
A Model on the Decision to Conduct Independent Verification of CSR Data: The Case of Poland

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Abstract:

Purpose: This study aimed to verify whether factors influencing the decision of Polish enterprises to have their CSR reports verified externally are the same as in Spain. Additionally, the research attempted to identify entities most frequently selected by companies to verify their non-financial data.

Design/Methodology/Approach: For this study, the logistic regression model has been used in which the exogenous variable is verification of CSR reports conducted by an independent expert/auditor.

Findings: The study shows that, depending on the country, different variables may influence companies' decision to submit CSR reports for examination by independent auditors/experts.

Practical Implications: This article attempts to identify financial variables which influence companies' decisions concerning external verification of CSR data in the case of Poland.

Originality/Value: In Poland, CSR analyses to date have focused mainly on three main subjects concerning, the scope and forms of disclosures in CSR reports, a relationship between the scope of information published and company size, sector of operation, and profitability, verification of non-financial data. The novelty of this research lies in employing the model on the decision to conduct independent verification of CSR data.

Keywords: CSR reports, corporate CSR reports assurance, audit company, non-financial data reliability.

JEL Classification: M14, D22.

Paper Type: Research study.

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1. Introduction

The primary goal of conducting business operations is the company's financial success. It is, however, impossible without positive relations with its environment. It requires an organization to disclose both its financial results and its socially responsible activities. The non-financial data can be disclosed in a board report or as a separate report. For stakeholders of those reports, the presented data's reliability is an issue of growing importance (Edgley *et al.*, 2015; Solomon, 2013).

To ensure appropriate quality and reliability of the published information concerning sustainable development, the increasing number of companies submit them for an external evaluation by independent auditors/consultants (KPMG, 2013; 2015). According to Gray and Milne (2010), "to have any value other than raising public relations issues," non-financial information must be reliable, complete, and undergo external verification. Due to the growing importance of non-financial data on stakeholders' decisions, it can be claimed that verification of reports by an independent auditor/consultant significantly contributed to an increase in the quantity and informational quality of the revealed data (Hąbek, 2017; Pflugrath, Roebuck, and Simnett, 2011; Sroka, 2016).

The subject of an influence of the economic results achieved on a decision made by socially responsible companies to have their CSR data verified by an independent auditor/consultant has not been sufficiently researched. So far, this type of studies concerned companies from countries where CSR reporting is at a high level of development, such as Australia, Great Britain, USA, or Spain (Casey and Grenier, 2015; KPMG, 2015; Moroney *et al.*, 2012; Sierra *et al.*, 2013; Simnett *et al.*, 2009; Zorio *et al.*, 2013). However, no research is available for countries where CSR data reporting is at the development stage, such as Poland, Slovakia, and Czech Republic (Hąbek, 2014; KPMG, 2015).

In Poland, an increasing number of companies perceive social responsibility issues regarding primary business risks and opportunities for their development. Also, investors assume that environmental and social factors contribute to an increase in the company's market value (KPMG, 2013; 2015; Malik, 2015; Wiśniewska and Chojnacka, 2016). Research is required concerning the influence of achieved financial results on decisions made by socially responsible companies to subject their CSR data for verification. In Poland, CSR analyses focused mainly on three main subjects concerning (Śnieżek *et al.*, 2018):

- a scope and forms of disclosures in CSR reports (Chojnacka and Wiśniewska, 2017; Dyduch, 2017; Krasodomska, 2014; Szadziewska, 2013),
- a relationship between the scope of information published and a company size, sector of operation, and profitability (Bek-Gaik and Rymkiewicz, 2015),
- verification of non-financial data (Hąbek, 2015; Hąbek and Wolniak, 2016; Wiśniewska, 2015; Wiśniewska and Chojnacka, 2016).

In Poland, most studies concerning services of certifying non-financial data focused mainly on general information whether that data was submitted for verification or not, defining a company conducting that verification, or standards used for that purpose (Wiśniewska, 2015; Wiśniewska and Chojnacka, 2016). This study is the first one of this type concerning the Polish market of CSR data verification services.

The Spanish researchers, Sierra, Zorio, and García-Benau (2013), have constructed a logistic regression model of factors that have impact the decisions of Spanish enterprises to CSR reports assurance. Previous studies carried out by other researchers (Moroney *et al.*, 2012; Simnett *et al.*, 2009) confirmed the selection of factors in this model. In all previous studies, as in the "Spanish" model, factors such as industry, company size, and financial variables (it is: ln assets, financial leverage, ROA, ROE) into account were taken (Moroney *et al.*, 2012; Sierra *et al.*, 2013; Simnett *et al.*, 2009; Zorio *et al.*, 2013).

This study aimed to verify whether factors influencing the decision of Polish enterprises to have their CSR reports verified externally are the same as in Spain. Therefore, it also aimed at verifying, using Poland as an example, whether the model constructed by Spanish researchers can also be used for other countries with different levels of CSR data reporting. Additionally, the research attempted to identify entities most frequently selected by companies to verify their non-financial data.

The structure of this article is arranged as follows. After the introduction, presenting reasons for studying this issue and established research objectives, the second part presents a literature review on CSR data verification and research hypotheses. The third part of the paper describes sample selection and research methods used, while its fourth part presents the research findings, and the final part contains general conclusions and implications for further studies.

2. Literature Review

Changes concerning expanding enterprise reporting by non-financial data also influence an expansion in a range of services performed by expert auditors to include certification services concerning verification of non-financial data. Due to the growing significance of non-financial data in the stakeholders' decision-making, they notice a growing need for making the data more reliable and valuable (Cohen and Simnett, 2015; KPMG, 2013; 2015; Simnett *et al.*, 2009).

The subject matter of services concerning certification of non-financial data are reports containing CSR data. Practices associated with CSR reporting used by companies include separate reports on particular areas of environmental impact, information published on websites, separate social responsibility reports, and integrated reports containing both financial and non-financial data (Chojnacka and Wiśniewska, 2016). The reports serve as a basis for a dialogue between a company and its stakeholders (Li *et al.*, 2013). According to Gelb and Strawser (2001),

increased disclosure of CSR data alone is a form of a company's socially responsible behavior. The outcome is an increase in the number of companies that, apart from standard financial reports, prepare and disclose non-financial information. It is confirmed by the studies conducted by KPMG (KPMG, 2015). This tendency can also be noticed in Poland (CSRinfo, 2017a).

Verification of CSR data may concern the whole report or a particular area of operation (Cohen and Simnett, 2015). In comparison to the audit of financial reports, and analysis of CSR data is characterized by other, unique and specific features, due to a vast scope of information disclosed in CSR reports, resulting from the multi-level nature of corporate social responsibility, leading in turn to problems associated with ensuring higher reliability of disclosed data (Cohen and Simnett, 2015; Wiśniewska, 2015). Thus verification of non-financial data is much more complex than verifying financial reports, as it requires interdisciplinary knowledge (Chojnacka and Wiśniewska, 2016). The certification of CSR data, both in Poland and abroad, encounters several difficulties of nature differing from problems encountered by auditors when examining financial data. Problems most frequently mentioned in the literature on this subject are: the extent of data disclosed, its quality, a lack of comparability, and a lack of one, universally accepted definition of corporate social responsibility (Malik, 2015).

The scope of topics included in reports depends on an organization itself, as well as on standards, initiatives, or directives adopted by an organization, and it may concern, among others, human rights, labor law, natural environment, corruption prevention, corporate management, employee relations, fair market practices, relations with consumers, or social involvement (Malik, 2015). In the context of such a wide range of information, measuring it poses numerous difficulties. Thus, the variety and number of those topics influence their comparability, posing a challenge to stakeholders of CSR reports and auditors/experts dealing with verification of the revealed data. Comparability of the data included in CSR reports, on the other hand, maybe ensured by uniform standards defining the extent and the manner of revealing and presenting the data. Currently, there are many different standards, initiatives, directives, guidelines, and norms concerning reporting of extra-financial data, which include the Global Reporting Initiative - GRI Guidelines, UN Global Compact Communication on Progress, AA1000 Standards, the International Standard ISO 26000, OECD guidelines for multinational companies (OECD Guidelines for Multinational Enterprises, 2011), CERES Principles, Carbon Disclosure Project, SustainAbility Global Reporters Program, SA 8000 Standard, International Federation of Accountants - Sustainability Framework (International Federation of Accountants, n.d.), and European Federation of Financial Analysts Societies - ESG Framework (Social Accountability 8000 (SA8000: 2014). Social Accountability International, n.d.).

The quality of information disclosed in CSR reports concerns both its subjects and its scope. The most important features of high-quality CSR disclosures are the

completeness and accuracy of disclosed data (Pflugrath *et al.*, 2011; Simnett *et al.*, 2009). Accuracy is also understood as reporting verifiability and honesty, reflecting both incorrectness and incompleteness of disclosed information (O'Dwyer and Owen, 2005).

Another barrier associated with CSR data verification is the lack of one definition of corporate social responsibility (Malik, 2015). In the literature on this subject, there is a general belief that the term "Corporate Social Responsibility" is difficult to define due to its complexity (Barnett, 2007; McWilliams *et al.*, 2006). The literature on this subject has not yet developed any commonly used definition (Malik, 2015).

The CSR verification market audits aspect is closely connected to the legitimacy, information asymmetry, and stakeholders theories (Cohen and Simnett, 2015). The legitimacy theory is based on the assumption that a company functions within a society, agreeing to perform various socially desirable actions to realize its business objectives (Chan *et al.*, 2014). Based on this assumption, managers adapt strategies to demonstrate that an organization is trying to fulfill social expectations. Organizations need to prove that their actions are legal and beneficial for society (Chan *et al.*, 2014). An auditor's task is to determine whether an organization operates following the legislation and fulfills its obligations to society.

The information asymmetry theory concerns the influence of information on the economy in a situation where one of the parties involved in economic activity has more or better information than the other (Stiglitz, 2004). An external auditor plays an important role here, being responsible for closing the distance between a company and a stakeholder of the report by confirming and extending the knowledge on the revealed data on social responsibility, which is supposed to assure the stakeholders that CSR reports are reliable and illustrate the company's actual involvement in socially-beneficial activities. The stakeholder's theory determines the extent and quality of revealed information on social responsibility. According to Freeman *et al.* (2010), the interested parties may be defined as any group or individual (including institutions and environment) which have an influence or are under the influence of companies realizing their goals using strategies, products, services, production processes, management systems, and procedures. Verification of that data is a form of response to the dialogue between an organization and its stakeholders. It confirms the extent of the information revealed and its reliability concerning the realization of adopted operation strategy, goods production, or provision of services in compliance with the stakeholders' needs.

The most popular standards currently used for verification of extra-financial data include:

- *AA1000AS Standard (AA1000 AccountAbility Principles Standard (AA1000APS), 2008; O'Dwyer and Owen, 2005, 2007),*
- *SA8000 (Social Accountability 8000 (SA8000: 2014). Social Accountability International, n.d.),*

- *International Standard on Assurance Engagements (ISAE) 3000 (Cohen and Simnett, 2015; “International Standard on Assurance Engagements 3000 (ISAE 3000),” n.d.).*

Contrary to analyses of financial reports, statutory auditors do not have exclusive authorization to conduct CSR reports (Cohen and Simnett, 2015). According to Cohen and Simnett (2015), auditing companies must compete with other firms verifying CSR reports. According to the study by KPMG (KPMG, 2013; 2015), among the 250 largest world companies (G250) involved in CSR reporting, 63% subjected their reports to independent verification. This rate increased by four and by 13 percentage points compared to 2013 and 2011, respectively, proving the growing need for the data published by companies in their reports to be confirmed by an independent auditor/expert on non-financial data. According to the studies, in 2015, 65% of the companies which had their CSR reports verified used services of an extensive auditing company. A share of such companies in confirming the accuracy of CSR data decreased by five percentage points versus 2013 (KPMG, 2015).

This shape of the CSR audits market is determined because the experts working as statutory auditors have the high professional qualifications necessary for providing this type of service (Cohen and Simnett, 2015). Verification conducted by auditing companies is based not only on the devised and continually updated methodology of the certification services following international standards. Additionally, the specific nature of a statutory auditor profession, being a profession of public trust, means working according to the highest ethical standards (International Federation of Accountants, n.d.).

A significant share in the market of CSR reports is also claimed by consulting firms not being auditing companies. According to Huggins *et al.* (2011), companies of that type have broad knowledge and specific skills required for CSR-related topics. The studies conducted by KPMG (2015) indicate that the share of consulting firms in the CSR report confirmation services market was 35% in 2015, and it grew by five percentage points versus 2013.

Both in Poland and in other countries, to this date, no regulations concerning individuals/institutions which can provide the service of verifying extra-financial data were established (Chojnacka and Wiśniewska, 2016; Cohen and Simnett, 2015). Verification of CSR reports is voluntary and is mainly conducted by certification, consulting and auditing firms, and individual experts and consultants (KIBR, 2014). Apart from ethical motivations for running a business activity following the idea of corporate social responsibility, several economic factors justifying CSR-related actions appear to increase quickly (Deloitte, 2015; Sroka, 2016). Some of the most frequently enumerated benefits of reporting CSR data concern the relations with stakeholders, both internal and external ones, such as:

- better relations with stakeholders (Chojnacka and Wiśniewska, 2017),
- increased employee motivation (Weber, 2008),

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- reduced personnel turnover (Weber, 2008),
 - appropriate human capital management (Branco and Rodrigues, 2006),
 - improved working conditions and workplace safety (Rondinelli and Berry, 2000).

Another group of benefits concerns capital acquisition, for instance:

- easier access to capital (Cheng *et al.*, 2014),
- reduced costs of capital (Dhaliwal *et al.*, 2011).

The benefits concerning financial results also include:

- better financial results, leading to higher return on assets (ROA), return on equity (ROE) and return on investment (ROI) indicators (Boulouta and Pitelis, 2014),
- increased company's market value (Luo and Bhattacharya, 2009; Waddock and Graves, 2006),
- increased sales (Lev *et al.*, 2010),
- lower costs and operational risk (Oikonomou *et al.*, 2012; Weber, 2008).

Numerous studies are being conducted on the relationship between CSR actions and a company's economic results. The findings reported to this date indicate that activities of socially responsible corporations can have a positive (Cheng *et al.*, 2014; Chernev and Blair, 2015), or a negative (Brammer, Brooks, and Pavelin, 2006; Brine, Brown, and Hackett, 2007), or neutral one (Mittal *et al.*, 2008; Surroca *et al.*, 2010) impact on their economic results.

On the other hand, according to Cohen and Simnett (Cohen and Simnett, 2015), a topic which is very important, and yet insufficiently studied so far, is the market of CSR reports verification and the factors related to the decision whether to submit CSR reports for verification by an independent auditor/consultant, and what kind of firm should conduct this process.

The study conducted by Simnett *et al.* (2009) indicates that the companies' decisions to submit non-financial data for external verification depends on a company size, type of industry and financial variables. The results have been confirmed also in the case for the Spanish market by Sierra *et al.* (2013) and of American market by Casey and Grenier (2015). The studies were based on logit modeling. Earlier studies, on the other hand, emphasize a growing demand for services of CSR data verification (KPMG, 2015; Pflugrath *et al.*, 2011; Simnett *et al.*, 2009).

On the basis of published reports on verification of non-financial data, and taking into account the research objectives mentioned at the beginning of this paper, the following research hypotheses were formulated:

H1. A model constructed by Spanish researchers on the decision to conduct independent verification of CSR data can be directly applied to Poland;

- H2. *regardless of the country and different levels of CSR data reporting, the same factors have impact to decisions of enterprises to CSR reports assurance;*
H3. *Polish companies usually select auditing firms for verification of CSR reports.*

3. Research Methodology

In Poland, the Warsaw Stock Exchange uses the RESPECT index, including companies meeting the criteria for socially responsible companies; and their current number is 22. Following a detailed analysis of reports of these companies, it was found that the number of CSR reports is too low to conduct the study. For this reason, all CSR reports available in a database of the Responsible Business Forum were analyzed.

Since 2006, The Responsible Business Forum (Forum Odpowiedzialnego Biznesu, n.d.) has promoted the idea of sustainable growth in Poland. One form of such promotion is a competition for the best CSR data report. The analysis covered CSR reports submitted for competition in 2007-2015, covering 2006-2014 (Konkurs Raporty Społeczne, 2015). Following the analysis, out of 193 reports in the database, 84 listed at the Warsaw Stock Exchange (GPW) were selected, and their financial statements were analyzed to obtain information on financial variables characterizing these companies. CSR reports submitted for the competition are presented in Table 1 by the industry types they represent, with the industrial sectors grouped in six categories, similarly as in the Spanish studies.

In the discussed studies on Spain, the authors analyzed 133 reports of companies from the IBEX-35 index in the years 2005-2010, and for this reason, the results cannot be compared. However, similarities or differences between these two countries can be discussed, associated with the subject matter of the conducted study, confirmed, among others, by the structure of companies participating in the survey (Table 1).

In the case of Polish companies, the most significant number of companies represented the Consumer Services sector (21.8%), with Consumer Goods following (20.2%), whereas the smallest number of companies belonged to the Technology and Telecommunications branch (6.7%). In total, 193 CSR reports were studied, 84 of which were submitted by listed companies (43.5%).

Table 1. *The structure of companies reporting CSR data by industry*

Industry	Poland		Spain	
	Total	%	Total	%
Consumer Goods	39	20.2	10	7.5
Oil and Energy	26	13.5	36	27.1
Basic Materials, Utilities and Construction	37	19.2	51	38.3
Consumer Services	42	21.8	12	9.0
Financial Services and Real Estates	36	18.7	11	8.3

Industry	Poland		Spain	
	Total	%	Total	%
Technology and Telecommunications	13	6.7	13	9.8
Total	193	100.0	133	100.0
including Capital Market	84	43.5	133	100.0

Source: Own calculations and Sierra et al. (2013).

In the study concerning Spain, the structure was different than in Poland, with the most significant number of companies representing the Basic Materials, Utilities, and Construction sector (38.3%), with Oil and Energy following (27.1%), whereas the most sparsely represented branch was Consumer Goods (7.5%).

An analysis of CSR reports of Polish companies from the Warsaw Stock Exchange was conducted, taking into account financial data available for analysis. The studied CSR reports were analyzed to be submitted for independent external verification, as presented in Table 2.

Table 2. *The structure of CSR reports verified by independent auditor/consultants - Poland*

Industry	Report CSR		External verification		
	Total	%	Total	%	%
(1)	(2)	(3)	(4)	(5)	(4/2)
Consumer Goods	39	20.2	12	20.3	30.8
Oil and Energy	26	13.5	9	15.3	34.6
Basic Materials, Utilities and Const.	37	19.2	10	16.9	27.0
Consumer Services	42	21.8	7	11.9	16.7
Financial Services and Real Estates	36	18.7	15	25.4	41.7
Technology and Telecommunications	13	6.7	6	10.2	46.2
Total	193	100.0	59	100.0	30.6
Including Capital Markets	84	43.5	37	62.7	44.0

Source: Own calculations.

In Poland, CSR reports were mainly submitted for external verification by companies from the Financial Services and the Real States sector (25.4%), with Consumer Goods following (20.3%), whereas the smallest number of such companies was reported in the Technology and Telecommunications sector (10.2%). In 2006-2014 merely 30.6% of CSR reports were subjected to external verification. This structure was shaped differently than in other studies, and thus, in studies conducted by Simnet *et al.* (2009) and in studies conducted in the American market (Casey and Grenier, 2015), the largest body of CSR data was subjected to verification by companies from the mining sector, and this is explained by their operations, associated with significant environmental hazards. In both of those studies, the financial sector was only in third place. In Poland, being an emerging market without traditions of CSR reporting, most frequently, reports are disclosed and subjected to external verification by companies

of a global reach. The study conducted in Spain indicates that in 2005-2010, as many as 81.2% of CSR reports were examined by an external company.

In order to describe the behavior of a single economic entity, a model can be constructed, for example, defining the probability that a given company will submit itself to an audit. Let z_i be a vector of specific relevant characteristics of a company, influencing the decision concerning the assurance, and β is a vector of unknown parameters. Additionally, let us assume that if an audit is conducted for an i -th company, an audit occurs, then the variable assumes a value of 1, whereas if it does not occur, then. This variable is called a binary variable (binomial, dichotomous), whereas it is characterized by the Bernoulli distribution. Thus, the probability:

$$P(y_i = 1) = p_i \text{ and } P(y_i = 0) = 1 - p_i. \quad (1)$$

Let us assume that the probability of an assurance is a value of a certain function with argument z_i ,

$$p_i = F(z_i). \quad (2)$$

If F is a cumulative function of logistic distribution, then we are dealing with a logit model. Then (Greene, 2003; Gruszczyński, 2002; Hosmer and Lemeshow, 2000; Maddala, 2006):

$$p_i = F(z_i) = \frac{1}{1 + e^{-z_i}} = \frac{e^{z_i}}{1 + e^{z_i}}, \quad (3)$$

and thus:

$$\ln \frac{p_i}{1 - p_i} = z_i. \quad (4)$$

The left side of equation (4) is called a logit. It is a logarithm of the quotient of the chances (odds) of variable assuming the value of 1 or not. Thus, in the Logit model, the logit is a linear function of exogenous variables (Greene, 2003; Gruszczyński, 2002; Hosmer and Lemeshow, 2000; Maddala, 2006).

For the purpose of this study, similarly as in the study conducted by the Spanish researchers, the following logistic regression model (Logit) has been constructed:

$$\text{Assurance} = f(\text{Industry, Control variables}) \quad (5)$$

In which the exogenous variable is the verification of CSR reports conducted by an independent expert/auditor. According to (Balabanis *et al.*, 1998), the variables that can influence certain relationships between CSR reporting and its activities include company size, the industry it represents, and its financial results expressed as different variables (Chan *et al.*, 2014; Fifka, 2013).

The following variables have been used to analyze the logistic regression: industry, ln assets, financial leverage, ROA, ROE. These variables were selected based on the study conducted in Spain. Additionally, due to the level of development of CSR data reporting in Poland, the following financial variables were considered, total assets, ROS, equity capital, revenues on sales, operational profit, gross profit, net profit. The variables were selected based on the literature on the subject. Descriptive statistics of specific variables are presented in Table 3.

Table 3. Descriptive statistics of financial variables for Polish companies in the years 2006-2014 (in m. PLN)

	Minimum	Maximum	Average	Standard deviation
Revenues from sales	367.557	119864.000	18899.185	26771.431
Total assets	297.505	134501.874	30882.762	26108.473
Equity capital	179.868	44884.000	10499.322	9223.240
Operational profit	-4711	13153.649	1212.445	1982.820
Gross profit	-6246	13289.673	1124.984	2082.893
Net profit	-5828	11064.003	913.603	1714.571
ROA	-12.473%	36.211%	4.169%	5.608%
ROE	-28.588%	96.783%	13.937%	19.661%
ROS	-5.455%	50.047%	9.866%	9.559%
Ln assets	5.695	11.809	9.786	1.305
Leverage	-0.284	0.254	0.098	0.064

Source: Own calculations.

4. Results and Discussion

Table 4 presents two logistic regression models for Polish and Spanish companies. The Polish logistic regression model uses the same variables as the Spanish model, except for the audit firm, as the number of companies was too low, and the model could not be applied.

In the model concerning the Polish companies, the Chi-squared estimation is 18.065 (p-value = 0.034), meaning the null hypothesis of the insignificance of all model coefficients is rejected, and the statistical relationship exists. Hosmer and Lemeshow statistic (p-value = 0.019) indicates the null hypothesis with a 5% level of significance was rejected. However, at the 1% level of significance, the null hypothesis cannot be rejected. It can thus be assumed that the model matches the data relatively well. The R2 measures are 0.194 (Cox and Snell) and 0.258 (Nagelkerke), respectively, and they are not too high. However, it should be remembered that, for example, Cox and Snell R2 never reach the theoretical maximum equal to 1 and that the percentage of accurate predictions based on the model is 65.5. The statistically significant variables proved to be ROA (B = -0.259, p-value = 0,029) and ROE (B = 0.09; p-value = 0.071), but the influence on the exogenous variable is different. An increase in the ROA value results in a reduced chance for an audit to be conducted. When ROA increases by one unit, the probability of success is reduced by 22.8, whereas an increase of ROE by

one-unit results in the probability of success increasing by 9.4. The event's occurrence is more probable in Oil and Energy and Financial Services and Real estate services and less probable in the remaining branches of industry.

Table 4. Logistic regression models for Polish and Spanish companies

Variables	Poland					Spain				
	B	S.E.	Wald Statistics	p-value	Odds Ratio	B	S.E.	Wald Statistics	p-value	Odds Ratio
Industry			6.810	0.235				8.821	0.116	
Consumer Goods/ Technology and Telecommunications	-1.977	1.092	3.279	0.070*	0.139	3.860	3.846	1.007	0.316	4.461
Oil and Energy	1.711	3.253	0.277	0.599	5.534	1.061	1.194	0.789	0.375	2.888
Basic Materials, Utilities and Constructions	-0.141	0.967	0.021	0.884	0.868	0.272	1.167	0.054	0.876	1.312
Consumer Services	-1.359	0.901	2.272	0.132	0.257	0.485	1.425	0.116	0.733	1.625
Financial Services and Real States	0.532	1.407	0.143	0.705	1.703	-2.392	1.506	2.524	0.112	0.091
Audit firm (reference - KPMG):								3.373	0.338	
Deloitte					-0.111	0.939	0.014	0.906	0.865	
EandY					1.943	1.363	2.031	0.154	6.979	
PWC					0.869	1.262	0.474	0.491	2.384	
Variables:										
Ln assets	0.001	0.001	1.178	0.278	1.001	0.251	0.092	7.367	0.007***	1.285
ROA	-0.259	0.119	4.749	0.029**	0.772	-0.204	0.071	8.230	0.004***	0.816
ROE	0.090	0.050	3.265	0.071*	1.094	0.075	0.035	4.617	0.032**	1.078
Leverage	-0.002	0.004	0.153	0.696	0.998	-0.048	0.018	7.151	0.007***	0.935
Accuracy of fit:										
-2 log likelihood	98.384				90.329					
R ² Cox and Snell	0.194				0.507					
R ² Nagelkerke	0.258				0.676					
Test:	statistics	p-value			statistics	p-value				
Chi-square	18.065	0.034			94.048	0.000				
Hosmer and Lemeshow	18.339	0.019			12.88	0.116				
Global classification in %	65.50				87.20					
N	84				133					

Note: Null hypothesis in the Chi-square test: all model coefficients are insignificant; null hypothesis in the Hosmer and Lemeshow test: real and fitted values are equal; *** - significant 1%; ** - significant 5%; * - significant 10%.

Source: Own calculations in SPSS and Sierra et al. (2013).

However, when the model for Spain is analyzed, the Chi-squared value is 94.048 (p-value = 0.000), which means that we rejected the null hypothesis similarly as in Poland. According to Hosmer and Lemeshow's (0.116) statistic, we cannot reject the null hypothesis of equality of observed and fitted values. The R² measures are 0.507 (Cox and Snell) and 0.676 (Nagelkerke), respectively. The percentage of accurate

predictions based on the model is 87.2%. Thus, it can be assumed that the model fits the data well. The statistically significant variables, similarly as in the Polish model, proved to be ROA ($B = -0.204$, $p\text{-value} = 0.004$) and ROE ($B = 0.075$; $p\text{-value} = 0.032$). Furthermore, similarly as in the Polish model, an increase in ROA value results in a decreasing chance for an audit to occur. When ROA increases by one unit, the probability of success decreases by 18.4, whereas an increase in ROE by one-unit results in a rise in the probability of success by 7.8. Concerning the occurrence of an event, it is less probable for Financial Services and Real Estates, whereas for the remaining branches, it is more probable, contrary to the situation in Poland.

It should be noted that both in the Polish and Spanish models, ROA has a negative value, and this would mean that the worse an entity management board manages its assets, the more it is willing to order an independent verification of its assets non-financial data. Similar results were obtained in Simnet *et al.* (2009) and Casey and Garnier (2015). This may indicate that, regardless of a country and a reporting level, the following relationship occurs: the lower the profitability of the assets, the higher the willingness to subject CSR reports to independent verification. According to Hummel *et al.* (2019), these study results indicate a relationship between CSR concerns, assets profitability, and a decision to subject this data to independent verification. In their opinion, this has two explanations: either an improvement in CSR reporting or impressing stakeholders with organization management methods.

Table 5. Correlations of financial variables for Polish companies in the years 2006-2014

	1	2	3	4	5	6	7	8	9	10	11
1 Revenues from sales	1										
2 Total assets	,263**	1									
3 Equity capital	,678***	,472***	1								
4 Operational profit	0,040	,272**	,507***	1							
5 Gross profit	0,017	,261**	,465***	,987***	1						
6 Net profit	-0,002	,239**	,440***	,979***	,996***	1					
7 ROA	-0,179	-,258**	,057	,709***	,733***	,744***	1				
8 ROE	-,296***	-,209*	-,307**	,207*	,241**	,256**	,612***	1			
9 ROS	-,376***	,437***	-,066	,532***	,546***	,543***	,413***	,305***	1		
10 Ln assets	,362***	,828***	,597***	,315***	,287***	,270**	-,268**	-,321***	,330***	1	
11 Leverage	-,351***	-,104	-,159	,100	,081	,070	,117	,126	,090	-,140	1

Note: *** - significant 1%; ** - significant 5%; * - significant 10%

Source: Own calculations in SPSS.

Comparing the same elements of the models constructed for Spanish and Polish companies, it should be concluded that the same variables influence the decision to

commission independent verification by an auditor/expert in Poland and Spain. However, the impact of those variables is more significant in Spain than in Poland. This situation can result from differences in the level of CSR reporting in those countries. The immaturity of the Polish market can also be proven by the fact that in the case of Spain, regardless of the industry branch, the decision to commission a verification is of great importance, whereas in Poland, it concerns only some branches.

The low fit of that model for the Polish companies may indicate that variables determining a decision to submit their CSR reports for verification by an independent auditor/expert are different. Therefore, considering the different nature of the Polish and the Spanish economies, a model was constructed solely for Polish companies. First, correlations between analyzed financial variables were determined (Table 5). Only one of such variables was used for constructing the model in the case of strongly correlated variables ($r > 0.75$).

Such a model aimed to analyze critical financial data from financial reports characterizing the company's activities regarding their impact on the decision to subject CSR reports for external verification auditing. Following the analysis, significant variables were determined, including total assets, gross profit, ROE, and ROS. Insignificant variables from the original model were eliminated by a posteriori method, with the final model presented in Table 6.

Use of different factors (financial variables) in the logit model leads to an improvement in the model properties (Table 6), a better goodness-of-fit R^2 Cox and Snell - 0.240 and R^2 Nagelkerke - 0.321), as well as in more detailed test results (we reject the hypothesis of the insignificance of all model coefficients, while we cannot reject the hypothesis of equality of the natural and fitted values). Additionally, the percentage of accurate predictions based on the model is 72.6%. The introduction of other financial variables results, for instance, in an increased significance of other variables such as ROS, total assets, or gross profit. However, ROE remains a statistically significant coefficient ($B = 0.080$. p -value = 0.058), and an increase in ROE by one-unit results in the probability of success increasing by 8.3. ROS ($B = -0.088$. p -value = 0.087) is also statistically significant, and an increase in ROS by one-unit results in the probability of success decreasing by 8.5. An analysis of profitability indices indicates that a positive influence of return on equity (ROE) on the decision about independent verification was confirmed. The higher this measure, the more advantageous the equity effectiveness, and therefore, a possibility to achieve higher dividends and further company development.

Thus, it can be said that Polish companies achieving a higher return on equity will be more willing to submit their CSR reports for independent verification. In the model, the return on assets (ROA), which was negative in the model for Poland and Spain, proved to be insignificant only for Poland. In a new model constructed only for Poland, the return on sales (ROS), which had a negative value, similarly to ROA, proved to be statistically significant.

Thus, it implies that the poorer the entity's sales profitability, the more its management board is inclined to subject non-financial data to external verification. This situation may be related to image or management issues. For example, a management board wants to signal to its stakeholders that it presents only reliable data in its reports despite a drop in sales profitability. It tries to improve management methods through recommendations received during the independent verification, which may improve the company's financial results. To attract future customers to purchase from the company its products manufactured according to sustainable development principles. Furthermore, the management may also want to explain lower profitability with increased expenditures on sustainable development activities, which will induce investors to further investments in a company involved in social issues despite low profitability.

Table 6. Logistic regression models for Polish companies

Variables	B	SE	Wald	p-value	Odds Ratio
Industry (with Technology and Telecommunications)			9.079	0.106	
Consumer Goods	1.180	4.336	0.074	0.786	3.253
Oil and Energy	-0.225	0.750	0.090	0.764	0.799
Basic Materials, Utilities and Const.	-1.754	0.624	7.904	0.005***	0.173
Consumer Services	0.207	1.285	0.026	0.872	1.230
Financial Services and Real Estates	-1.595	1.154	1.912	0.167	0.203
Total assets	~0.000	0.000	7.655	0.006***	1.000
Gross profit	~0.000	0.000	2.821	0.093*	1.000
ROE	0.080	0.042	3.589	0.058*	1.083
ROS	-0.088	0.052	2.921	0.087*	0.915
Accuracy of fit:					
-2 log likelihood	93.352				
R ² Cox and Snell	0.240				
R ² Nagelkerke	0.321				
Test:	statistics	p-value			
Chi-square	23.097	0.006			
Hosmer and Lemeshow	15.193	0.056			
Global classification	72.6				
N	84				

Note: Null hypothesis in the Chi-square test: all model coefficients are insignificant; null hypothesis in the Hosmer and Lemeshow test: real and fitted values are equal; ~ denotes value close to 0; *** - significant 1%; * - significant 10%

Source: Own calculations in SPSS.

Such a model aimed to analyze critical financial data from financial reports characterizing the company's activities regarding their impact on the decision to

subject CSR reports for external verification auditing. Following the analysis, significant variables were determined, including total assets, gross profit, ROE, and ROS. Insignificant variables from the original model were eliminated by a posteriori method, with the final model presented in Table 6.

Use of different factors (financial variables) in the logit model leads to an improvement in the model properties (Table 6), a better goodness-of-fit R^2 Cox and Snell - 0.240 and R^2 Nagelkerke - 0.321), as well as in more detailed test results (we reject the hypothesis of the insignificance of all model coefficients, while we cannot reject the hypothesis of equality of the natural and fitted values). Additionally, the percentage of accurate predictions based on the model is 72.6%. The introduction of other financial variables results, for instance, in an increased significance of other variables such as ROS, total assets, or gross profit.

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For example, a management board wants to signal to its stakeholders that it presents only reliable data in its reports despite a drop in sales profitability. It tries to improve management methods through recommendations received during the independent verification, which may improve the company's financial results. To attract future customers to purchase from the company its products manufactured the model created for Poland, the industrial sector also plays a significant role. For example, for a company from the Basic Materials, Utilities, and Const. Sector, the probability of event (audit) occurrence decreases by 82.7. This situation is consistent with the studies conducted by (CSRinfo, 2017b), according to which the lowest number of published CSR characterizes the group of companies from that sector reports over the last ten years, which means that companies from that sector show less interest in acting towards sustainable development when compared to other sectors. Thus, it can impact lower demand for these reports to be confirmed by independent auditors/experts (CSRinfo, 2017b).

Measurable financial results expected by investors derive from several complex actions and management processes, covering all company's functional areas. This value is created at many levels, and measurable financial results are its consequence and confirmation of efficient and effective company management with a strategy based on CSR (Walczak, 2010). In the case of the model for Poland, general assets have a significant impact on event occurrence, whereas, for Spain, it is the assets logarithm. In Poland, listed companies perceive CSR activities mainly in terms of economic benefits (Sroka, 2011). Thus, for Poland, also it is not the operational profit/gross profit ratio that is essential, but the gross profit itself. Additionally, the remaining variables adopted for the model, such as sales volume or sales profitability, are confirmed by the general tendencies resulting from Poland's economic development. It is confirmed by statistical data on the condition of the Polish economy, according to which in Poland, the variables having an extraordinary impact on the economic development also have a significant impact on companies' decisions concerning independent verification of CSR reports (Polska 2015).

When comparing the results for Poland (Tables 4 and 6), it can be stated that the model explicitly constructed for Poland has a better fit than the one proposed in the studies on Spain. It is indicated by the determination coefficients (R^2 Cox and Snell - 0.240 and R^2 Nagelkerke - 0.321), the values of Hosmer's and Lemeshov's statistics (p-value = 0.056) and Chi-square (p-value = 0.006), as well as by the percentage of accurate predictions (72.6%).

After an entity decides to have its financial data verified, the next step involves choosing the firm that will perform the audit. To this date, no regulations have been published defining required authorizations and competencies for a company to study CSR reports to verify the reliability of data and compliance with the procedures. The entities that submitted their CSR reports for independent verification could select various firms to confirm data reliability, as shown in Table 7.

Table 7. *Entities responsible for auditing CSR reports (in %)*

Audit firms	Poland	Spain
PWC	31.0	20.7
Deloitte	41.4	23.7
KMPG	1.7	28.1
EandY	0.0	8.9
BureauVeritas	12.1	4.4
Fundacja SGH	1.7	0.0
Aenor	0.0	5.2
SGS	0.0	8.9
GRI	12.1	*
Total	100.0	100.0

including Capital Markets	63.8	100.0
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Note: * No data.

Source: Own calculations in SPSS and Sierra et al. (2013), p. 366.

Furthermore, the management may also want to explain lower profitability with increased expenditures on sustainable development activities, which will induce investors to further investments in a company involved in social issues despite low profitability.

As presented in Table 7, in Poland, various firms provide auditing CSR reports, including auditing firms (exclusively, auditing firms belonging to the BIG 4 group), consulting firms assisting with reporting of CSR data, and companies providing certification according to GRI standards. The conducted research proved that from 193 reports, only 30.6% were submitted to verification by external firms. In the case of listed companies, the percentage is much higher, reaching 44%.

The study conducted in Spain proved that most firms conducting external verification of CSR reports were, just like in Poland, auditing firms from the BIG-4 group. In Spain, as many as 81.2% of respondents underwent external verification. The findings obtained in Spain and Poland have confirmed the previously conducted research (Pflugrath et al., 2011; Simnett et al., 2009) on the increased reliability of CSR reports verified by auditing firms. The majority of conducted studies in selecting a company verifying non-financial data see differences related to a service supplier and statements drawn up after conducted verification (Cuadrado-Ballesteros et al., 2017; O'Dwyer and Owen, 2005).

According to Huggins et al. (2011), in statements on conducted verification of greenhouse gases, experts comprehensively discussed all issues, contrary to auditing companies. According to Perego and Kolk (2012) and Zorio et al. (2013), auditors have a high level of quality control, ensuring high quality of non-financial data verification. Despite the lack of extensive knowledge of a subject, when compared to experts, audit companies have a better reputation, are characterized by their independence, and conduct their analysis considering their professional skepticism (Martínez-Ferrero and García-Sánchez, 2018; Simnett et al., 2009). According to Casey and Grenier (2015), analysts think that verification of CSR data improves their reliability more when audit companies perform it, and therefore, the entities can perceive these companies as more effective.

5. Conclusions

Development of the market value of a company is a well-considered and organized configuration of specially selected activities concerning a company's long-term development strategy. These activities concern the management of the company's tangible resources and finances and its intangible resources. Therefore, CSR activities are gaining importance (Gazzola, 2012; Walczak, 2010). According to Casey and

Grenier (2015), verification of non-financial data may improve the benefits of CSR reporting and improve their reliability, contributing to a reduction in information asymmetry.

The conducted research concerning the market of CSR report verification in Poland responds to the need for studies of this type (Casey and Grenier, 2015; Cohen and Simnett, 2015; Hummel *et al.*, 2019; Sierra *et al.*, 2013; Zorio *et al.*, 2013). They expand the knowledge on the variables that influence an organization's decision to submit non-financial data for verification and select a firm in charge of such verification in a given country, depending on a phase of CSR reporting development. The study of the model prepared by Sierra, Zorio, and Garcia-Benau (2013) in Polish settings indicates that the model has a low fit, and some variables are not statistically significant. Therefore, the first hypothesis should be rejected. To generalize the conclusion from the "Spanish" model to all applications, similar studies should be conducted for other countries, both at a low and a high level of CSR reporting development.

In the case of Poland, a more significant number of financial variables which characterize an organization's financial situation were additionally analyzed. The variables found to be significant included, industry sector, total assets, gross profit, ROE, and ROS (Table 6). The accuracy of variables selected for the Polish model was confirmed by Poland's economic growth for 2014 (Polska, 2015). A better fit of the model created exclusively for Polish companies may indicate that depending on a country, different variables may influence companies' decision to subject CSR reports for examination by independent auditors/experts.

Therefore, the model constructed by Spanish researchers cannot be directly applied to all countries. Therefore, the second hypothesis should be rejected too. The findings of this study contribute to the body of literature, as they describe a different approach to financial variables which influence companies' decisions concerning external verification of CSR data. In the case of Poland, the factors considered included significant financial variables resulting from financial reports and shaping an organization's image, and at the next step, the variables characteristic for Polish companies were determined.

The literature on the subject does not include similar studies for countries with different levels of CSR reporting. For this reason, this analysis (including the construction of a model) should also be conducted for other countries, both with mature and emerging markets of CSR data reporting. Then a comparison of significant variables in models for specific countries and a comparative analysis could lead to deepening knowledge in the field and an attempt to distinguish financial variables standard for all countries, ultimately resulting in a universal model constructed for them.

Due to different reporting levels in individual countries, caution should be exercised when drawing general conclusions from this study. In Poland, the companies most frequently selected for CSR data verification were auditing firms. The study confirms the dominance of auditing companies on the market of verifying non-financial data, and they are limited to those belonging to BIG 4. Such a structure of the market of CSR data verification may result from stakeholders' higher trust in international companies with established positions on the market of auditing services. Also, the studies conducted in other countries confirm such market structure for services of CSR data verification (Cohen and Simnett, 2015; Sierra *et al.*, 2013).

Another critical issue related to the selection of a firm for verification of non-financial data is reporting quality. As Hąbek and Wolniak (2016) showed, when analyzing 6 European countries, the quality of data presented in CSR reports raises serious reservations. To improve their competitiveness, enterprises decide to have the presented data verified. However, regardless of the firm in charge of verification of CSR data, according to Moroney *et al.* (2012), there is no difference in the CSR reporting quality, and this is also confirmed by studies carried out by Pflugrath *et al.* (2011). However, this subject has not been sufficiently studied (O'Dwyer, 2011; Pflugrath *et al.*, 2011) and can be confirmed or contradicted by studies concerning the relationship between the firm in charge of CSR report verification and the quality of CSR reporting in countries with different development levels of such reporting.

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