.834483	3.373263
3	-10.95967	-7.755338	-9.279979	-10.19015
Technical_edu	4.997618	8.291692**	6.460094	6.849973*
Leverage	-0.0407292**	-0.0555463***	-0.0515859***	-0.0545511***
Sales_growth	-0.4193618***	-0.4252885***	-0.4461795***	-0.3536733**
Managerial_edu	2.933608	3.422315	2.726794	2.562304
_Iyear_2018	-5.500865***	-5.562213***	-5.888837***	-5.220689**
_Iyear_2019	-2.923758	-3.824811	-3.999526	-3.882668
_cons	19.35845***	28.39676**	27.10438***	28.51122***

It should be noted that the list of factors included in the model is not exhaustive because the constant remained significant. This indicates that there are aspects not related to CEO's characteristics which still exert a significant influence on the corporate management quality.

Discussion of Results

The main objective of this research consists in the study of the dependence between a CEO's personal characteristics and the individual components of ESG. Testing of the models showed that not all CEO personal characteristics influence the efficiency of sustainable development practices. However, characteristics related to a manager's confidence were among those that were relevant. This result may be influenced by problems related to data collection.

At the stage of data collection we detected that, unlike their foreign colleagues, Russian CEOs are not prone to using words in their letters revealing either a lack of confidence or, on the contrary, overconfidence. There are only a few specific words we searched for in the studied publications, hence, it is difficult to make unambiguous conclusions on managers' self-confidence. Probably, if we evaluate interviews, public speeches or other sources related to CEOs, the result may be different. However, the data studied for 2017–2019 showed no significant effect, and consequently hypotheses 1 and 3 are partly confirmed.

The optimism criterion turned out to be significant and had a positive influence on the efficiency of the ESG indicator itself as well as on the evaluation of its components. As long as the ESG rating is rendered largely on the basis

of company reports, an optimistic tone included in such information may improve the rating. Analysis of reports may create the impression that company management is able to take successful strategic decisions [58]. In turn, this factor improves the indicators of readiness to risk and assuredness of concerned parties that corporate decision making is well-organized, and the management is able to avoid vulnerability of business in due time. Since this paper is the first to study the interrelation between optimism and ESG efficiency, we have no opportunity to compare the result with previous studies, and to confirm or disprove it.

The last personal characteristic described in this research is narcissism. Among all ESG components, narcissism had a significant impact only on the variable of corporate social practices, thus confirming hypothesis 3 and rejecting all other hypotheses. It may be caused by a negative influence of the narcissistic CEO's personality on labour remuneration equality [29] which may result in a decrease in workforce diversity and increase in personnel turnover.

Proceeding to human capital characteristics, it should be noted that each characteristic included in the model, except for specialised management education, had an effect on at least one ESG component. We start discussing the results from the characteristic of CEO tenure. It turned out to be significant for all dependent variables apart from social practices. The results confirm conclusions of previous academic research which asserted that a longer tenure improved CEO knowledge of the industry and company [17]. Having a good understanding of the strengths and weaknesses of his/her business, including in comparison with competitors, the CEO will take more effective decisions not just in the field of commercial operations, but also in sustainable development. He/she will not improve the situation in general in terms of the whole organisation applying popular strategies, but will take targeted measures in the arrears which are, in his/her opinion, at risk.

The dummy variable for industry-related CEO experience showed an opposite effect. Experience has a negative impact on the components of environmental, social and governance efficiency, as well as on the ESG evaluation itself. The longer the CEO works in the same industry, the more close-minded and conservative his/her views become [77]. Such a manager is sure that he/she knows all intricacies and ways of efficient management and is focused more on improvement of operational performance than on social aspects of his/her activity. As a rule, this variable describes the directors who have grown to their position from lower posts. Having come such a long way, CEOs improve mainly the aspects in which they face problems personally but they are afraid and reluctant to experiment with the technological process and the system in general.

The CEO's power variable, specified as a share of ordinary shares' ownership had a negative impact on corporate social efficiency. A more domineering CEO is more likely to place emphasis on the financial and operating efficiency of the company due to self-interest. Consequently, when taking decisions, he/she will be interested in his/her own benefit and pay less attention to customers' and employ-

ees' needs, thus producing a negative impact on the social aspect of corporate operations. These obtained results are in complete contradiction to previous studies [17; 83] which asserted that the growth of CEO power entailed an increase of his/her inclination towards the implementation of ESG policies.

Another highly important characteristic of human capital in the considered model was education. The knowledge level had a strong positive influence only on corporate environmental factors. It should also be noted that in comparison to basic education (specialist's degree, bachelor's degree, master's degree) only possessors of science-related degrees exerted influence. No significance was revealed for PhD holders. It is most probable that data is the reason for such a result. Out of 46 CEOs in the sample, only 5 had a PhD. So, the obtained results should not be generalised to all Russian companies due to lack of observations. Probably, in case of expanding the sample and conducting further study of dependence of ESG efficiency on CEO's characteristics a significant influence may be detected. It is important to note that results of foreign studies were indicative of a differently-directed effect, but nevertheless they were significant [66; 84].

Also, the technical education of the CEO may have a significant positive impact. ESG and all its aspects had this effect. The susceptibility of this type of director to cooperation may explain the influence on results pertaining to social factors [7; 64]. This character trait prompts such CEOs to develop internal and external communities, and intensify cooperation with customers and partners. Such an approach improves contractors' loyalty and the efficiency of social practices. Correlation with the environmental aspect and ESG efficiency is explained by the inclination of CEOs with an engineering specialist's degree toward innovation. Technical education provides an opportunity to understand which technology is better for development of some aspect of ESG practice and allows to evaluate its advantages and disadvantages without assistance. As for management factors, it is interesting to note that previous studies did not establish a significant effect for the governance component either in developed or in emerging countries. In Russia the impact on this characteristic feature turned out to be positive. The reason for such influence is the CEO's opportunity to manage the company better because he/she can communicate directly with technical experts [85].

As for control variables, indicators of the leverage and sales growth rate may have a negative impact. Additionally, their influence is notable only for social and management practices. The first dependence may be explained by the fact that in case of an increased debt load, a company is not interested in expenditures for the improvement of workforce diversity and investment in education, culture, and healthcare of the regions where it operates. A negative influence of the sales growth rate on social aspects may be predetermined by the fact that when management controls revenue growth, it may pay less attention to such social interaction aspect as customer relations and customer loyalty improvement. On the basis of successful results, the man-

agement may think that investment in this sphere at this stage is unnecessary and may postpone it till a decrease in growth is observed.

Influence on management practices has approximately the same explanation. The main point of evaluation of the governance component in the S&P methodology is the transparency of available reports. This is a rather expensive process, therefore, when companies have a growing debt load, they may not want to spend large cash flows for solving this problem. The management is more likely to use funds to pay debts and maintain the current operating activity. Revenue growth rate, in its turn, may be a marker for trust of the company customers, i.e. the organisation is transparent enough for the customers and fits their values. Again, at this stage, the management may consider that concerned parties have enough information, and postpone expenses for development of this aspect. As a result, the efficiency of this component decreases.

The negative influence of dummy variables of 2018 and 2019 was unexpected. All statistical sources showed the growth of companies' engagement in ESG, especially in recent years. Besides this, the obtained coefficients are indicative of a deterioration in performance of Russian companies, which is unexpected at first sight. This contradiction is explained by the methodology used by S&P for making estimates of sustainable development efficiency. Their method evaluates the ESG profile of the company, and also includes regional risks in the final rating. The company complies a so-called 'Country Risk Atlas'⁹ which takes into consideration laws and regulatory documents regulating ESG issues. As long as this activity is popular, regulation across the world is strengthening - however, in Russia the legal framework is still emerging and developing. For example, the draft law 'On Limitation of Greenhouse Gases Emissions' was approved as late as this year¹⁰. The international practice is ahead of us in this sphere. In 2018 the European Union presented its sustainable development strategy¹¹ up to 2030, based on a UN resolution.

It may be postulated that a slowdown of governmental regulation of ESG may put Russia at a competitive disadvantage on the global stage. Since estimates of the country risk of states are comparable, improvement of legislation in one state may enhance its rating due to downgrade of another's rating. Most likely, this was the case in 2018. Due to the resolution, the European Union gained the lead and mitigated the risk factor for itself. Russia lost ground because its legal framework had been left behind, and this impaired the ratings in general. Decrease of the negative effect of the coefficient in 2019 does not support this hypothesis.

Conclusion

In this paper, we have considered the dependence of the quality of ESG measures implemented in Russian companies on the personal characteristics of CEOs within the period of 2017 to 2019. As a result of testing the hypotheses about influence of CEO's personality on practice and its components we have established that a CEO's optimism has a significant positive impact. Additionally, its effect spreads upon both general efficiency and each ESG component.

An optimistic CEO does not focus his/her own or stakeholders' attention on failures, preferring to demonstrate in the reports how the company has overcome vulnerabilities or obstacles, thus increasing the estimate of the quality of practices' implementation and reducing exposure to risks in the minds of concerned parties. The situation is the same when long-term plans and strategies are developed. An optimistic CEO will project onto them his/her positive expectations from the world around and try to make it better with his and his company' activity. Implementation of ESG practices will be an excellent tool for this.

The presence and effect of narcissism showed its significance in our final analysis. Its impact on the social efficiency of a company turned out to be negative. This indicator is, to a great extent, evaluated by analysing existing relations and communities inside and outside the company. The proneness of narcissistic managers to overestimate their contribution into solving collective tasks prevents them from making a cohesive team, thus destroying internal social bonds and resulting in personnel turnover.

The main problem of the research was a small number of variables in the sample, therefore we cannot confirm the significance of influence of the parameters related to CEO's self-confidence. Probably, if we expanded the sample, narcissism would have shown effects not just on the social factors' component but also on E, G components and the ESG indicator in general. In further research, it will be necessary to model variables of personal characteristics on the basis of an expanded base of texts and take into consideration additional estimates of companies by ESG efficiency.

⁹ S&P Global (2018) an offered model for assessment of environmental, social and governance risks. URL: <https://fs.moex.com/f/10955/esg-published.pdf>

¹⁰ Draft law on limitation of greenhouse gases emission (2020). URL: <https://sozd.duma.gov.ru/bill/1116605-7>

¹¹ UN (2018). The Sustainable Development Goals Report. URL: <https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-RU.pdf>

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Appendices

Appendix 1. Description of variables

Variable	Description
Optimism	<p>In order to calculate the CEO's optimism level we used the dictionary Loughran-McDonald Sentiment Word Lists¹² intended for work with economic texts. In order to calculate the optimism level we used the measure offered in the paper by (Fedorova et al., 2019). The optimism level was calculated using the following formula:</p> $Optimism_{i,t} = \frac{\text{Positive words} - \text{Negative words}}{\text{Positive words} + \text{Negative words}}$
Narcissism	<p>It is calculated using the pronouns which characterise the CEO as a narcissist: I, me, my, mine, myself (Chatterjee & Hambrick, 2011). Frequency of these words is compared to the words which do not characterise the CEO as a narcissist: we, us, our, ours, ourselves. The first group is called "I words", the second – "WE words". The narcissism level is defined by the following formula:</p> $Narcissism_{i,t} = \frac{\text{I words}}{\text{I words} + \text{We words}}$
Overconfidence	In order to calculate self-confidence in English texts of CEO's letters we applied the method and lists of words presented in the paper by Malmendier et al. (2011). Then we calculated the words characterising the CEO as a self-confident person ("confident", "confidence", "optimistic", "optimism")
Nonconfidence	Nonconfidence. Evaluation of the variable is based on the paper by Malmendier et al. (2011), which calculated the words characterising reliability of the CEO "not confident", "not optimistic", "reliable", "cautious", "conservative", "practical", "frugal", "steady")
CEO tenure	The CEO's term in current office is measured in years
Industry dummy	experience It is the variable of existence of previous experience in the industry where 1 means that the CEO had an experience in the industry in which he/she works now, otherwise 0
CEO power	CEO's power is measured by the share of ordinary shares owned by the CEO, i.e. the percentage of the shares in possession of the CEO
Edu level	The level of received education is set as a categorical variable where 1 is the basic education (bachelor's degree, specialist's degree, master's degree), 2 – candidate of sciences degree, 3 – PhD

¹² Loughran-McDonald Sentiment Word Lists. URL: <https://sraa.nd.edu/textual-analysis/resources/#LM%20Sentiment%20Word%20Lists>

Variable	Description
Tech education	The dummy variable which takes on the value of 1 if CEO has technical education, otherwise 0
Managerial education	The dummy variable indicating management education, i.e. higher-level academic qualification, advanced training in management and MBA. The variable takes on the value of 1 if the CEO has such education, otherwise 0
Size	Company size. It is measured according to the formula: $Size_{i,t} = \ln(Total\ Assets)_{i,t}$
Leverage	Company's leverage. It is measured by the formula: $Leverage_{i,t} = \frac{Total\ Debt_{i,t}}{Total\ shareholder's\ equity_{i,t}}$
Sales growth	Revenue increment for the past year. It is measured according to the following formula: $Sales_Growth_{i,t} = \frac{Revenue_t - Revenue_{t-1}}{Revenue_{t-1}}$
_Iyear_2018	The dummy variable for a year which takes on the value of 1 for the observations in 2018 and otherwise 0
_Iyear_2019	The dummy variable for a year which takes on the value of 1 for the observations in 2019 and otherwise 0

Appendix 2. Descriptive Statistics for Evaluation of the Influence of CEO Personal Characteristics on ESG and its Components

Variable	Mean value	Standard deviation	Min	Max	Number of observations
ESG score	23.36348	11.06076	0	53.404	89
Environmental score	20.56953	13.84332	0	61.203	89
Social score	23.3545	11.24399	0	46.997	89
Governance Score	26.82646	12.41949	2.0412	64.165	89
Optimism	0.664799	0.229857	0	1	81
Narcissism	0.085096	0.141963	0	0.7	78
Overconfidence	0.506173	0.673117	0	3	81
Nonconfidence	0.333333	0.570088	0	2	81
CEO tenure	7.280702	7.097935	1	36	114
Industry experience dummy	0.72807	0.446918	0	1	114
CEO power	0.06307	0.167232	0	0.75	114
Edu level	1.446429	0.668995	1	3	112
Tech education	0.392857	0.490581	0	1	112
Managerial education	0.625	0.486299	0	1	112
Size	19.42194	2.12533	13.812	22.842	91
Leverage	4.6851	30.7948	-10.70	293.80	91
Sales growth	0.01177	5.818546	-41.86	34.006	88
_Iyear_2018	0.333333	0.473486	0	1	114
_Iyear_2019	0.333333	0.473486	0	1	114

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