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Determinants of the level of information disclosure in financial statements prepared in accordance with IFRS

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Abstract: This paper aims to identify the factors determining the extent of mandatory and voluntary information disclosure in financial reports of selected Polish listed companies. It is particularly important in the context of reporting standards harmonisation and the related process of IFRS coming into common use in consolidated accounts since 2005. We used the Polish Corporate Disclosure Index (PCDI), designed by the research team led by Świderska (2010), for non-financial companies. The PCDI index includes voluntary disclosures in financial statements, management reports and corporate social responsibility reports. Based on a panel study of factors determining the scope of information disclosed by 36 Polish public parent companies, forming capital groups, in the years 2005-2007 we demonstrated a negative correlation between the extent of mandatory and voluntary disclosure and the companies' financial performance (ROE) except for possitive relation with disclosure in management reports. Probably, managers prefer to show off good results in management reports (impression management theory). When the company profitability was lower, managers explained the financial standing in more detail (signaling theory). Auditor plays the important role in voluntary and corporate social responsibility disclosures, but not in mandatory ones. Bigger companies disclose more in each area, in accordance with agency theory.

Keywords: IFRS, Poland, mandatory disclosure, voluntary disclosure

JEL codes: M41, M42, G32

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1. Introduction

The mandatory adoption of International Financial Reporting Standards (IFRS) by EU publicly traded corporations, forming capital groups, in 2005, resulted in a significant change in consolidated financial reporting and disclosure practices in emerging economies of Europe, especially in Poland. Domestic GAAP shaped by local institutions and regulators and incorporated by national capital market were abandoned for a single set of principle-based accounting standards. One of the major intended purposes of the adoption of IFRS was to enhance financial reporting and mandatory and voluntary disclosure through the requirements of a set of 'high quality standards'. These problems seem even more complex to analyse if we compare the relatively restrictive specification of the required information disclosure provided by domestic GAAP with a certain freedom in case of IFRS in this respect. Earlier, in financial reports by domestic GAAP, the company presented data according to a specific pattern of the report with a list of information that should be given in the notes. Consequently, since 2005, under IFRS the extent of disclosure, especially voluntary, presented in financial statements, management reports and corporate social responsibility reports, has been much dependent on corporate management decisions. Because in emerging economies that adopted the IFRS, like especially Poland in 2005, corporations have been given a choice as to what information they wish to publish in consolidated reports, prepared according to IFRS. We examine how the adoption of IFRS influenced parent companies, forming capital groups, attitude to information disclosure, in particular shown by the extent and quality of mandatory and voluntary disclosure in financial statements, management reports and corporate social responsibility reports.

Therefore, we analyse the direction and significance of the impact of Polish public parent company characteristics like profitability, size, leverage, shareholding dispersion and auditor category, on the extent and quality of different information disclosure in the first years (2005-2007) following the introduction of compulsory consolidated reporting under IFRS. The information disclosure in financial reports of public companies is particularly important in the context of accounting standards harmonisation and the resultant requirement of companies in the European Union, including Poland, to use IFRS in their consolidated accounts since 2005. Understanding the factors that determine company disclosure decisions may be very beneficial for the bodies designing the reporting standards and for audit firms controlling the observance thereof. Exploring disclosure determinants is extremely important for guidance, focussing auditors activities intended to support businesses in reporting their financial standing in a trustworthy manner. Furthermore, this will enable them to identify the types of companies whose financial reports may potentially contain many frequent untruths or omissions.

This paper contributes to the literature on the effects of IFRS adoption and the information disclosures by providing empirical evidence of listed parent companies disclosure practices in reaction to the adoption for consolidated reporting in Polish setting, where less than 10% active companies (sole proprietorship including) do bookkeeping. However, it took only fifteen years to develop accounting from output-oriented communist accounting models to the adoption of IFRS in Poland. Though changes in accounting regulation and practice in Poland are very rapid, they concern only a small number of undertakings. The information asymmetry is an overall problem in the analysed emerging economy with accounting system based on tax law in case of over 90% entities. Consequently, this limits business sector growth. This severe information asymmetry settings clearly set out the originality of our research as information disclosure is crucial to the corporate access to funding sources.

The challenges in analysing of financial disclosures in transition economies stem from limited coverage in international financial databases and the limited availability of disclosure indexes, developed only in research projects. To mitigate the first problem we obtain data from local data providers, Notoria Service with support of data hand collecting from management reports and chartered auditor's opinions. The second problem limits our research to the sample contained 36 parent companies as only for them the PCDI index was calculated in the research project led by Świderska (2010). Quantification of the scope and quality of listed companies' notes conveyed in their financial statements enables the examination of the company disclosure decisions. However, analyses of the extent of disclosure in financial reports are impeded by the input of time and labour needed to manually collect data in purpose to measure the scope and quality of disclosure.

To identify the determinants of the level of information disclosure in consolidated financial statements prepared in accordance with IFRS we carry out five information disclosures regressions on a panel of annual consolidated financial statement data of parent companies listed at the Warsaw Stock Exchange over the period from 2005 to 2007. As dependent variables we use the PCDI index and its four components measured the extent and quality of mandatory, voluntary, management reports and corporate social responsibility disclosures. This approach has enabled us to compare the directions of the impact of analysed determinants on wide scope of information disclosures and allowed us test if the impression management theory, signalling theory and agency theory apply to attitude of Polish parent companies to information disclosures.

The rest of the paper is organized as follows. We begin with overview of the literature discussing the problems of disclosure in financial reports to develop our hypotheses. Then, we describe the research design including the Polish Corporate Disclosure Index (PCDI) structure. Next, in the empirical section, we employ panel regressions to identify the sign of estimated coefficients of parent companies characteristics after IFRS adoption. We discuss the implications of these results in the conclusion and suggest further research directions.

2. Literature review

Although differences in accounting rules across countries have diminished significantly in recent decade owing to the harmonisation efforts of the International Accounting Standards Committee/Board (IASC/IASB) and other organisations, according to Hope (2003a) there has not been a corresponding trend in the enforcement of accounting standards internationally. Holland (1998) argues that an overall aim of a firm's disclosure activities is to increase investor understanding of the firm's performance and future outlook, and to ensure that participants interpret firm-provided information in an informed and similar manner. Companies listed on international markets disclose more than those whose stocks are only available on their domestic stock of exchanges. Meek *et al.* (1995) analysed determinants of voluntary disclosures, based on a list of 85 items of strategic, non-financial and financial information published by 226 selected public companies from USA, Great Britain and Continental Europe (France, Germany, Netherlands) in their financial reports of 1989. The resultant disclosure index represented a ratio of information disclosed to the total number of items listed. In order to examine how various factors affect the extent of disclosure, four regressions were estimated depending on the category of information: strategic, financial and non-financial information, and the general level of information disclosed which comprised the three previous groups. As a result of the analysis, the significance of dependent variables was found to vary depending on the type of information. The most significant variables explaining the extent of voluntary disclosure included the company size, the region of its origin and whether the company is solely listed on its domestic stock exchange, or on foreign one, as well. Major companies clearly tend to disclose more information. Firms from Continental Europe seem to provide more information than those in Great Britain or USA, and those listed on international markets disclose more than firms whose stocks are only available on their domestic stock of exchanges (Meek *et al.*, 1995).

Based on annual financial statements of 135 Swiss listed companies for the year 1991, Raffournier (1995) developed a disclosure index for items specified in the Fourth and Seventh European Union’s Directives and used it as a basis for examining disclosure determinants. The author obtained a considerably positive correlation between the disclosure index and the company size and scale of its international operations. Michaďlesco (1999) examined disclosure determinants based on the data of 100 French companies in the years 1991-1995. The extent of disclosure was measured by means of an index based on scoring sheets containing a list of disclosures with an adequate quality of information. The model proved that the domestic status and the fact of being additionally listed on foreign markets are the only variables having any statistically valid, positive effect on the disclosure index. The positive correlation seems obvious, considering the need to meet additional information requirements in order to obtain a positive reputation on the Paris stock exchange or to be able to be listed on a foreign market. The analysis covers major public companies, mainly due to the availability of reports needed for developing the disclosure index.

The analysis of disclosure measured by the Securities and Futures Institute ranking was conducted on a sample of 1028 observations from the years 2003 and 2004 of companies listed on the Taiwan Stock Exchange (Huang *et al.*, 2011). A logit model was adopted to accommodate the binary rating of transparency. The extent of control over companies was measured by binary variables reflecting the ownership structure in terms of supervisory board members, managers, government institutions and foreign investors participation and the proportion of independent members in the company management and in its supervisory board. Huang *et al.* (2011) took note of the electronics & IT industry with regard to its high share of venture capital financing as a factor potentially enhancing the extent of disclosure. The results suggest that the strict control of company activities reflected by the independence of members of its supervisory bodies and by the audit body size, has a positive impact on the information transparency. Financial leverage and the share of government institutions and foreign investors in the ownership structure had little significant effect on the level of transparency. Furthermore, the company scale was re-confirmed to influence the extent of disclosure and information transparency positively. Hope (2003a) documents that firm-level disclosures are positively related to forecast accuracy. Firms with higher information costs are less likely to issue public earnings forecasts (Bamber *et al.*, 2010).

Financial statements in some countries, including Poland, have historically been prepared to satisfy legal (often tax) requirements, rather than to inform investors. Reforms of accounting based on IAS/IFRS, that were recommended by the World Bank or the International Monetary Fund, manifested indeed in the 1990s in most of Central and South-Eastern European countries, but with variations in terms of how the reform was made, for what kinds of companies, and on which time horizon (Albu & Albu, 2014). Emerging economies embraced in many cases more rapidly than developed countries the international standards, because they expected benefits at the macro-economic level (Brown, 2011) due to the impact on equity markets. With the Accounting Act of 2000, Polish accounting shifted from tax-oriented system toward becoming a tool for decision making by implementing a “substance over form” principle (Dobija and Klimczak, 2010). The contemporary accounting and tax laws are two separate entities in the Polish legal system (Grabinski *et al.*, 2014) at least for limited liability companies and joint-stock companies (legal persons) that are obligated to bookkeeping without exceptions (Accounting Act). In 2001 a value of conformity of the national system to IFRS was 58 for Poland and 40 for Turkey, while the score was computed for 111 accounting items (Chen *et al.*, 2014). In Poland, Slovenia and Turkey starting with 2005, in Romania beginning from 2007, in Ukraine since 2012, IFRS as adopted by the EU were mandatory for consolidated financial statements of publicly traded companies (capital groups) (Albu & Albu, 2014). In 2005 in Poland only 8.3% of active enterprises did bookkeeping, including 90.3% of legal persons and only 1.57% of natural persons. Conversely, the rest conducted various form of registers for tax purpose. Most enterprises (61%) kept ledgers of revenue and expense and computed solely taxable income, recording revenue (sales of goods and services and other revenue items) and costs (categorised into trade goods and materials at purchasing prices, purchase-related costs and payroll-related expenses – in cash and in kind – and other cost items) and computing taxable income. The rest entities recorded only revenue for tax purpose (17%) or did not record any revenue nor cost (14%) due to pay tax in amount calculated by tax offices according to tax card (CSO, 2007; Białek-Jaworska & Gabryelczyk, 2015). Hope (2003b) showed that common law systems are associated with greater disclosure levels, whereas environments with a high ownership concentration have low disclosure levels. In countries that offer more choice among accounting methods firms disclose significantly more about their chosen accounting policies.

3. Hypotheses development

Understanding the factors that determine company disclosure decisions are extremely important in the context of financial reporting standards harmonisation. It may be very beneficial for the bodies designing the reporting standards and controlling the observance thereof (audit firms) to explore disclosure determinants for guidance, focussing their activities intended to support businesses in reporting their financial standing in a trustworthy manner. Furthermore, this will enable them to identify the types of companies whose financial statements may potentially contain many frequent untruths or omissions.

Since 2005, EU publicly traded companies have been required to prepare their consolidated financial statements in accordance with IFRS. The implementation of this requirement was a very important step towards the harmonisation of reporting standards, resulting in significant changes in reporting practices in Poland and Europe. Therefore, the paper analyses the factors affecting the extent of Polish public company information disclosure in the first years following the introduction of compulsory reporting under IFRS. As such, factors affecting the extent of disclosed information in this paper were analysed in the initial years in which consolidated financial statements of Polish listed companies were supposedly obligatorily to be drafted according to IFRS. Hence, a set of variables has been selected and research hypotheses advanced with this context as well as the literature overview, presented earlier in this paper, taken into consideration.

3.1. Profitability

The main focus here is on how ROE influences the extent of information disclosure. It seems that information asymmetry which characterises financial markets would strongly motivate well-managed companies to distinguish themselves from less profitable businesses and thereby raise capital on the best possible terms. According to the negative selection model described by Akerlof (1970), if more and less profitable companies (lemons) are treated by investors in exactly the same way, i.e. their shares are priced at a similar, averaged level, a situation may occur whereby more profitable companies will not be able to obtain satisfactory financing from the issue of shares and they will fall from the market. Increasing the extent of a firm's financial information disclosure and presenting the financial standing in a more specific manner is one way to raise its profile.

Furthermore, from the perspective of compulsory implementation of IFRS in Poland, these problems seem even more complex to analyse. The Polish Accounting Act provides a relatively restrictive specification of the information companies are required to disclose, whereas in case of IFRS a certain freedom is given in this respect, and, consequently, the extent of especially voluntary disclosure will be much dependent on company management. The requirement of preparing consolidated reports, according to IFRS, has therefore been a significant change for Polish corporations and, in a way, they have been given a choice as to what information they wish to publish. The higher level of disclosure which accompanies higher profitability seems to facilitate building an image of a proficient manager, thereby strengthening their position within the company, often reflected in their remuneration.

Mendes-da-Silva and Christensen (2004) noted that the implications of the theory and the results obtained in earlier studies on the relationship between disclosure of financial information and corporate performance constitute a mix. Investors generally perceive the absence of voluntary information disclosure as an indicator of "more news" about a firm. Thus, a better-performing company management would have an additional incentive to voluntarily disclose information (Lev & Penman, 1990; Lang & Lundholm, 1993; Clarkson *et al.*, 1994). Singhvi and Desai (1971) found a positive relationship between profitability indices and the quality of disclosure. Thus, a manager could be encouraged to release information when the rates of return are high as an indication of the high quality of administration. Conversely, Huang *et al.* (2011) detected a significant negative correlation between ROE and financial disclosure for Taiwanese firms. Bova and Pereira (2012) noticed that the positive relation between profitability and disclosure may not hold true for the other modes of financial reporting which largely involve discretionary decisions on management board. Despite the strong substantiation behind the positive impact of profitability on the extent of information disclosure in the theory of economics, empirical verifications do not provide any unambiguous results. Moreover, findings confirmed negative relation between industry profitability and voluntary disclosure (Hayes & Lundholm, 1996; Huang & Li, 2014; Günther, 2015). Furthermore, Günther (2015) showed that this negative relation is more pronounced for industry leaders. Vazquez and Nuñez-Nickel (2015) found an inverted U-shape relationship between corporate disclosure and a firm's abnormal profitability, which is suggestive of firms being reluctant to disclose when they are underperforming (outperforming) their rivals because of the fear of unveiling agency conflicts (raising proprietary costs). Specifically, a firm might be reluctant to disclose if it fears that rivals are able to use the released information to erode its relative competitive position (proprietary costs increase). This fear is increasing in the level of abnormal profits that the firm is earning in the industry, because those firms that are outperforming their competitors have more to hide from rivals than poor performers (Berger & Hann, 2007).

Because the Warsaw Stock Exchange is a young and relatively small market, that reacts in its pricing of corporate future earnings with a lag (Klimczak, 2011), we could expect results using Polish data to be different from results in the previous research for developed economies. Poland began its transition to a market economy in 1989. The Warsaw Stock Exchange was established in 1991 with only 9 companies, but by the year 2007 this number reached 326 in 2007 (*Table 1*). One reason for our expectation of the negative correlation between the profitability and mandatory or voluntary information disclosure by Polish companies, this may be that at the time after accession to the European Union and the adoption of IFRS, these earnings were highly uncertain. Another reason may be that the market does not efficiently price information (Klimczak, 2011) and companies behave in accordance with the signaling theory. Therefore, the following hypothesis can be advanced:

> H1: *The extent and quality of mandatory and voluntary information disclosure by Polish companies (in financial statements) decreases with profitability (measured by ROE).*

Results received by Klimczak (2011) indicate that the average impact of IFRS adoption was relatively small in Poland. Easy access to information and efficient processing of this information can serve as a substitute for more informative accounting standards and consequently it can result in lower market reaction. So we could expect that the management reports disclosures play more important role according to the impression management theory.

H1A: *The extent of information disclosure by managers (in management reports) increases with profitability (measured by ROE).*

3.2. Leverage

External financing appears in most studies examining determinants of the disclosure level referred to above, except in the analysis of German corporations. The quality of financial statements transparency may help solve the problem of information asymmetry between shareholders, managers and creditors.

Companies using external financing should feel motivated to reveal more in order to meet their creditors' information needs and to enhance trust. An approach like this reduces the cost of monitoring, which often affects the expenditure a company has to make to obtain financing. A creditor, when forced to bear a higher cost of monitoring the debtor's financial standing, will charge a higher interest rate on the loan or – in the best scenario – will expect the debtor to pay the extra cost of drawing up a complex contract, for example.

In Poland there is a negative correlation between profitability (the self-financing potential measured by operating cash flow) and debt-based financing for large firms, according to the pecking order theory, but a positive one for small and medium size companies, which supports the trade-off theory and the transaction costs theory. The negative correlation between quick ratio and leverage, regardless of the company size indicates that Polish firms' preferences in respect of debt financing follow the pecking order theory (Nehrebecka & Białek-Jaworska, 2015).

It could explain our motivation for carrying out this study on determinants of disclosures in Polish settings where large companies behave in accordance with pecking order theory. That is, we would expect results using Polish data to be different from results in previous research. We would receive negative correlation between use of external source of finance and information disclosure resulted from relational banking connections with creditors. However, we stated the following hypothesis:

H2: *The extent of information disclosure by Polish companies increases with external financing.*

Similarly, as in analyses carried out by Raffournier (1995) and Michaďlesco (1999), external financing was measured by a leverage factor equalling the debt to assets ratio. In this case, the debt item comprised financial liabilities to creditors, as well as debt securities issued.

3.3. Company size

Company size is another important determinant of information disclosure. On the one hand, it is relatively less costly to publish detailed data for major firms, as they usually prepare such reports for their internal purposes. Large companies are expected to have higher agency costs thus they are expected to disclose more information so as to decrease such costs. They generally have more resources to supply more information. So far the results support this conjecture since they find positive relation between size of the firm and the level of disclosure (Wallace *et al.*, 1994; Meek *et al.*, 1995; Zarzeski, 1996; Inchausti, 1997; Ahmed & Courtis, 1999; Hope, 2003b; Archambault & Archambault, 2003). On the other hand small firms may avoid disclosing information in order not to lose their competitive edge. Annual reports are a source of information for the competition, therefore smaller businesses will be reluctant to reveal all of their activities, fearing that this might compromise their competitive position (Wallace *et al.*, 1994). Therefore it is expected that

> H3: *The bigger the company, the more information it will disclose in its financial statements.*

Similarly Raffournier's (1995) study of Swiss companies, the sales logarithm was used for the Polish market analysis as a variable approximating the company size.

3.4. Ownership structure

Based on the literature overview (Raffournier, 1995; Michaďlesco, 1999; Huang *et al.*, 2011; Marston & Polei, 2004) it can be stated that ownership structure is also an important factor influencing the extent of corporate information disclosure. The approach presented in the analysis of the information practice of Polish companies is closer to studies of the situation in the European countries where special attention is paid to the degree of shareholding dispersion in the ownership structure. The frequent conflict of interests between management and shareholder (e.g. when management seeks to maximise profit, resulting in overly risky decisions) leads to a temptation of malpractice, thereby necessitating additional cost of monitoring the management action. The tendency to make decisions contrary to shareholder interest is stronger when the company is not controlled by a small group of major owners. Managers in companies with a dispersed ownership structure will be more motivated to disclose more information, as this will add transparency to their behaviour, thereby giving the shareholders a sense of control over the board's actions. Therefore, it is expected that:

H4: *The more dispersed the shareholding structure within the Polish companies (measured by the share of unknown shareholders), the greater the extent of information disclosure in reporting.*

3.5. "Big Four" auditors

The quality of control exercised over companies – mainly over that of management – is the last determinant to be analysed in terms of its impact on the situation in Polish corporations. This issue was discussed in studies of Swiss and Taiwanese businesses, where the audit firm size was used as a measure of control quality. Auditors play a particularly important role in the development of corporate disclosure policy. Major, renowned audit firms will be capable of persuading the auditee to increase the extent of disclosure, since they have stricter requirements concerning the quality of reporting. If the report does not meet these criteria, the auditor will be unable to issue a positive assessment to be used as an indicator of the quality of the report data, thereby building investor trust. The "Big Four" audit firms – Ernst&Young, KPMG, PricewaterhouseCoopers, and Deloitte – are regarded as the largest and frequently the most revered, therefore ensuring the highest quality of information. Furthermore, the role of auditors is especially important in the context of compulsory reporting under IFRS, which was introduced in 2005. In case of any doubt concerning the extent of information disclosure under IFRS, a chartered auditor might suggest modification of the final report. Hence, the following hypothesis has been advanced:

H5: *The extent of corporate disclosure by companies audited by the "Big Four" will be greater than that by companies examined by smaller audit firms.*

4. Research design

In the absence of an objective measure of the extent of disclosures in Polish company reports, we used the Polish Corporate Disclosure Index (PCDI), designed by the research team led by Świderska (2010), for 36 non-financial companies and 11 banks. The construction of the index was based both on the actual degree of mandatory disclosures (PCDI_1), as well as on the proposed disclosures (in the case of voluntary data) in the financial statements (PCDI_2), the management reports (PCDI_3) and the corporate social responsibility reports (PCDI_4).

$$PCDI = PCDI\_1 + PCDI\_2 + PCDI\_3 + PCDI\_4$$

where:

PCDI – the Polish Corporate Disclosure Index,

PCDI_1 – the PCDI index component in scope and quality of mandatory financial disclosures component,

PCDI_2 – the PCDI index component in extent and quality of voluntary financial disclosures,
PCDI_3 – the PCDI index component in level of disclosures in the management report,
PCDI_4 – the PCDI index component of corporate social responsibility disclosures.

The correlation among the PCDI index and its 4 components and among the 4 components is statistically significant and positive, the strongest between the PCDI index and its component of mandatory disclosures (*Table 6*). The coefficient of a correlation between the PCDI index and the management report disclosures (PCD_3) is bigger than between the PCDI index and its section of voluntary disclosures (PCDI_2). The weakest correlation is between the PCDI index and its part of corporate social responsibility disclosures and between the other segments of the PCDI index and the corporate social responsibility disclosures component, especially the voluntary disclosures part. The PCDI index includes areas such as general information (name, address, fiscal year-end), the completeness and quality of the accounting policy, with particular emphasis on those areas where accounting gives a choice regarding the valuation or disclosure; goodwill and other intangibles; risk management; fair value; hedge accounting; leasing; product and geographic segments and reserves. Each of the issues analysed in creating the PCDI index was evaluated by an expert, on a scale of 0 (no information or the issue has not occurred) to 4 (the highest possible level of disclosure). Based on whether a firm does not have the arrangement, the PCDI index varies up to 5 points, for maximum possible disclosure for the issue scored with a sheet containing the maximum number of questions. For instance variation of the PCDI index as a result of the lack of disclosure in terms of hedge accounting due to non-compliance its by the company in general ranges from 0.8 to 3 percentage points. The extent of disclosure of general data and the business environment, financial and non-financial, prospective data, information about management and the ownership structure, as well as information on intangible assets, were evaluated as part of the management statement. In Poland, the standards for the content and preparation of the management report sets out the Accounting Act and the Regulation of the Minister of Finance. Analysis of the corporate social responsibility disclosure has been made in terms of a voluntary disclosure of non-financial activities and results of the economic, social and environmental activity (see Appendix A).

Factors determining information disclosure in companies have been analysed in a breakdown by nature of disclosure and type of reports: mandatory or voluntary disclosure in the financial statement or information including in the management report or the corporate social responsibility report. The following panel model was used for analysing the impact of various company characteristics on the scope of disclosure:

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \beta_2 X_{2,it} + \beta_3 X_{3,it} + \beta_4 X_{4,it} + \beta_5 D_{1,it} + u_i + \varepsilon_{it}$$

where:

Y – the rescaled PCDI index (in %) or the mandatory disclosure index (PCDI_1) or voluntary disclosure index (PCDI_2) or management report disclosure index (PCDI_3) or corporate social responsibility disclosure index (PCDI_4),

β_i – constant or coefficients of variables,

u_i – units' individual characteristics, non-observable, but constant over time,

ε_{it} – purely random error,

X_1 – profitability,

X_2 – company size,

X_3 – leverage,

X_4 – shareholding dispersion,

D_1 – the auditor category.

Table 4 describes variables definitions, constructions and sources of data. While we present the descriptive statistics of the variables for our sample in the Table 5.

5. Data and sample

The sample comprised 36 parent companies listed on the Warsaw Stock Exchange, for which consolidated financial reports following the IFRS were available for the years 2005-2007 (i.e. the first three years since the Polish public companies have been required to use IFRS in their consolidated accounts). The analysis cover data of all nonfinancial companies for which the team of researchers led by Świderska (2010) developed the PCDI index (in total 36 firms). The companies in the research sample represented the chemical industry (13 firms), media (7), food & beverage (12) and telecommunications (4), i.e. the sectors which are relevant in terms of the interests of households and are characterised by a relatively high share of intangible assets (Table 1). Due to limitations of our study resulting from the use of the PCDI index, it should be noted that this is a *non-random* sample and is therefore *non-representative*. Consequently, if any valid statistical conclusions are to be drawn, the results should be interpreted in the context of the analysed companies only. In the initial years following the implementation of IFRS, the mean value of PCDI for the analysed companies did not exceed 37.06 – the average level of disclosure (determined with an assumption that all questions used in the disclosure extent survey were scored 2 on a scale of 0 to 4, taking into account adopted by the Świderska (2010) weights for individual components of the PCDI index).

Table 1. Research sample characteristics and composition

Numbers of companies by different criteria		2005	2006	2007
companies and institutions listed on the WSE including:		275	308	326
banks		12	12	13
financial companies - non-adopters IFRS		11	10	12
insurance companies adopted IFRS		7	12	11
non-financial companies		**245**	**274**	**290**
including:	companies - non-adopters IFRS	119	115	94
	companies adopted IFRS	**126**	**159**	**196**
	including: companies prepared only individual reports	363	332	248
	capital groups prepared consolidated reports	**50**	**81**	**165**
sample companies analysed in this study		36	36	36
percentage of market coverage by the research sample		72%	44%	22%
	including the chemical industry	13	13	13
	food & beverage	12	12	12
	media industry	7	7	7
	telecommunications	4	4	4

In 2005, the lowest level of disclosure was 14.63, i.e. well below the threshold (meaning a poor quality of disclosure), in 2006 the lowest PCDI – 18.53 – was close to the threshold level, but did not exceed it, this only happening as late as 2007. In the period 2005-2007, the highest PCDI values exceeded 37.06, which implies an average degree of disclosure in the analysed sample, but the value representing a respectable degree of disclosure was achieved in 2007 (55.60, with all questions scoring 3 on a scale of 0 to 4, taking into account adopted by the Świderska (2010) weights for individual components of the index). In all years covered by the analysis, PKN Orlen (oil sector) achieved the highest value of the PCDI index (49.24 in 2005, 50.69 in 2006 and 58.63 in 2007). The company has been using IFRS since 2002. T

he basic statistics of the sample companies show that the level of mandatory disclosure grew during the first years following the compulsory implementation of IFRS. We used the Polish Corporate Disclosure Index as a dependent variable in our analysis of disclosure determinants in this paper. To make the results of the analysis more legible (clear and easier to interpret), we rescaled the PCDI values by the maximum possible value of the PCDI index, calculated taking into account adopted by the Świderska (2010) weights for individual components of the PCDI index. The maximum value of the PCDI index equals 74.13, that means the maximum level of disclosure. The basic descriptive statistics of the sample companies' PCDI show that the level of disclosure grew during the first years following the compulsory implementation of IFRS (Table 2). Figure 1 shows the PCDI's variation.

Table 2. Descriptive statistics of the sample companies' disclosure index PCDI

	Mean	Median	Min	Max	Standard Deviation	Variation Coefficient
2005	41.38	39.93	19.74	66.42	12.04	**29%**
2006	45.24	43.97	24.79	68.38	9.94	**22%**
2007	48.74	45.64	31.12	79.09	10.97	**23%**

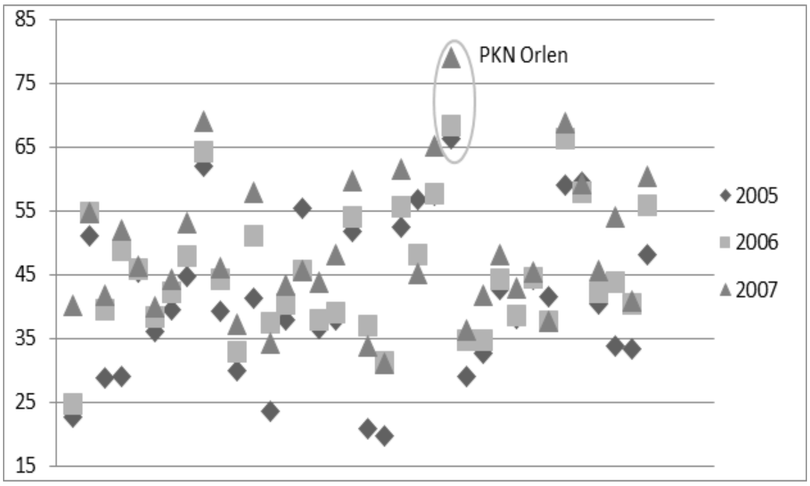

Figure 1. The sample companies' PCDI index variation (%) in 2005-2007

Finally, the disclosure measure that we used in our models had been estimated in percentages, with 100 indicated the maximum level of disclosures for real value of the PCDI index equals 74.13. Table 3 presents a complete description of variables used in the empirical analysis. The values of exogenous variables: profitability (return on equity ratio), the financial leverage estimated by the debt to assets ratio and the company size measured by the logarithm of sales were obtained for the sample companies from the Notoria data base based on their consolidated annual financial statements for the years 2005-2007. While the shareholding dispersion (measured by the share of unknown shareholders in the ownership structure) and the dummy variable indicating the auditor being a member of the “Big Four” were manually collected from management reports and chartered auditor’s opinions. Before panel analysis, the descriptive statistics of variables has been determined (Table 4).

Table 3. Variables definitions and data sources

Variable name	Variable definition	Data source
PCDI	Polish Corporate Disclosure Index	Świderska (2010)
PCDI_1	a part of mandatory financial disclosures	
PCDI_2	a part of voluntary financial disclosures of PCDI	
PCDI_3	a part of management report disclosure of PCDI	
PCDI_4	corporate social responsibility disclosure	
Profitability	measured by return on equity (ROE)	consolidated annual financial reports, Notoria data base
Firm size	measured by logarithm of sales	
Leverage	equals to the debt to assets ratio	
Shareholding dispersion	ownership structure measured by the percentage of unknown shareholders in the ownership	manually collected from management reports
Auditor category	the dummy variable indicating the auditor being a member of the “Big Four”, takes value 1 if a “Big Four” auditor and 0 in any other case	manually collected from chartered auditor’s opinions

Table 4. Variables descriptive statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
PCDI	108	0.4512194	0.1147442	0.1974	0.7909
PCDI_1	108	27.27009	7.254341	10.93	47.26
PCDI_2	108	4.186482	1.599415	0.82	8.43
PCDI_3	108	1.700926	0.7447744	0	3.24
PCDI_4	108	0.2862963	0.1576379	0	0.89
Profitability ROE	108	0.094067	0.4913213	-4.481321	0.7655
Company size	108	19.81837	2.024148	13.57598	24.87891
Leverage	108	0.4419018	0.172115	0.0743417	0.8383092
Shareholding dispersion	108	0.4006655	0.2066544	1.00e-05	0.9327
Auditor category	108	0.3611111	0.482562	0	1

The correlation between explanatory variables has been estimated. Detailed outcomes of Spearman’s ranks correlation of the explanatory and explained variables (the PCDI index and its components) are presented in Table 5.

Table 5. Correlation of the explanatory variables and explained variables - the PCDI index and its components

	PCDI	PCDI_1	PCDI_2	PCDI_3	PCDI_4	ROE	Company size	Leverage	Shareholding dispersion	Auditor category
PCDI	1.000									
PCDI_1	0.978***	1.000								
PCDI_2	0.578***	0.414***	1.000							
PCDI_3	0.627***	0.573***	0.449***	1.000						
PCDI_4	0.511***	0.417***	0.323***	0.393***	1.000					
ROE	0.144	0.141	0.017	0.118	0.210**	1.000				
Company size	0.732***	0.686***	0.530***	0.641***	0.395***	0.29***	1.000			
Leverage	-0.067	-0.088	0.126	0.094	-0.206**	-0.122	0.087	1.000		
Shareholding dispersion	-0.112	-0.132	0.068	-0.163	-0.099	-0.278***	-0.277***	-0.257***	1.000	
Auditor category	0.680***	0.669***	0.409***	0.465***	0.261***	0.0872	0.607***	-0.104	-0.039	1.000

Note: Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

6. Analysis and results

Tables 6-10 present the findings of: PCDI total disclosure index, mandatory disclosures, voluntary disclosures, management report disclosures and corporate social responsibility disclosures models estimation by means of the random effects estimator (RE) and the fixed effects estimator (FE) and results of tests that we conducted to choose the most appropriate estimator for our sample panel analyses. In order to determine which of the estimators: fixed effects or random effects estimator, is superior at estimating the values of parameters in this exercise, we applied the test of overidentifying restrictions (Sargan-Hansen test). The Hausman test often used for evaluating estimators for panel models, could not be applied in those cases (except voluntary information disclosure model in Table 8), as the assumptions for the method test are not satisfied here. Similarly as in the Hausman test, the possibility of a correct estimation of the model by means of the random effects estimator is assumed as a null hypothesis for the Sargan-Hansen test.

Table 6. Determinants of Information Disclosures Model estimation results, based on PCDI index (in total)

Variable	Coefficients			
	RE	FE	AMGLS1	AMGLS2
Profitability	-0.0295348** (0.01225)	-0.0587553*** (0.01453)	-0.0240677** (0.00913)	-0.0251048** (0.0111701)
Company size	0.0399581*** (0.00613)	0.0886087*** (0.01403)	0.0409922*** (0.00483)	0.0428274*** (0.0048531)

Variable	Coefficients			
	RE	FE	AMGLS1	AMGLS2
Leverage	-0.0064388 (0.04941)	0.0837837 (0.06294)	0.0002006 (0.02549)	-
Shareholding dispersion	0.0212616 (0.04170)	-0.0367418 (0.05525)	0.0083167 (0.02583)	-
Auditor category	0.0559708** (0.02183)	0.0310793 (0.02873)	0.0372689** (0.01647)	0.0296591* (0.01520)
Constant	-0.3637913 (0.11989)	-1.33286*** (0.27431)	-0.374609*** (0.09303)	-0.4037838* (0.09361)
Test of total insignificance of variables in the model	χ^2=93.43 p-value=0.000	F=9.24 p-value=0.000	χ^2=156.06 p-value=0.000	χ^2=130.92 p-value=0.000
Wald Test for significance of individual effects in FE	-	F=5.88 p-value=0.000	-	-
Sargan-Hansen Test	χ^2=23.689 p-value=0.0002		-	-
Wooldridge Test for autocorrelation	-	F=23.247 p-value=0.000	-	-
Modified Wald heteroscedacity test	-	χ^2=480000 p-value=0.000	-	-

Note: Significant at * 0.1, ** 0.05, *** 0.01. Standard deviations of coefficients are in brackets.

Based on the results of disclosure model estimation by means of the random effects estimator, we confirm the expected direction of correlations in the case of the company size, the shareholding dispersion (measured by share of unknown shareholders in the ownership structure), and the auditor category (except for disclosure in management reports as result of the insignificance of the auditor category variable presented in Table 9). Because the management report is not subject to audit by the auditor, this negative correlation is not surprising as a management report is prepared only by management board.

On the other hand, the negative estimation of leverage (measured by debt to assets ratio) coefficient indicate a correlation contrary to what was expected for information disclosure in total (Table 6). Yet when confine ourselves to a specific range of information, we noticed that we positively verified the hypothesis no. 2. for voluntary information disclosure (Table 8) and corporate social responsibility disclosure (Table 10). It should be noted however, that while independent variables are significant in total, only three of the independent variables are showing a statistically significant impact on the dependent variable in the case of total disclosures: profitability (ROE), company size and the auditor category (Table 6).

Table 7. Determinants of mandatory information disclosure model estimation results, based on PCDI_1

Variable	Coefficients			
	RE	**FE**	**AMGLS1**	**AMGLS2**
Profitability	-1.892536** (0.7814996)	-3.874839*** (0.9124489)	-1.825616*** (0.5682104)	-1.702823*** (0.6491381)
Company size	2.473816*** (0.4175426)	5.736527*** (0.8810683)	3.310747*** (0.3419168)	2.827606*** (0.192733)
Leverage	-1.660199 (3.258976)	2.764222 (3.951456)	1.618519 (1.131003)	-3.107033* (1.762108)
Shareholding dispersion	0.4065096 (2.750701)	-2.838261 (3.468596)	1.229309 (1.478694)	1.870704 (1.645391)
Auditor category	3.573438** (1.446484)	2.206036 (1.803746)	0.9543829 (0.9295617)	-
Constant	-22.29853*** (8.159616)	-86.93499*** (17.22222)	-39.50941*** (6.37918)	-28.15026*** (4.095885)
Test of total insignificance of variables in the model	χ^2=76.38 p-value=0.000	F=9.82 p-value=0.000	χ^2= 123.92 p-value=0.000	χ^2= 229.77 p-value=0.000
Wald Test for significance of individual effects in FE	-	F= 7.07 p-value=0.000	-	-
Sargan-Hansen Test	χ^2= 23.047 p-value=0.0003		-	-
Wooldridge Test for autocorrelation	-	F= 20.592 p-value=0.0001	-	-
Modified Wald heteroscedacity test	-	χ^2=4600000 p-value=0.000	-	-

Note: Significant at * 0.1, ** 0.05, *** 0.01. Standard deviations of coefficients are in brackets.

Moreover, it is worth noting that in the case of voluntary disclosure all independent variables are showing a statistically significant impact on the dependent variable and confirming hypotheses (Table 8). The results obtained using the fixed effect estimator allow for confirmation of the expected direction of correlations in case of the company size, the financial leverage ratio and the auditor category (Table 6). The share of unknown shareholders in the ownership structure seems to show a correlation which is opposite to the expected one. It should be noted that profiability (ROE) and the company size indicate a statistically significant impact on the disclosure index, the constant being of some significance too. Based on the test of overidentifying restrictions (Sargan-Hansen test in Table 6) we showed that the null hypothesis should be rejected and, in consequence, we chose the fixed effects estimator for model estimation in the further analysis.

Table 8. Determinants of voluntary information disclosure model estimation results, based on PCDI_2

Variable	Coefficients		
	RE	FE	GLS
Profitability	-0.4289655* (0.2237817)	-0.4070096 (0.2899029)	-0.39672** (0.1699088)
Company size	0.3637587*** (0.1093449)	0.2538109 (0.2799326)	0.5111586*** (0.0484167)
Leverage	1.817638** (0.8909261)	2.676022** (1.255455)	1.105989*** (0.4041481)
Shareholding dispersion	1.254285* (0.7519958)	0.5657289 (0.5730854)	1.239201*** (0.2812528)
Auditor category	0.595951# (0.3930325)	0.8511044# (0.5730854)	0.4896273*** (0.1447134)
Constant	-4.503243** (2.13953)	-2.521903 (5.471837)	-7.005471*** (0.8459624)
Test to the total insignificance of variables in the model	χ^2= 32.88 p-value=0.000	F=2.11 p-value=0.0753	χ^2= 307.80 p-value=0.000
Wald Test for significance of individual effects in FE	-	F= 4.67 p-value=0.000	-
Hausman Test	χ^2= 5.68 p-value=0.3391		
Wooldridge Test for autocorrelation	-	F= 6.401 p-value= 0.0161	-
Modified Wald heteroscedacity test	-	χ^2=63000000 p-value=0.000	-

Note: Significant at * 0.1, ** 0.05, *** 0.01. Standard deviations of coefficients are in brackets.

For the sake of correct statistical reasoning, we verified the assumptions regarding the random component's autocorrelation and homoscedacity. Based on the Wooldridge test for autocorrelation, we rejected the no-correlation thesis at 1% significance level. Therefore, we confirmed the presence of the first-order autocorrelation of random errors in the model. Furthermore, we conducted the modified Wald test and showed that the homoscedacity assumption appears not to be satisfied, either. At 1% significance level, we rejected the null hypothesis assuming homoscedacity of the random component. In case of a non-spherical random component, the estimator is inefficient in the model with fixed effects. Thus, in order to immunise the estimations of the model parameters against its heteroscedacity and autocorrelation, we used the Applicable Method of Generalised Least Squares (AMGLS), where the variance-covariance matrix is assumed to be unknown, therefore an estimated matrix is used. Tables 6 and 7 present the outcomes of regression analysis that we obtained using AMGLS and the final estimates that we obtained using Applicable Method of Generalised Least Squares after elimination of insignificant variables (AMGLS2), with the first order autocorrelation and heteroscedacity, in case of determinants of total disclosure model (Table 6) and mandatory information disclosure model (Table 7). Tables 8-10 show results of the final models estimates for voluntary information disclosure (Table 8), disclosure in management reports (Table 9) and corporate social responsibility disclosure (Table 10) that we obtained using Applicable Method of Generalised Least Squares, with heteroscedacity (GLS1, GSL2) (Tables 9-10).

Table 9. Results of model estimation of determinants influenced disclosure in management reports, based on PCDI_3

Variable	Coefficients			
	RE	**FE**	**GLS1**	**GLS2**
Profitability	0.0585353 (0.1243279)	-0.0645589 (0.1570835)	0.2008581* (0.1185912)	0.2270334** (0.1126961)
Company size	0.201884*** (0.0574187)	0.5367785*** (0.1516812)	0.1392832*** (0.0182706)	0.1417034*** (0.0071095)
Leverage	-0.5603818 (0.4785835)	0.5346711 (0.6802667)	-0.7428134*** (0.2152461)	-0.8189816*** (0.1862928)
Shareholding dispersion	0.0443376 (0.4042681)	-0.3744007 (0.5971395)	-0.1497116 (0.1421044)	-
Auditor category	-0.2604533 (0.2103502)	-0.7012892** (0.3105256)	0.0414579 (0.0955468)	-
Constant	-1.981671* (1.124757)	-8.764097*** (2.964908)	-0.6925222** (0.2870708)	-0.7738902*** (0.1664155)
Test of total insignificance of variables in the model	χ^2=18.41 p-value=0.0025	F=3.91 p-value=0.0036	χ^2= 339.76 p-value=0.000	χ^2= 399.02 p-value=0.000
Wald Test for significance of individual effects in FE	-	F= 4.04 p-value=0.000	-	-
Sargan-Hansen Test	χ^2= 14.598 p-value=0.0122		-	-
Wooldridge Test for autocorrelation	-	F= 7.493 p-value=0.0097	-	-
Modified Wald heteroscedacity test	-	χ^2=180000 p-value=0.000	-	-

Note: Significant at * 0.1, ** 0.05, *** 0.01. Standard deviations of coefficients are in brackets.

Summarizing, we showed that the extent and quality of mandatory and voluntary information disclosure by companies in Poland (in financial statements) decreases with profitability (measured by ROE). This findings support the H1 hypothesis. Besides, we also found that the more profitable companies in the sample analysed, the smaller the extent of information disclosure (in total). However, we confirmed that the extent of information disclosure by managers (in management reports) increases with profitability (measured by ROE). This result gives no reason to reject the H1A hypothesis. This shows that the analysed parent company managements like to show off good news and consequently they behave in accordance with *impression management theory*. We proved that the bigger the company, the more information it will disclose in its financial statements as at 1% significance level, the company size has a positive and statistically significant impact on the disclosure level in all area. Our results support the H3hypothesis.

Table 10. Results of model estimation of determinants influenced corporate social responsibility disclosure, based on PCDI_4

Variable	Coefficients			
	RE	FE	GLS1 panels(hetero)	GLS2 panels(hetero)
Profitability	-0.0252878 (0.0251158)	-	-0.0105422 (0.0138575)	
Company size	0.0466663*** (0.0095668)	-	0.0374578*** (0.0028293)	0.0363905*** (0.0027888)
Leverage	0.0693107 (0.084399)	-	0.0171612 (0.0154576)	0.0216553* (0.0118018)
Shareholding dispersion	-0.0048841 (0.0717537)	-	-0.0021794 (0.0212726)	-
Auditor category	0.0266661 (0.0366903)	-	0.047289*** (0.0081182)	0.0482123*** (0.007457)
Constant	-0.674477*** (0.1882818)	-	-0.4917853*** (0.0555183)	-0.4743381*** (0.0543564)
Test of total insignificance of variables in the model	χ^2= 48.94 p-value=0.000	-	χ^2= 272.91 p-value=0.000	χ^2= 259.37 p-value=0.000
Wald Test for significance of individual effects in FE	-	F= 2.01 p-value=0.0072	-	-
Sargan-Hansen Test	χ^2= 5.619 p-value= 0.3451		-	-
Wooldridge Test for autocorrelation	-	F= 1.074 p-value=0.3071	-	-
Modified Wald heteroscedacity test	-	χ^2=25000000 p-value=0.000	-	-

Note: Significant at * 0.1, ** 0.05, *** 0.01. Standard deviations of coefficients are in brackets.

We conformed that financial statements auditing by the "Big Four" auditor positive influences the quality and extent of total information disclosure, at 10% significance level. This is in accordance with the H5 hypothesis. Moreover, it increases voluntary information and corporate social responsibility disclosure. The extent of corporate disclosure by companies audited by the "Big Four" is greater than that by companies examined by smaller audit firms. We showed that the extent of information disclosure by companies listed on the Warsaw Stock Exchange increases with external financing, but only in the area of voluntary information and corporate social responsibility disclosure. However, consider mandatory information and management reports disclosure, we noticed that the extent of information disclosure by companies analysed decreases with their leverage. Hence we reject the H2 hypothesis for total disclosure based on its insignificance and for mandatory and management reports disclosure as the result of negative impact of leverage. We found some evidence that supports this H2 hypothesis for voluntary and corporate social responsibility disclosures. Finally, we noticed that shareholding dispersion matters only for voluntary information disclosure, where the more dispersed the shareholding structure within the companies, the greater the extent of voluntary disclosure in reporting. This result supports the H4 hypothesis only in scope of voluntary disclosures. The constant in our models is of some significance too.

7. Conclusions

Considering the estimation findings presented in tables 6-10, two of the hypotheses formulated earlier should be rejected. The financial leverage and the shareholding dispersion do not have any statistically significant effect on the extent of corporate information disclosure (in total) within the research sample. Hence, the intention to satisfy creditors' information needs seem not to influence information disclosure decisions in non-financial companies, with the exception of disclosure in the area of voluntary information and corporate social responsibility. Similarly, as in our exercise for the PCDI disclosure index treated as whole, neither the Swiss nor the French analyses (Raffournier, 1995; Michaďlesco, 1999), confirmed the impact of the financial leverage on the extent of information disclosure in total. In France firms have high block holder concentration and high debt financing complemented by regulations that require better disclosure when debt levels are higher. There is low intent and capacity of major financiers to monitor external financial reporting quality (Rahman *et al.*, 2010).

Level of compliance with IFRS is higher in Switzerland than in France (Street & Gray, 2001). It is worth to be noting that value added of our research are significant findings of the positive impact of leverage on voluntary information disclosure and corporate social responsibility disclosure, as well. In contrary to Raffournier (1995) and Michaďlesco (1999), we noticed that the public companies (included in the sample) aim to increase the dispersed shareholders' sense of control by increasing the extent of voluntary disclosure. Given the similarities of institutional features of the Central and South-Eastern European countries, the results are likely to contribute to strengthening the protection of investors in the capital markets of emerging economies.

The exercise results supported the hypothesis regarding the impact of company size or the audit firm category on the extent of information disclosure. The logarithm of sales approximating company size has a positive, statistically significant effect on the disclosure index. Attention should be given to the fact that major companies have larger financial and accounting departments as a rule, as well as better qualified staff and these factors may have a positive impact on the extent of information disclosure. Furthermore, preparing detailed reports is less costly for major companies, as they typically collect such data for their internal purposes, regardless. It should also be noted that smaller companies are less motivated to reveal their activities, fearing that the competition might take advantage of such information. These findings are consistent with the agency theory and the conclusions drawn by other researchers (Berger & Hann, 2007; Vazquez & Nuñez-Nickel, 2015). The positive correlation between company size and the scope of disclosure was confirmed by Meek *et al.* (1995), Huang *et al.* (2011), Larran and Giner (2002), Marston and Polei (2004), as well as Raffournier (1995), who approximated this determinant by the logarithm of sales, similarly as we ourselves.

Furthermore, the findings shows that the average disclosure index was by 2.96 percentage points higher among companies audited by the “Big Four” firms as compared with companies audited by other providers of such services. This supports the thesis presented earlier. With the strict quality requirements imposed by the “Big Four” firms on financial reporting, the scope of information disclosed there is greater. Besides, it should be noted that the analysed period covered the first three years following the introduction of compulsory reporting under IFRS for public companies. Therefore, the role of an audit firm might be even more significant in disclosure practices, also in other emerging economies. The renowned “Big Four”, with their better trained staff and experience in the application of IFRS could provide more effective support to their customers, as far as disclosure required by the standards was concerned.

The results of the estimation show that the company profitability measured by ROE has a negative statistically significant impact on the extent of corporate information disclosure in total and in the scope of mandatory and voluntary information disclosure, as well. These findings correspond with the conclusions drawn by Huang *et al.* (2011) – the authors demonstrated a negative impact of ROE on the transparency of Taiwanese companies. However, we confirmed the positive correlation between profitability and information disclosed in management reports. Our findings support the impression management theory. In accordance with Gassen (2015) findings, investors, when analysing financial statements, focus largely on company bottom lines, mainly income, paying less attention to any other information. Hence, companies generating more profit will not find it necessary to disclose much information, since they are attractive to investors due to their financial performance. Managers, therefore, are less motivated to present a company’s standing, in the scope of mandatory and voluntary information disclosure in financial statements, in a more detailed manner when a satisfactory profit is being generated. This results are in accordance with the signaling theory. The study has proved that the companies covered by the analysis decided to disclose more when their profitability was lower. It seems to common practice among Polish firms to increase the extent of disclosure upon a decline in financial performance to assuage shareholders, particularly if earnings are insufficient to justify the payment of a dividend. This may result from an intention to maintain investors confidence in the company and its board of directors. This is also confirmed by the results received by Gassen (2015) that 63% of investors surveyed investigate industry, market and product data and 42% of investors also analyse information from management, apart from income. As pointed out by Grabinski *et al.* (2014), IFRS implementation improves companies' image, increases confidence in their activities and improves the quality of profits. In this light, the obtained results are also important for emerging economies, implementing IFRS. Since the main limitation of the study is the small research sample, directions for future research will focus on a separate analysis of the short- and long-term effects of IFRS adoption on extent and quality of information disclosures, measured at different scope of information and different types of reports, and the extension of the sample in quantity and time.

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Appendix A. Disclosure areas analysed by the PCDI index in years 2005-2007

Mandatory disclosure in scope of:	Voluntary disclosure
general information (name, address, fiscal year-end); – the completeness and quality of the **accounting policy**, with particular emphasis on those areas where accounting gives a choice regarding the valuation or disclosure;	
goodwill and other intangibles including settlement of a business combination, accounting principles used for settlement of business combinations, valuation methods used, – completeness and quality of the mandatory disclosures in the notes according to IFRS 3 *Business Combinations*, IAS 36 *Impairment of Assets* and IAS 38 *Intangible Assets*;	
– the application of **fair value** to measure individual items of the balance sheet and the rules for determining the fair value and recognize the difference in the initial measurement, - the fair value of all financial instruments, regardless of the balance sheet valuation methods used, – using the concept of fair value for real estate, fixed assets, stocks, etc.	– the scope of use of the expertise of independent experts or the date of the revaluation
extent and quality of information disclosure for **risk management** – **till 2006** four basic types of financial risk: market risk, credit risk, liquidity risk and cash flow risk associated with interest rate (IAS 32 *Financial Instruments: Recognition and Presentation*): – risks and objectives of the financial instruments used; – a description of management's policy of controlling the risks associated with financial instruments; – information on contractual maturity dates of financial instruments. **since 2007** credit risk, liquidity risk and market risk (IFRS 7 *Financial Instruments Disclosures*): – the degree of exposure to them, the manner and purpose of its founding, as well as policies and processes for managing the type of risk; – the company's exposure to the various types of financial risks, including the amount of the maximum exposure to credit risk, financial liabilities and sensitivity to different types of market risk;	
hedge accounting if the company used the hedge accounting: – term of hedge positions and description of risks subject to hedge accounting, whether the company revealed information to determine impact on financial statements (e.g. description of each type of collateral),	– voluntary disclosure of detailed information on fair value hedges and cash flow
lease – the criteria used by the company to distinguish financial leases from operating ones, – detailed rules for valuation of each type of lease, – presentation of both financial leasing and operational analysed in terms of the information required by IAS 17 Leases,	– discount rate, – duration and date of conclusion of contract, – value of future lease payments (by contract and balance sheet date)
Segment Reporting in accordance with IAS 14 (superseded by *IFRS 8 Operating Segments* on 2009): – operating segments, including business segments and geographical ones, – type of segment accounted for primary segment reporting format and complementary one, – characteristics & principles of classification for each segments' category, – the segment's financial results and assets or explanation of their lack,	– voluntary disclosure on operating segments contained in the statement of operations and their consistency with the financial statements

<table>
<tr><th colspan="2">Mandatory disclosure in scope of:</th><th>Voluntary disclosure</th></tr>
<tr><td colspan="2">Reserves for retirement benefits, unused leaves of absence, retirement and pension benefits, awards and bonuses, and other provisions for the effects of pending court proceedings, of guarantees and sureties, for onerous contracts, provisions for penalties or costs of liquidation environmental damage and provisions for restructuring and contingent liabilities in the context of IAS 19 and IAS 37;
– definition and principles of valuation reserves, amount of types of reserves disclosures of used reserves, amounts allocated provisions,
– characteristics of the nature of potential liabilities and contingent liabilities specifications.</td><td>voluntary disclosures of reserves assessment (the amount of provisions from the previous year)</td></tr>
<tr><th>Management report</th><th colspan="2">Corporate Social Responsibility Report</th></tr>
<tr><td>– general data and the business environment,
– financial and non-financial information, prospective data in management report,
– strategies & objectives of management, competition,
– major products & markets,
– opportunities & threats,
– ensuing management plans,
– accuracy of information on intangible assets,
– intellectual capital management,
– general information about managers and their competences and salaries,
– ownership structure, the main shareholders with respect to their shares in the ownership of the company and the size of their votes at the general meeting of shareholders,
– data on transactions with related parties (e.g. the main shareholders).</td><td colspan="2">– placement of relevant information in an annual report or a separate report,
– communication, integrity, completeness, visibility, clarity, comprehensibility and freedom of moving through this report,
– credibility and reliability of reporting through internal and external verification of the contents of disclosures or a reference to the types of risks,
– identification of key stakeholders groups,
– the communication process with key stakeholders groups (the opportunity to provide feedback by customers report),
– personnel policies and working procedures,
– perception of human rights,
– responsibility for the company's products,
– impact of business activities on the environment and society, relation of social responsibility to everyday business operations,
– issue of corporate governance.</td></tr>
</table>

Source: the authors' own elaboration based on Świderska, G.K. (2010) *Wpływ zakresu ujawnianych informacji na poprawę ochrony inwestorów oraz pozycję konkurencyjną emitentów papierów wartościowych.* Warszawa.