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The disclosure of non-financial information by stock-exchange-listed companies in Poland, in the light of the changes introduced by the Directive 2014/95/EU

ARLETA SZADZIEWSKA[*], *EWA SPIGARSKA*[**], *EWA MAJEROWSKA*[***]

Abstract

Beginning in 2017, stock-exchange-listed companies in Poland have been obliged to publish non-financial information. This is due to the implementation of Directive 2014/95/EU in Polish law, which requires the disclosure of extended non-financial information on the part of specified large public-interest companies and capital groups. Taking the above into consideration, the aim of this article is to answer the following questions:

1) What is the state of the non-financial disclosures made by stock-exchange-listed companies in Poland?
2) What are the differences in reporting non-financial information by companies from various industries?
3) What factors affect the disclosure of non-financial information?

In total, 53 companies were researched. The results obtained indicate that the form of the disclosures varies. Most commonly, non-financial information was presented in management commentaries. The scope of the information presented was diverse. The most non-financial disclosures were made by companies from the chemical and the energy sectors. The following factors influenced the publication of this type of information: the entity's size, its market value and the industry to which a given company belongs. In contrast, no positive associations between the economic performance of a company and non-financial disclosure, nor between the financial leverage of a company and non-financial disclosure have been found, with the exception of companies from the low-profile sector. The studies involved content analysis and the Tobit regression model. Existing results of research on non-financial reporting made by stock-exchange-listed companies in Poland did not encompass the last reporting period prior to the introduction of the changes to the Act on Accounting. Therefore, the results obtained allow us to determine the degree of preparation on the part of the researched companies belonging to various sectors (of larger and smaller environmental nuisance).

Keywords: non-financial reporting, stock-exchange-listed companies, Directive 2014/95/EU, Poland.

[*] Arleta Szadziewska, dr hab., associate professor, Department of Accounting, University of Gdańsk, arletasz@gnu.univ.gda.pl

[**] Ewa Spigarska PhD, assistant professor, Department of Accounting, University of Gdańsk, es.@panda.bg.univ.gda.pl

[***] Ewa Majerowska PhD, assistant professor, Department of Econometrics, University of Gdańsk, ewa.majerowska@ug.edu.pl

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Streszczenie
Dokonywanie ujawnień niefinansowych przez spółki giełdowe w Polsce w świetle zmian wprowadzonych dyrektywą 2014/95/UE

Od 2017 roku spółki giełdowe w Polsce są zobowiązane do publikowania informacji niefinansowych. Wynika to z wdrożenia do polskiego prawa dyrektywy 2014/95/UE, która wymaga ujawniania przez określone duże jednostki zainteresowania publicznego oraz grupy kapitałowe rozszerzonego zakresu informacji niefinansowych. Biorąc powyższe pod uwagę celem artykułu jest odpowiedź na następujące pytania:

1) Jaki jest stan dokonywanych ujawnień niefinansowych przez spółki giełdowe w Polsce?
2) Jakie istnieją różnice w raportowaniu informacji niefinansowych przez firmy z różnych branż?
3) Jakie czynniki wpływają na ujawnianie informacji niefinansowych?

Łącznie przebadano 53 spółki. Otrzymane rezultaty wskazują, że forma dokonywanych ujawnień jest różna. Najczęściej informacje niefinansowe prezentowane były w sprawozdaniach z zarządu. Zakres prezentowanych informacji też był zróżnicowany. Najwięcej ujawnień niefinansowych dokonywały firmy z branży chemicznej i energetycznej. Na publikowanie tego typu informacji wpływ miały następujące czynniki: rozmiary podmiotu, jego wartość rynkowa oraz branża do której należy. Natomiast nie stwierdzono występowania dodatnich zależności pomiędzy wynikami finansowymi a ujawnieniami niefinansowymi oraz pomiędzy dźwignią finansową a ujawnieniami niefinansowymi, z wyjątkiem firm należących do grupy o mniejszej uciążliwości dla środowiska. W badaniach wykorzystano analizę zawartości oraz model tobitowy. Dotychczas opublikowane rezultaty badań, dotyczące raportowania informacji niefinansowych przez spółki giełdowe funkcjonujące w Polsce, nie obejmowały ostatniego okresu sprawozdawczego przed wejściem w życie zmian do ustawy o rachunkowości. Dlatego też otrzymane rezultaty pozwalają ustalić stopień przygotowania analizowanych firm należących do różnych sektorów (o dużej i mniejszej uciążliwości dla środowiska) do nowych obowiązków sprawozdawczych.

Słowa kluczowe: raportowanie niefinansowe, spółki giełdowe, dyrektywa 2014/95/UE, Polska.

Introduction

Nowadays, companies, including those in Poland, are responsible not only for the economic but also the environmental and social consequences of their activities. This results from the implementation of sustainable development as the only proper way for future economic growth. According to this concept, enterprises operating in the market are expected to undertake business activities which preserve the quality of the natural environment and the living standards for present and future generations. It means that the main objective of an organization is not solely to maximize the profits for the benefit of the stakeholders; achieving environmental and social goals is equally important. Therefore, assessing a business activity includes evaluating economic efficiency as well as estimating ecological and social effectiveness. This requires the acquisition of reliable information about sustainability-relevant issues and how companies deal with them (Herzig and Schaltegger, 2006, pp. 301–302). Reports play a special role in providing such information. This means of communication allows companies to build good and trust-based relationships with all interested parties. Such communication is necessary to ensure the organizations' long-term success and to improve their competitiveness in the changing market. Hence, the number of organizations which disclose environmental and social information has been growing. However, the lack of mandatory environmental and social reporting standards means that the forms of sustainability reporting vary. What is more, not only do the forms of sustainability reporting vary, but

the range and the quality of this information differ as well. Many empirical studies have confirmed this occurrence (e.g. Brammer and Pavelin, 2006, pp. 1168–1188; Archel et al., 2008, pp. 106–117). In consequence, many organizations and researchers are now continuing the debate on the accurate content and quality standards of sustainability reporting, as well as on the ways of disclosing information in those reports (Szadziewska, 2012, p. 104).

This paper focuses on the non-financial information disclosed in sustainability reporting, CSR reporting, annual financial reporting, integrated reporting or management commentary reporting. The non-financial disclosures presented on websites were omitted due to their questionable credibility.

Beginning in 2017, large public-interest companies and capital groups, including stock-exchange-listed enterprises in Poland, have been obliged to publish non-financial information. Heretofore, according to the Polish Accounting Act, enterprises presenting a management commentary were obliged to disclose non-financial information only if such information was significant for an evaluation of their business activity. As a result, making non-financial disclosures was voluntary and dependent on the decision of individual companies. Generally, firms disclose such information to create an image of being an environmentally-friendly company. This has been confirmed by, inter alia, the results of studies published in 2015 in a report entitled *Społeczna odpowiedzialność biznesu w polskich realiach. Teoria a praktyka. Raport z monitoringu społecznej odpowiedzialności największych polskich firm* (*Corporate social responsibility in Polish reality. Theory vs. practice. A report on social responsibility monitoring of the largest Polish companies*)[1]. The Authors of the project indicate that the social and environmental information published by companies is often not very specific, poor in clear declarations and devoid of verifiable data. What is more, the surveyed companies tried to bring corporate social responsibility down to mere sponsorship activities, thus vitiating its meaning (SOB, 2015, p. 18). Taking the above into consideration, the aim of this article is to answer the following questions:

1) What was the state of non-financial reporting in stock-exchange-listed companies in Poland before the introduction of the changes to the Act on Accounting?
2) What non-financial reporting differences exist among various sectors?
3) Does disclosure of non-financial information provide a complete view of the companies' impact on the environment? Do stock-exchange-listed companies disclose negative incidents in their non-financial reports?

The analysis covered the non-financial disclosures made in the reports of large companies listed on the Warsaw Stock Exchange, for several reasons. First of all, we believe that, despite the increasing interest in non-financial reporting among researchers

[1] As part of the project, 227 Polish companies of the largest scale of activity were surveyed. The following aspects were analyzed: disclosure of the corporate social responsibility policies and of the ethical codes, contact with the people responsible for CSR, publication of CSR reports, the CSR reporting standards used, environmental disclosures, the presence of social responsibility in annual reports, the presence of human rights issues on the websites, the application of CSR principles in relationships with suppliers and subcontractors, and anti-corruption activities (SOB, 2015, p. 9).

in Poland, which has been observed for several years, the knowledge on the usefulness and the credibility of this type of information is still insufficient. The studies carried out so far have mainly focused on determining the form and scope of non-financial information (e.g. Paszkiewicz, Szadziewska, 2011; Krasodomska, 2014, Macuda et al., 2015; Chojnacka, Wiśniewska, 2016). On the other hand, less attention was paid to assessing non-financial disclosures, e.g., from the perspective of their usefulness in determining a company's environmental or social efficiency. Secondly, we tried to show not only the differences between non-financial information reporting across various industries, but also to indicate the factors affecting the publication of such information in the last reporting year before the introduction of new reporting obligations. Despite the fact that the results of research on non-financial information reporting by stock-exchange-listed companies in Poland were already published in 2017 (see: Dyduch and Krasodomska, 2017; Matuszak and Różańska, 2017), it did not include the last reporting period before the amendments to the Act on Accounting came into force. Therefore, we believe that our research allows for the assessment of the degree of preparation on the part of the surveyed companies from various sectors (of larger and smaller environmental nuisance), for the new reporting obligations.

Content analysis was used in the research, taking into account, while coding the information, its importance for the assessment of a company's environmental and social efficiency. Based on a formulated econometric model, the impact of such factors as the company's size, profitability, the company's market value as well as the industry type, on the level of the non-financial disclosures made, was analyzed. For this purpose, the Tobit regression model was used.

This paper presents the results of an analysis of corporate non-financial disclosures in Poland within five sectors, i.e., food, paper and wood products (furniture), chemical, energy and construction. The article is divided into six sections, including this introduction and the conclusion. The second section presents an overview of the literature and the main studies in this field. The third section discusses the changes introduced into the legal regulations on non-financial reporting. In the next section, based on a literature review, research hypotheses have been formulated. The section also contains a description of the methodology. In the fifth section, we present the results of the analysis. The conclusions, the limitations as well as the suggestions for future research, are presented in the closing section.

1. Literature review

At the turn of the 20th and 21st centuries, non-financial disclosures constituted study area the researchers were increasingly interested in. The literature suggests a number of reasons for companies disclosing this type of information. The assumptions of various socio-political theories, such as legitimacy theory, stakeholder theory as well as the institutional theory, most often emphasize studies on CSR disclosure (see: Tilling, 2004; Deegan, 2007; Van der Laan, 2009; Milanés-Montero, Péres-Calderón, 2011, Deegan,

2014; Higgins and Larrinaga, 2014). These theories take a system~~s~~ perspective, recognizing the fact that companies both influence and are influenced by the society in which they operate (Branco and Rodrigues, 2007, p. 78; Deegan, 2002, p. 292). Thus, a corporate disclosure policy can positively affect the relationship between an organization and its stakeholders as well as ensure a company's competitive advantage on a changeable market. Failure to communicate effectively can lead to a loss of a social license to operate, a company's image and reputation as well as its legitimacy (De Silva, 2008, p. 39). While these theories have been widely used in sustainability reporting research, many researchers have criticized their limitations. Deegan, for example, has indicated some of these criticisms, such as (2014, pp. 264–265):

1. There is a lack of research demonstrating that legitimization of disclosures actually promotes the reduction of legitimacy gaps.
2. In connection with the above point, there is a lack of research exploring which specific types of disclosures are relatively more effective in terms of changing the community expectations.
3. There are problems with resolution – legitimacy theory tends to focus on society as a whole and does not explore whether particular groups within a society might be relatively more influenced by corporate disclosures (nor does it explore the types of disclosures).

Other researchers have analyzed the potential determinants of the environmental and social reporting practice and communication. Important factors involved in disclosing information in this area are industry type, company size and geographic location. For instance, Meek et al. (1995, pp. 566–568) recognized the fact that company size and the country/region are the two most important variables influencing the non-financial reporting practice. Van de Burgwal and Oliveira Vieira (2014, pp. 71–72) also indicated that the size of a company is one of the most common factors of environmental disclosures; however, the type of industry also plays a significant role. The same was also proved by Hackston and Milne (1996), Freedman and Jaggi (2005) as well as by Wanderley et al. (2008).

Another interesting stream of research focused on the reasons for corporate social responsibility reporting and non-reporting. According to research from KPMG (2013, pp. 15–16), three aspects, such as the opportunity to strengthen the brands and corporate reputation (the most important factor), improving the market position/a growing market share as well as cutting costs motivate firms to disclose environmental and social information. Dobbs and Van Staden (2011) indicated that both community concerns and shareholder rights are the most important factors influencing companies' decisions to report. Kolk (2004) also observed that credibility and reputation play an important role. Moreover, she concluded that the level of environmental and social disclosure depends on the country-specific legislation and on the reporting culture of a given country (Van de Burgwal and Oliveira Vieira, 2014, p. 62). On the other hand, both Kolk (2004), as well as Martin and Hadley (2008) have identified a number of reasons for firms not wanting to report any of the aspects of their environmental and social performance.

They have suggested, for example, that such reporting may be too expensive and involves the staff's time, it may damage the company's reputation, especially if competitors do not publish any annual environmental reports, or that the effort to collect data could be too great while the benefits for the company may either be unclear or lacking.

Since the beginning of the 21st century, also in Poland, issues related to the disclosure of non-financial information in external reporting, on the part of companies, have been the subject of many scientific studies. Initially, the projects which were realized dealt with presenting environmental information in financial reports. For instance, the studies conducted by Paszkiewicz and Szadziewska (2011, p. 85) show that about 30% of the surveyed entities disclosed environmental information in their annual reports[2]. Nevertheless, the most common way for companies to present information in this field was via a website. The studies carried out in 2012 by Szadziewska also confirmed selective environmental disclosures made in annual reporting. What is more, half of the surveyed stock-exchange-listed companies included this type of information in their financial statements or in the attached activity reports (Szadziewska, 2013a, p. 310)[3]. Similar results were obtained by Krasodomska (2014) and Dyduch (2017). At the same time, the scope of the environmental information published, as indicated by the aforementioned studies, was influenced by the industry in which a company operated. The enterprises considered as particularly strenuous to the environment (e.g. from the chemical or energy sector) made disclosures broader in scope than other companies.

Along with the growing popularity of the corporate social responsibility concept in Poland, many researchers have included in their observation the disclosure of not only environmental information but also the disclosure of social information published for this reason in separate reports. For instance, the research results obtained by Wiśniewska and Chojnacka (2016) indicate that 70% of the surveyed stock-exchange-listed companies (i.e. 19 companies out of 27) presented disclosures on corporate social responsibility in separate reports, in particular, financial institutions and companies from the fuel and energy industry. Similar results were obtained by Walińska et al. (2015). On the other hand, large entities from other industries, e.g., those belonging to the food sector, most commonly disclose non-financial information via websites. This has been confirmed in the studies by Szadziewska (2013b)[4]. What is more, Bek-Gaik and Rymkiewicz (2016, pp. 773–774) indicated in their studies a change in the form of non-financial disclosures. Stock-exchange-listed companies cease to publish separate reports and include this type of information in their annual business reports.

[2] In total, 114 entities were surveyed, selected based on the „500 of Polityka" (original title: „Pięćsetka Polityki"), a list of the largest companies operating in Poland created annually and arranged according to their sales income.

[3] The analysis covered 92 annual reports of joint stock companies listed on the Warsaw Stock Exchange from 2011 (Szadziewska, 2013a, p. 269).

[4] The study covered 20 companies within the food industry, selected based on the ranking by the „500 of Polityka" (original title: „Pięćsetka Polityki") from 2012. Six companies made CSR reports.

Another recently observed research trend in the field of non-financial reporting is the linkage of CSR with the financial measures of an entity's performance. The studies carried out in the years 2011–2013 by Bek-Gaik and Rymkiewicz (2015, p. 162), on a sample of the enterprises which make up the WIG30 and the mWIG40[5] stock-exchange indices, indicated a moderate positive correlation between social reporting and the variables describing an enterprise's financial results, such as net income, the operating profit, and the gross and the net profit. There was also no correlation between social reporting and the indicators presenting profitability (i.e. ROE, ROA, ROS). Nevertheless, the studies carried out by Otola and Tylec (2016, p. 84) confirmed that the publication of a CSR report in a current period impacts the future economic results of an enterprise, including, inter alia, the ROA and the ROE indicators as well as the gross margin on sales indicators (excluding the cash flows from operational activities).

In Poland, although not many researchers have undertaken studies on the credibility of the information published, Hąbek should be mentioned, who evaluated the quality of the CSR reports published for Polish stakeholders. She stated that the readability of this type of publication, as well as the fulfillment of basic reporting principles, was of a good standard. However, the credibility of the non-financial disclosures made, due to the lack of external verification[6], may raise many doubts (Hąbek, 2015, p. 111). On the other hand, the studies carried out by Wiśniewska and Chojnacka (2016, p. 102) indicate that companies more often decide to have their CSR reports audited by independent experts. 18 out of the 27 surveyed companies did so.

Finally, it is worth adding that an analysis of the non-financial disclosures made by stock-exchange-listed companies before the introduction of the changes to the Act on Accounting was made by Dyduch and Krasodomska (2017) as well as by Matuszak and Różańska (2017). A brief description of the results they obtained is presented in Table 1.

Table 1. Non-financial disclosures of stock-exchange-listed companies in Poland – the research results published in 2017

Authors	Title	Brief characteristic
J. Dyduch J. Krasodomska	Determinants of Corporate Social Responsibility Disclosure: An Empirical Study of Polish Listed Companies	***The research objective*** The purpose of this study was to identify the significant elements affecting Polish companies' CSR disclosure. The authors analyzed the consequences of eight factors on CSR disclosure: the company's size, profitability, financial leverage, industry environmental sensitivity, board size, women on the board, internationalization, and reputation.

[5] The companies from the financial and insurance sectors were excluded from the sample.

[6] Only 4 reports out of the 25 studied (i.e. around 16% of all the analyzed) were subject to external verification.

Table 1. Non-financial disclosures of stock-exchange-listed companies in Poland – the research results published in 2017 (*cont.*)

Authors	Title	Brief characteristic
		The sample The study involved 60 non-financial stock-exchange-listed companies from the WIG30 Index and the WIG40 Index. The selection of the sample involved excluding companies with an average number of employees lower than 500 on their balance sheet date (as of 31 December 2014). The analysis involved the CSR disclosures presented by the companies in their annual reports (management commentaries) (56 cases) and their integrated reports (4 cases) for the year 2014. ***The results*** The results obtained indicate the occurrence of positive relationships between the level of CSR disclosures and the companies' profitability, as measured by the volume of the turnover and the affiliation with an industry that has a negative impact on the environment. However, no relationship was found between the level of CSR disclosures and profitability, financial leverage, board size, or the number of women on the board. The research results confirmed the occurrence of the relationship between the company's reputation and CSR disclosure in the case of two of the four variables considered: duration of the stock exchange listing and inclusion in the Respect Index portfolio.
Ł. Matuszak E. Różańska	CSR Disclosure in Polish-Listed Companies in the Light of Directive 2014/95/EU Requirements: Empirical Evidence	***The research objective*** The aim of this paper was two-fold. Firstly, this study analyzed the new non-financial reporting requirements in the Polish Accounting Act. Secondly, it investigated the current state of sustainable reporting in the companies listed on the Warsaw Stock Exchange and how it complies with the new requirements. ***The sample*** The study covered 150 stock-exchange-listed companies headquartered in Poland. The analysis involved the CSR information published in the board-of-directors' reports, in the separate CSR reports prepared at the end of 2015 as well as on the websites in July 2017.

Table 1. Non-financial disclosures of stock-exchange-listed companies in Poland – the research results published in 2017 (*cont.*)

Authors	Title	Brief characteristic
		The results The results show that companies prefer annual reports to communicate voluntary CSR disclosures. In the majority of cases, the company CSR disclosures were not compliant with the new requirements. Companies placed little emphasis on the human rights and the anti-corruption reporting. This suggests that the new reporting obligation should increase the extent and the quality of non-financial disclosures among the Polish stock-exchange-listed companies.

Source: on the basis of Dyduch, Krasodomska (2017) and Matuszak, Różańska (2017).

The main purpose of the studies presented in Table 1 was, as in our research, to indicate the state of the non-financial information reporting by stock-exchange-listed companies before the changes introduced to the Act on Accounting. However, the analysis covered the non-financial disclosures contained in the reports from the periods before the changes to the Act on Accounting came into force, i.e., reports from 2014 and 2015.

2. Changes in the existing legal regulations in Poland

In order to increase the coherence and the transparency of the non-financial information published by enterprises in all EU Member States, Directive 2014/95/EU of the EU Parliament and the Council of Europe was passed on October 22, 2014. According to the regulation, large firms with 500 employees, as well as public-interest entities, are required to disclose non-financial information in their management board reports or in separate reports. Regardless of the form of non-financial disclosures adopted by a company, the minimum scope of a report should at least include the following: (Directive, 2014):

- a brief description of the undertaking's business model;
- a description of the policies pursued by the undertaking in relation to environmental, social and employee matters, respect of human rights, and anti-corruption and bribery matters, including the due diligence processes implemented;
- the outcome of those policies;
- the principal risks related to those matters linked to the undertaking's operations including, where relevant and proportionate, its business relationships, products or services which are likely to cause adverse impacts in those areas, and how the undertaking manages those risks;
- non-financial key performance indicators relevant to the particular business.

In addition to the non-financial information, the enterprises covered by the new regulation are obliged to publish, in their management board reports, information on the diversity policy, in reference to such aspects as, inter alia, the age, gender, education, professional experience, the objectives of the policy applied, the manner of its implementation as well as the results of its application during the reporting period.

The new EU regulation has imposed on all Member States, including Poland, the necessity to introduce changes in national regulations. The amended provisions of the Polish balance-sheet law entered into force on January 26, 2017. The solutions proposed by Directive 2014/95/EU and adopted by Polish law include:

1) the necessity to publish non-financial information (in accordance with the scope indicated) on the part of large public interest entities (PIE) and capital groups, in which the dominating entity is a PIE, if, in the financial year for which an entity prepares the financial statement as well as in the year preceding that year, the following values are exceeded:
   - 500 persons – in the case of average annual employment calculated in full-time job positions, as well as
   - 85,000,000 PLN – in the case of the total balance-sheet assets at the end of the financial year, or 170,000,000 PLN – in the case of net sales income from the sale of goods and products for the financial year;
2) the entity's ability to choose the form of presenting both the non-financial information as well as the guidelines used by it (national or international recommendations for non-financial reporting can be applied);
3) the necessity to disclose information on the diversity policy;
4) the ability to bypass non-financial disclosures, if an entity considers such information to "sensitive" and violating its trade secret; stakeholders ought to be informed about such a decision.

In addition, the Accounting Act did not introduce any obligation to verify the non-financial information published. It is sufficient that an entity publishes this type of information in accordance with the requirements imposed by the balance-sheet law.

3. The hypotheses and methods used for verification

3.1. The Econometric model and hypotheses development

3.1.1. The Econometric model

Since the end of the 20th century, the study of the factors affecting the disclosure of non-financial information by companies operating in different countries has been the main research area for academic circles. Many researchers analyzed the impact of various factors on the scope of environmental and social disclosures, such as company size (measured by the number of employees, total assets, sales volume as well as market

capitalization), profitability (measured by the ROA, the ROE, the ROS indices), financial leverage, industry profile, the Tobin's q index, geographic location, credibility and reputation as well as governmental influence (e.g. Meek et al., 1995; Deegan and Gordon, 1996; Al-Tuwaijri et al., 2004; Freedman and Jaggi, 2005; Clarkson et al., 2008; 2011; Christ and Burritt, 2013; Van de Burgwal and Oliveira Vieira, 2014, Tan et al., 2016). In Poland, however, interest in non-financial information reporting, both in practice and well as in scientific research, appeared only at the beginning of the 21st century. Analysis of the factors influencing the level of CSR disclosures was made by, inter alia, Bek-Gaik and Rymkiewicz (2015), Dyduch and Krasodomska (2017), and Hąbek and Wolniak (2015). In our studies, we have also analyzed, like the other researchers, the factors impacting the scope of the non-financial information presented in external reports. The research covered annual reports and reports containing non-financial disclosures prepared by stock-exchange-listed companies for the year 2016, which is for the last reporting year before the regulations in this area came into force. In order to indicate the potential impact of selected factors on the level of the non-financial disclosures made, the following econometric model was formulated:

$$TD_i = \beta_0 + \beta_1 ROA_i + \beta_2 ROE_i + \beta_3 TOBINQ_i + \beta_4 LEV_i + \beta_5 SIZE_i + \beta_6 HL_i + \varepsilon_i$$

where:
$\beta_0 - \beta_6$ – the structural parameters
ε_I – the error term
I – the number of the company 1–53.

The basis for formulating the model were the results of the research carried out by Clarkson et al. (2008) as well as by Van de Burgwal and Oliveira Vieira (2014). A description of both the dependent variable as well as the independent variables adopted in the model is presented in Table 2.

Table 2. Description of the variables occurring in the formulated econometric model

Variable	Name	Measurement
	Dependent	
TD_i	A score of voluntary non-financial disclosures	Content analysis was used in accordance with the assumed coding manner presented in Table 3
	Independent	
ROA_i	Total return on assets	It is measured as the ratio of the annual net income to the total assets at the end of the fiscal year 2016
ROE_i	Total return on equity	It is measured as the ratio of the annual net income to the stockholders' equity at the end of the fiscal year 2016
$TOBINQ_i$	The Tobin's Q ratio	It is measured as the market value plus the total debt divided by the total assets at the end of the fiscal year 2016

Table 2. Description of the variables occurring in the formulated econometric model (*cont.*)

Variable	Name	Measurement
LEV_i	The financial leverage ratio	It is measured as the ratio of the total debt divided by the total assets at the end of the fiscal year 2016
$SIZE_i$	The size of the company	The natural logarithm of the total assets value measured at the end of the fiscal year 2016
HL_i	Industry's environmental sensitivity	Dummy variable: value 1 if a company is categorized within an industry of high impact on the environment (see: table 5), otherwise value 0

Source: Own elaboration based on: Clarkson et al. (2008); Van de Burgwal, Oliveira Vieira (2014).

The independent variables adopted in the regression model constituted the basis for formulating the research hypotheses subjected to verification.

3.1.2. Hypotheses development

The purpose of the hypotheses assumed for verification was to determine the relationship between the level of non-financial disclosures and a company's size, profitability, market value and industry.

Corporate size

Many studies have indicated the occurrence of a positive relationship between the size of a company and the level of the environmental and social disclosures made (e.g. Hackston and Milne, 1996; Van de Burgwal and Oliveira Vieira, 2014; Tan et al., 2016). Therefore, the following hypothesis was formulated in our research, assuming the volume of assets as the variable characterizing company size.

Hypothesis 1: There is a positive relationship between the size of a company and the non-financial disclosure.

Profitability

Establishing a relationship between profitability and the level of non-financial disclosures has also been studied quite often. Some of the studies carried out confirmed the occurrence of significant dependencies between these variables (e.g.Van de Burgwal and Oliveira Vieira, 2014; Rufino and Machado, 2015), while others did not indicate the existence of such connection (e.g. Gil-Estallo et al., 2009; Echave, 2010). The results obtained by Dyduch and Krasodomska (2017) confirmed the occurrence of a positive relationship between the level of disclosures and the volume of turnover, while in the case of the return sale ratio and financial leverage, no such relationship was found. Taking this into consideration, establishing the relationship between profitability and non-financial information disclosure was taken into account in our research. To measure the profitability of a company, three indices have been adopted: the return assets ratio,

the return capital and the financial leverage ratio. The following two hypotheses were also formulated. In the first one, the ROA and the ROE were adopted as economic indices, while in the second, the financial leverage ratio was included.

Hypothesis 2: There is a positive relationship between the economic performance of a company and the non-financial disclosure.

Hypothesis 3: There is a positive relationship between the financial leverage of a company and the non-financial disclosure.

Market value of a company

The study of the relationship between market value and non-financial information reporting has also been the subject of scientific research. For instance, the studies carried out by Orlitzky et al. (2003) indicate corporate social performance is positively correlated with the corporate market value. The results of the research by Lawrence et al. (2016) also confirmed that sustainability reporting is positively related to a firm's market value, while the studies by Carnevale et al. (2011) confirmed evidence of a positive correlation between social reporting and the market value of banks. Similarly, in the studies carried out by Omar (2015), no unambiguous results were obtained. The information on environmental, social and product activities lowered the market value of food companies, as measured by the Tobin's Q ratio, while human resources activities had no effect on the market value in the same industry. What is more, social information had a negative impact on the market value of companies from the pharmaceutical and medical sectors, while other information did not. In general, the research results obtained do not explicitly confirm the occurrence of positive relationships between the company's value and non-financial reporting. Taking this into consideration, the following hypothesis was formulated (the companies' market value measured by the Tobin's Q ratio):

Hypothesis 4: There is a positive relationship between the market value of a company and the non-financial disclosure.

Industry type

The results of many studies confirm that companies with a greater negative impact on the environment disclose more environmental information in their reports compared to other companies (e.g. Hackston and Milne, 1996; Freedman and Jaggi 2005; Brammer and Pavelin, 2006). According to Van de Burgwal and Oliveira Vieira (2014, p. 66) it is consistent with the legitimacy and stakeholder theories, which state that harmful industries are said to feel greater pressure from society to disclose environmental information. Therefore, in order to check whether the level of the non-financial disclosures made is affected by the type of industry a given company belongs to, the following hypothesis was formulated[7]:

Hypothesis 5: There is a higher level of the non-financial disclosures provided by companies operating in a high-profile industry than by those operating in a low-profile industry.

[7] The hypothesis was formulated based on the work of Van de Burgwal and Oliveira Vieira (2014, p. 66).

3.2. The methods

To examine the level of the disclosures made as well as to prove the research hypotheses, the following methods were used: content analysis and Tobin's regression model.

Content analysis is a technique for making replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of the facts and a practical guide for taking action (Krippendorff, 1980, p. 21). This method is most frequently applied in measuring corporate social and environmental responsibility (see: Gray et al., 1995; Milne and Adler, 1999; Gáspár et al., 2012; Look and Seele, 2013; Patten and Zhao, 2014). Additionally, content analysis has had a long history of use in communication, journalism, sociology, psychology and business (Neuendorf, 2002, p. 27). Content analysis has also been widely used for health research, e.g., psychiatry, gerontological and public health studies (Elo and Kyngäs, 2008, p. 108). It is worth adding that this method has been broadly used to understand a wide range of themes, such as social change, cultural symbols, changing trends in the theoretical content of different disciplines, verification of authorship, changes in mass media content, and the nature of the news coverage of social issues or social problems (Prasad, 2008, p. 5). Hence, the researchers regard content analysis as a flexible method for analyzing textual data (Hsieh, Shannon, 2005, p. 1277). However, the literature on the subject points to many limitations of this method (United States General Accounting Office, 1989, p. 28):

1. Without clear objectives, content analysis can produce very precise information that is, however, meaningless.
2. This method requires clearly defined terms for examination, prior to the beginning of the counting process. Otherwise, the results obtained will be insignificant. Additionally, proper coding and decoding of the results is time-consuming and laborious.
3. The results also depend on the quality of the information contained in the documents being analyzed. If they are not reliable or valid, even the most rigorous content analysis will have a limited value.

Taking the above into consideration, to obtain answers to the research questions posed, a content analysis scorecard, i.e., a modified version of the content analysis developed by Van de Burgwal and Oliveira Vieira (2014, pp. 60–78), was used to disclose environmental information. Such an approach not only allows for the acquisition of the scope of the non-financial information, but it also allows an indication of the links between making disclosures, the company's size, its profitability, the company's market value and the industry it operates in.

The content analysis targeted fifty-three stock-exchange-listed enterprises belonging to the following sectors: food, construction, chemical, energy as well as paper and wood products (furniture). The study covered the non-financial information presented in financial statements, management commentaries, integrated reports as well as in the corporate social responsibility reports of these firms prepared for the year 2016. The companies selected for the study were joint stock companies, because these companies

have been obliged to report non-financial information since 2017. In addition, an indication of the differences in non-financial reporting affected the choice of the joint stock companies from various industries (those more or less burdensome to the environment, in the opinion of society).

In order to ensure the objectivity and credibility of the content analysis, disclosure of the categories presented in Table 3, on the part of the companies, was checked.

Table 3. The Non-Financial Reporting Categories sought

Categories		Measures	Score
Environmental information (maximum score is 20)			
E.1	Environmental policy	1. Description of the environmental policy	1
		2. Lack of a description of the environmental policy	0
E.2	Environmental risk	1. Environmental risk	1
		2. Lack of environmental risk	0
E.3	Environmental KPIs	1. Physical information Use of natural resources – materials, water, energy. Comparison with previous year. Emissions – waste water, waste, noise, air emissions. Comparison with previous year	**9** 3 1 4 1
		2. Lack of physical information	0
		3. Monetary information The environmental protection costs – fees, taxes, permits, fines, (e.g. waste disposal fee, waste water treatment charge, environmental production permits, greenhouse gas emission permits) Environmental liabilities Environmental protection investments (capital environmental protection expenditures)	**3** 1 1 1
		4. Lack of monetary information	0
E.4	Significant environmenttal aspects of business activity	1. Significant environmental aspects of business activity	1
		2. Lack of significant environmental aspects of business activity	0
E.5	Environmental goals in the management system	1. Incorporation of environmental protection into the mission or the strategy (pro-ecological targets as one of the corporation's goals)	1
		2. Lack of incorporation of environmental protection into the mission or the strategy	0
E.6	External environmental certifications	1. ISO 14001, EMAS and others, such as a Certificate of Cleaner Production, Membership of Responsible Care	1
		2. Lack of external environmental certification	0

Table 3. The Non-Financial Reporting Categories sought (*cont.*)

Categories		Measures	Score
E.7	Description of company's previous environmental activity	1. Information about the company's previous environmental activity	1
		2. Lack of information about the company's previous environmental activity	0
E.8	Published negative environmental information	1. Negative environmental information published (including fines and damages paid, filed complaints on the impact on the environment)	1
		2. Lack of negative environmental information	0
E.9	Compliance with environmental regulations	1. Information about compliance with the environmental regulations	1
		2. Lack of information	0
Social Disclosures – Employees, charity, support for local community activities (maximum score is 10)			
S.1	Employees – system of training, motivation of employees, social activities for employees	1. Published information about employees	1
		2. Lack of information	0
S.2	Charity – information about cooperation with foundations, hospices, primary schools	1. Published information about charity activity	1
		2. Lack of information about charity activity	0
S.3	Supporting local community activities	1. Published information about supporting local events	1
		2. Lack of information about supporting local events	0
S.4	Social KPIs	1. Employment (employee turnover rate, accident rate, absence-at-work rate, number of hours allocated for training)	4
		2. Lack of information on the employment ratio	0
		3. Local communities and participation in public life (the number of implemented programs for local communities, the value of the financial support provided to charities)	2
		4. Lack of information on social indices	0
S.5	Published negative social information	Published negative social information (including the number of complaints regarding employment policies, the number of complaints regarding the social impact, the activities negatively affecting local communities)	1
Corporate governance principles and diversity policy (maximum score is 2)			
C.1	Corporate governance principles	1. Published corporate governance principles	1
		2. Lack of corporate governance principles	0

Table 3. The Non-Financial Reporting Categories sought (*cont.*)

Categories		Measures	Score
C.2	Diversity policy	1. Published diversity policy	1
		2. Lack of diversity policy	0
General information (maximum score is 2)			
G.1	Forms of corporate non-financial disclosures	1. Presenting information in an environmental report (ER), CSR report (CSR), sustainability report (SR), financial statement (FS), integrated report (IR), or management commentary (MC)	1
		2. Lack of presenting information in reports	0
G.2	External assurance	1. A verified report by independent assurance	1
		2. Lack of a verified report	0

Source: on the basis of: Szadziewska 92012, p. 106); GRI4 92016);
Van de Burgwal and Oliveira Vieira (2014, pp. 60–78).

As shown in Table 3, the analysis focused on four types of non-financial disclosures: environmental information, social disclosures, corporate governance principles and diversity policy, as well as general information. Additionally, using the approach applied by Clarkson et al. (2008, p. 309), non-financial information was divided into two groups. The first includes information enabling the assessment of the environmental and the social efficiency of the subject – *hard information* – e.g., the quantitative environmental performance indices. The second includes general information, difficult to be verified based on the available information – *soft information* – e.g., declarations about carrying out protective activities, without indication of what activities were applied or what results were yielded. This breakdown is presented in Table 4.

Table 4. Division of non-financial information,
from the perspective of environmental and social efficiency

Hard information		Soft information	
Environmental information			
E.3	Environmental KPIs	E.1	Environmental policy
E.6	External environmental certifications	E.2	Environmental risk
E.7	Description of the company's previous environmental activity	E.4	Significant environmental aspects of business activity
E.8	Published negative environmental information	E.5	Incorporate environmental protection into mission or strategy (pro-ecological targets as one of corporation goals)
		E.9	Compliance with environmental regulations

Table 4. Division of non-financial information,
from the perspective of environmental and social efficiency (*cont.*)

Hard information		**Soft information**	
Social Disclosures – Employees, charity, supporting local community activities			
S.4 S.5	Social KPIs Published negative social information	S.1 S.2 S.3	Employees – the system of training, motivating employees, social activities for employees Charity – information about cooperation with foundations, hospices, primary schools Supporting local community activities
Corporate governance principles and diversity policy			
–	–	C.1	Corporate governance principles
		C.2	Diversity policy
General information			
G.2	External assurance	–	–
Maximum score 23		**Maximum score 10**	

Source: Author's own elaboration based on: Clarkson et al. (2008).

Zero-one variables were used when checking for incidence (0 – when a company did not present any information, 1 – when a company disclosed information). Next, the total number of points was calculated for each company. A similar approach to studies on non-financial disclosures was used by, inter alia, the following: Fekrat et al. (1996, pp. 175–195); Al-Tuwaijri et al. (2004, pp. 447–471); Clarkson et al. (2008, pp. 303–327); Clarkson et al. (2011, pp. 27–60); Van de Burgwal and Oliveira Vieira (2014, pp. 60–78).

The content analysis carried out constituted the basis for verification of the research hypotheses formulated in subchapter 3.1.2. For this purpose, Tobin's regression model was used, which is often used to analyze the issues related to the labor market[8]. In the research, assuming a linear dependency between the dependent variable and the explanatory variables, the model takes the following form (Kliber and Stefański, 2003, p. 55):

$$y_i* = \beta_0 + \beta_1 x_{1,i} + \ldots\ldots\ldots\ldots + \beta_M x_{M,i} + \varepsilon_i$$

where observation of the positive values of the variable is possible, hence:

$$\begin{cases} y_i* & \text{if } y_i* > 0 \\ y_i = 0 & \text{if } y_i* \leq 0 \end{cases}$$

[8] This model was first applied in economics by James Tobin in 1958 and serves as the description of the censored dependent variable. It is used, e.g., for assessing local and government programs implementing vocational training for the unemployed, job search assistance programs and unemployment benefit programs, as well as for analysis of remuneration, depending on the number of years of education (Kostrzewska, 2011, p. 256).

At the same time, the error ε_i does not have a normal distribution; therefore, the estimation is carried out using the maximum likelihood method.

Model TDi (1) proposed in our research was estimated in three versions, namely: for the entire sample under examination, for the high-profile sector and for the low-profile sector. The obtained results were compared with the estimation made using the OLS method. When verifying the research hypotheses, the significance level adopted was 0.05. For calculations, the Gretl software was used.

4. Results of the research

4.1. Analysis of non-financial reporting

Analysis of the non-financial information published was carried out by two authors, in accordance with the criteria in Table 3 and Table 4. In order to obtain the correct results, the manner of information coding was initially checked for companies within two sectors, i.e., the chemical industry and the paper and wood product industry. Following that, reports from the remaining companies qualified for the research were analyzed. The results obtained allowed us to answer the questions posed in the introduction as well as to verify the research hypotheses presented in subchapter 4.2.

The companies selected for the research were joint stock companies causing various nuisances to the environment. The chemical, energy and paper industries belong to an industry sector of high impact on their surroundings, especially on the natural environment. On the other hand, entities from the food and construction industries, despite their significant impact, in the opinion of their stakeholders, are included in the second group of entities. The division and the number of the companies examined within each industry are presented in Table 5.

Table 5. Division of the examined companies according to the industry

Sector	Number of firms	%	Total %
High-profile sector			
Chemical	6	28.57	11.32
Energy	8	38.10	15.09
Paper and wood products (furniture)	7	33.33	13.21
Total high-profile sector	**21**	**100.00**	**39.62**
Low-profile sector			
Food	16	50.00	30.19
Construction (and construction materials)	16	50.00	30.19
Total low-profile sector	**32**	**100.00**	**60.38**

Source: Author's own elaboration.

In total, the analysis involved 53 entities, including 21 belonging to the group of entities particularly harmful to the environment. All examined companies disclosed information on the application of corporate governance principles and provided information whether they apply or not a diversity policy. It should, therefore, be recognized that currently, joint stock companies fulfill the obligation to report this type of non-financial information. What is more, the form of the disclosures is also in line with the changes introduced to the Accounting Act and resultant from Directive 2014/95. Companies may present non-financial information on this subject in the management commentary or in a separate report prepared for this purpose. All examined entities have adopted the first manner of making disclosures of this type. Moreover, the companies which prepared separate reports on the subject of social responsibility additionally published information on the subject of corporate governance and their diversity policies. On the other hand, the form of presenting corporate environmental and social information varies, which is presented in Table 6.

Table 6. Forms of corporate environmental and social information provided by companies in Poland

Sector	Management commentary*		Financial statement		Integrated report		Corporate social responsibility and sustainability reports		Lack of information	
	Number of firms	%	Number of firms	%	Number of firms	%	Number of firms	%	Number of firms	%
Chemical	4	66.67	1*	16.66	1	16.66	1	16.66	0	0.00
Energy	8	100.00	6**	75.00	2	25.00	3	37.50	0	0.00
Paper and wood products (furniture)	6	85.71	1	14.29	0	0.00	0	0.00	0	0.00
Food	8	50.00	1	6.25	0	0.00	1	6.25	6	37.5
Construction	7	43.75	0	0.00	3	18.75	1	6.25	6	37.50
Total	33	62.26	9*	16.98	6	11.32	6	11.32	12	22.64

* One company from the chemical industry presented corporate environmental and social information in the management commentary and the financial statement.
** Only information of environmental reserves and on CO_2 emission rights.

Source: Author's own elaboration.

The analysis results show that over sixty percent of the examined entities presented corporate environmental and social information in the management commentary. Only 12 companies prepared CSR reports or integrated reports containing non-financial disclosures. Such a state of affairs was influenced by the hitherto non-obligatory nature of reporting this type of information.

It is worth adding that not only do the forms of environmental and social reporting vary, but so does the scope of this information. Companies belonging to the sectors that are burdensome to the environment more often disclose environmental information that allows an assessment of their environmental efficiency, e.g., regarding the quantitative indices, they include such things as the amount of energy and water consumed, the amount of gas emissions, including CO_2, SO_2, and NOx, the reduction of waste disposal, and waste water (66.66% of all companies within this group). Moreover, the results of the research indicate that these companies most frequently presented their current environmental policies, significant environmental aspects of their business activity, information on support for social initiatives and the environmental certificates they held. This type of information plays a key role in building a friendly image of the surrounding environment. Detailed results are presented in Table 7.

Table 7. The environmental and social information disclosed by companies listed in Poland

Hard information					**Soft information**				
Categories	**High-profile sector**		**Low-profile sector**		**Categories**	**High-profile sector**		**Low-profile sector**	
	Number of firms	**%**	**Number of firms**	**%**		**Number of firms**	**%**	**Number of firms**	**%**
E.3	14	66.66	4	12.5	E.1	17	80.95	10	31.25
E.6	16	76.19	10	31.25	E.2	13	61.90	7	21.88
E.7	16	76.19	8	25.00	E.4	15	71.43	5	15.63
E.8	5	23.81	7	21.88	E.5	16	76.19	7	21.88
S.4	12	57.14	14	43.75	E.9	15	71.43	9	28.13
S.5	2	9.52	4	12.5	S.1	12	57.14	5	15.63
G.2	1	4.76	1	3.13	S.2	12	57.14	10	31.25
					S.3	17	80.95	12	37.50
					C.1	21	100.00	32	100.00
					C.2	21	100.00	32	100.00

Source: Author's own elaboration.

In particular, firms belonging to the chemical industry and the energy industry, due to their high negative impact on the natural environment, presented information about environmental protection activities, whereas companies belonging to the food, paper and wood products (furniture) industries did not disclose any environmental information allowing acquisition of data on their full impact on the environment.

Social disclosures are also more often presented by companies belonging to the high-profile sector (see Table 5). In general, such information is classified within the second group (soft information) and is difficult to verify. It concerns, for example, the

inclusion of environmental and social goals in the company's strategy, its environmental policy, compliance with the legal regulations, and support of initiatives related to sports, culture or science. Publication of this information is primarily aimed at public acceptance of the business activity conducted by those entities.

The results obtained show that the non-financial disclosures of companies classified as low-profile do not allow for an assessment of their environmental or social efficiency (which applies to 87.5% of the companies in this group). Only 3 companies in this group (2 belonging to the food industry and 1 to the construction industry) publish information on quantitative environmental indices. A similar situation is observed in the case of the companies from the paper and wood industry, where over 70% of companies do not disclose environmental or social indices.

Additionally, monetary data, such as the cost of environmental protection, expenditures on environmental investments, reserve CO_2 emissions, environmental liabilities, as well as the provision for land reclamation, play an important role in the assessment of the companies' impact on the environment. However, only 5 companies make such types of disclosures. What is more, negative environmental information was published only by 12 companies (i.e. 22.64% of all surveyed companies), including 5 entities from the high-profile sector.

As might be expected, the most environmental and social information is disclosed mainly by companies from the chemical industry and the energy industry, because their activities lead to a huge negative impact on the environment. Hence, publishing such information is meant to enable public acceptance for those companies in terms of the environment in which they operate.

4.2 Verification of the research hypotheses

Verification of the research hypotheses assumed in the studies is based on the content analysis results presented in the previous part as well as on the application of the Tobit regression model. This process took place in three stages. In the first one, the dependencies between all variables of the model were examined. The results obtained are presented in Table 8.

Table 8. Correlation for the variables included in the proposed model

	TD	ROA	ROE	TobinQ	LEV	SIZE
TD	1	–0.0651	–0.0047	0.1174	0.1385	0.7263
ROA		1	0.9745	0.1226	0.0523	–0.0503
ROE			1	0.1787	0.1909	–0.0073
TobinQ				1	0.0299	–0.0078
LEV					1	0.1633
SIZE						1

Source: Author's own calculations with the use of the Gretl package.

Based on the data in Table 8, it can be concluded that there is a strong positive dependency between company size and the making of non-financial disclosures. The larger the entity, the more non-financial information it publishes. There also is a strong correlation between the ROA and the ROE indices. However, the remaining correlations occur at a relatively low level, which indicates a small or a very small dependency between them.

In the second stage, model (1) was estimated using a Tobit analysis to account for the censoring of the dependent variable at zero, indicating the influence of its individual independent variables on the dependent variable (TD) for the entire sample. The results obtained are presented in Table 9.

Table 9. Estimation results for the entire sample – Tobit analysis and OLS analysis[9]

	Tobit analysis			OLS analysis		
	(1)	(2)	(3)	(1)	(2)	(3)
const	–27.5602***	–28.0569***	–33.5226***	–27.5602***	–28.0569***	–33.5226***
ROA	–33.7312*	–28.7978**		–33.7312*	–28.7978*	
ROE	12.6547*	10.8757**		12.6547*	10.8757**	
TobinQ	1.4754		2.0706*	1.4754		2.0706*
LEV	–4.4000			–4.4000		
SIZE	2.6015***	2.6149***	2.8325***	2.6015***	2.6149***	2.8325***
HL	5.2317***	4.8095***	4.5726***	5.2317***	4.8095***	4.5726**
Normality	4.6976	7.6414#	5.5657	0.4725	1.2651	0.3860

*, **, *** Statistically significant at 0.01, 0.05 and 0.1 significance level respectively.
The null hypothesis stating that the error terms are normally distributed needs to be rejected at the 0.05 significance level.

Source: Author's own calculations with the use of the Gretl package.

The results in table 9 indicate the occurrence of positive dependencies between the making of non-financial disclosures and the market value of a company, its size measured by the value of the assets and its affiliation with the high-profile sector. This means that entities of a bigger size, higher market value, or belonging to the group of enterprises which have a negative impact on the environment publish more non-financial information.

In the last stage, the entire sample was divided into two groups, i.e., the high-profile sector and the low-profile sector (see: Table 5). Then, the model was re-estimated for

[9] Due to a very high correlation between the ROA and ROE variables, which indicates a poor specification of the model, they were removed and, ultimately, they have been entered in column 3. Additionally, the tables include the results of a simple OLS regression. The application of this method requires the assumption of a normal distribution of the random component. In the case of limited variables – such as the number of disclosures – this assumption is not always met. The authors are aware of this fact. Nevertheless, estimation of Tobin's model (a method of the highest likelihood) gave similar results. For this reason, the tables present the results of the simple OLS regression. A similar situation occurred in other studies (Clarkson et al., 2008).

each group of entities separately. The results obtained for the high-profile sector are presented in Table 10.

Table 10. Estimation results for the high-profile sector sample – Tobit analysis and OLS analysis

	Tobit analysis		OLS analysis	
	(1)	(2)	(1)	(2)
const	–16.2970	–31.9851***	–16.2970	–31.9851***
ROA	–56.2226		–56.2226	
ROE	32.7210		32.7210	
TobinQ	–4.8769		–4.8769	
LEV	–12.8468		–12.8468	
SIZE	2.8792***	3.1896***	2.8792**	3.1896***
Normality	11.1050#	16.0526#	0.0037	0.8055

*, **, *** Statistically significant at 0.01, 0.05 and 0.1 significance level respectively
The null hypothesis stating that the error terms are normally. distributed needs to be rejected at the 0.05 significance level.

Source: Author's own calculations with the use of the Gretl package.

The data presented in Table 10 indicate the occurrence, in this group of entities, of a positive relationship between the making of non-financial disclosures and company size. Thus, the larger the enterprise with a negative impact on the environment, the more non-financial information it publishes.

The results estimated for the second group of entities – the low-profile sector – are presented in Table 11.

Table 11. Estimation results for the low-profile sector sample – Tobit analysis and OLS analysis

	Tobit analysis			OLS analysis		
	(1)	(2)	(3)	(1)	(2)	(3)
const	–12.5018*	–11.7326*	–17.1517**	–12.5018	–11.7326	–17.1517**
ROA	–22.6433**	–28.7038***		–22.6433*	–28.7038***	
ROE	8.4290**	10.7934***		8.4290*	10.7934***	
TobinQ	3.5640***	3.3672***	4.0609***	3.5640***	3.3672***	4.0609***
LEV	3.2279		7.7580**	3.2279		7.7580**
SIZE	0,9338*	1.0169*	1.0669*	0,9338*	1.0169*	1.0669*
Normality	20.6065#	23.7264#	9.8026#	11.6154#	12.7094#	4.3071

*, **, *** Statistically significant at 0.01, 0.05 and 0.1 significance level respectively.
The null hypothesis stating that the error terms are normally distributed needs to be rejected at the 0.05 significance level.

Source: Author's own calculations with the use of the Gretl package.

The results in Table 11 indicate the occurrence of a positive association between the making of non-financial disclosures and the company's market value, its size and financial leverage. This means that larger-sized enterprises assigned to the low-profile sector publish more non-financial information. A similar situation also occurs when the level of the financial leverage of such an entity is higher or when its market value is higher.

Referring the results obtained to the research hypotheses being verified, the following conclusions can be formulated.

1. Making disclosures depends on the company size, which was found during the model (1) estimation for both the entire sample as well as for the analyzed groups of entities separately. As such, hypothesis 1 has been confirmed.
2. No positive relationship between the economic performance of a company and the non-financial disclosure was found. Hypothesis 2, therefore, has not been confirmed.
3. The presence of a positive relationship between the financial leverage of a company and the non-financial disclosures was found only for entities within the low-profile sector. As such, this hypothesis has been confirmed only for this group of enterprises.
4. The model (1) estimated for the entire sample confirms the occurrence of a positive relationship between the market value of a company and the non-financial disclosures. Accordingly, hypothesis 4 has been confirmed, although this dependency was not found in the group of entities within the high-profile sector.
5. A significant difference between the making of disclosures on the part of entities from the high-profile sector and the low-profile sector was found. Thus, the last hypothesis has also been confirmed.

Conclusions

Currently, "there can be no doubt that sustainability has become an important priority for many businesses across Europe" (Theron, 2012, p. 247). In this context, the companies operating in the market should not only be profitable, but also environmentally and socially responsible. Non-financial reporting plays an important role in this process. This method of communication enables enterprises to be accountable, democratic and transparent to their stakeholders (De Silva, 2008, p. 2). However, the non-financial information provided by the companies should be accessible, credible as well as comparable. So far, the lack of uniform and mandatory non-financial reporting standards in EU countries has caused the form, the range and the quality of this type of information to vary (see: Gray and Bebbington, 2010). Our analysis, which concerns the largest companies in Poland, has confirmed that as well.

The research results obtained allowed us to formulate the following conclusions:

1. The results of the research indicate that the forms of non-financial reporting used by large joint stock companies vary. The most popular manner of presenting this type of information is a management commentary (62.26% of all enterprises). Only twelve companies prepared CSR reports or integrated reports.

2. The study shows that the companies within the chemical and the energy industries disclose the most non-financial information, including information enabling assessment of their environmental and social efficiency (e. g. environmental and social indices, such as KPIs, information on their environmental protection activities). In the remaining industries, the majority of companies disclose selected non-financial information, which does not allow the stakeholders to properly assess the impact of their activities on the environment and their surroundings. This situation exists not only in the case of the entities from the food and the construction industries, but also in the case of companies form the paper and wood industry, although the environmental impact of these enterprises is very high.
3. In addition to the content analysis of the annual reports and of the additional reports containing non-financial information, the existence of a significant difference between the making of non-financial disclosures and the industry which a given company belongs to has been confirmed by the estimated econometric model. The entities from the high-profile sector disclosed the most non-financial information, in contrast to those from the low-profile sector. What is more, the results of the Tobit regression model confirm that the size of the entity and its market value influenced the making of non-financial disclosures. In contrast, no positive association has been found between the economic performance of a company and the non-financial disclosure, nor between the financial leverage of a company and the non-financial disclosures, with the exception of companies within the low-profile sector.
4. Only twelve firms published unfavorable environmental information (two from the chemical industry, 4 from the food industry, three from the construction industry as well as three from the energy industry), despite their environmentally harmful activity. This means that the surveyed companies mainly disclosed the type of environmental information which would build a positive image for the community.
5. The results obtained also indicate that majority of the surveyed joint stock companies (including particularly those within the food industry, the paper and wood industry as well as the construction industry) would not meet the requirements for non-financial disclosures resultant from the changes introduced to the Accounting Act, which entered into force in 2017.

We agree with Van Staden and Hooks (2007, p. 201) that effective non-financial reporting should communicate a comprehensive account of an organization's environmental and social impacts and performance, by providing information about its strategies, the progress and the contributions in this respect. All the same, the voluntary status of non-financial reporting in Poland induces companies to disclose only limited non-financial information, selecting such information which the company wants to expose. As indicated in this study, Polish users often get an unreliable image of a company's activities which affect the natural environment as well as society. The changes introduced to the Accounting Act increase the consistency and the transparency of the non-financial information published by large public interest entities. However, they do not solve the issues related to their quality and comparability. Therefore, standardization of corporate non-financial reporting is still necessary.

In addition, Herzig and Schaltegger (2006, p. 312) stated that reporting regulations could have a positive effect on sustainability, transparency and stakeholder involvement, only if companies incorporate adequate sustainability accounting and appropriate management approaches to ensure the provision of reliable, accurate and relevant information. Currently, companies' information systems, including accounting, are inefficient. Thus, apt changes to these systems are essential for stakeholders to be able to acquire relevant and credible non-financial information.

Various PDF documents containing annual financial reports, CSR reports and integrated reports were examined. Therefore, we relied on the content of the non-financial information disclosed in these documents. Furthermore, the analysis covers only the stock-listed companies from five major industry sectors. This should be considered a limitation of the research. Further research should include a determination of whether joint stock companies (not only from the surveyed sectors) comply with the non-financial reporting obligations imposed by the Act on Accounting. It is also important to examine whether the non-financial information published was subject to external verification, despite the fact that the changes in the legal regulations did not impose such an obligation. In addition, it is important to obtain information on the role of the accounting systems these entities play in obtaining non-financial information of adequate quality.

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