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Assessment of quality of internet financial disclosures using a scoring system. A case of Polish stock issuers

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Abstract: Due to investor relations sections placed on corporate websites shareholders have an access to current information on stock issuers' activities. This enables investors to participate in discussions on decisions met by a board of a company. Transparent and comprehensible information should become, therefore, a key element of stock issuers' information policies. The paper aims at evaluating quality of Internet financial disclosures, comprising: completeness, accuracy, relevance and transparency. With a scoring method applied and with a use of appropriate weights in reference to particular criteria, a ranking of stock issuers, according to a level of disclosures, was established. The examined group consisted of 143 publicly traded Polish companies which were listed on the Warsaw Stock Exchange. Although all of them run corporate websites, almost one third did not provide any information coming directly from financial statements, whereas almost half did not disclose any financial ratios using Internet investor relations sections. The research findings indicated that few companies only could be labeled as those representing a high level of financial disclosures. Most of the examined objects were characterized by a low level of disclosures. That situation proves that despite the existence of recommended practices in a discussed area, only a small number of companies perceived corporate websites as an important communication channel with their investors. Almost one third of the research sample did not consider that way of presentation as necessary to build confidence among shareowners. The second objective of the paper was to investigate whether there existed relations between a company size, profitability or an industrial affiliation and the quality of Internet financial disclosures. Respecting results of the correlation analysis the author claims that a company size is weakly but positively correlated with the

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quality of financial reporting disclosures and with the total quality of Internet financial disclosures. Profitability of the examined companies was found, in turn, to be weakly but negatively correlated with the quality of financial reporting disclosures. Research findings indicated also that there were statistically valid differences in sizes of companies respecting the quality of Internet financial disclosures. Disclosures of financial reporting information, financial ratios and total Internet financial disclosures did not differ for various industries, though.

Keywords: investor relations, internet financial reporting, financial disclosures

JEL codes: M41

1. Introduction

The creation of corporate credibility by providing high quality information is a vital challenge for management boards and a main objective for investor relations specialists. Within this framework corporate governance standards play a substantial role, particularly if their observance becomes not only a one-time voluntary practice, but a permanent good custom[1]. Such an approach may indicate that a company treats its stakeholders with consciousness and accountability.

Disclosures on the Internet in Polish stock companies are regulated by standards enacted by the Supervisory Board of the Warsaw Stock Exchange (Best Practices for WSE Listed Companies, 2010). Those standards are not mandatory guidelines but good practices only. An application of the said voluntary recommendations aims at increasing company value and its attractiveness to potential investors. Following a code of the best practices a stock issuer should maintain a corporate website the scope of which and method of presentation used are based on a model investor relations[2]. A web service of the model investor relations provides a basic range of financial information and ratios which a stock issuer is expected to present for a period of last five years. Obviously, this is a minimum requirement which should be met in order to satisfy investors' needs. In practice, we can observe that in spite of the existence of good practices a small number of Polish stock issuers only applied them above the required level in 2012.

The lack of explanatory research concerning the Internet financial reporting practices of Polish stock companies provides a motivation for this study. The Warsaw Stock Exchange (WSE) has a leading position in Central and Eastern Europe with the total market capitalization equal to almost 180 000 million EUR in 2012. Since the guidelines of the WSE for the future includes: (1) the enhancement of individual investors' segment, which accounts for about 18% in the structure of

the main market, (2) attraction of foreign stock issuers and (3) increasing stock liquidity, further development of investor relations and voluntarily disclosures seems to be imminent.

This paper consists of four sections. The first part of the paper provides a concise literature review. The second part depicts the research methodology, and in particular, a purpose of the study, research methods and a sampling frame. The third part is dedicated to present preliminary research findings. It discusses a quality of Internet financial (IF) disclosures in Polish stock issuers with a special focus on financial reporting information (FRI) and financial ratios (FR). The last section scrutinizes impacts of determined factors, including: a company size, profitability and an industry affiliation on the quality of IF disclosures.

2. Literature review

Over a past decade Internet has become a source which plays a major role in providing information on stock companies. Due to the direct and immediate access to current data a reduction of information asymmetry is possible, what contributes to a rise in stock liquidity and triggers decrease in a cost of capital (Trabelsi *et al.*, 2008). Investor relations sections placed on corporate websites and dedicated to all existing or potential investors allow them to search, filter, regain, download and even reconfigure financial information.

On the one hand, due to those benefits investors incur lower cost and save time what improve their situation comparing to institutional investors and lead to democratization of capital markets (Wagenhofer, 2003). On the other one, Internet financial reporting which is expected to provide not only information deriving from obligatory financial statements but also cash flow projections, market trends analyses and descriptions of intended innovations may lead to a reduction of information asymmetry between shareholders and managers. Investors, who have an access to information and are conscious of what happens with a company may actively join in a discussion regarding future of a business. A favorable effect may be remarkable if a consensus of interests of shareholders and managers is ensured (Ojah & Mokoaleli-Mokoteli, 2012).

With regard to corporate communication via Internet two important questions were addressed by Gowthorpe (2004). Firstly, how managers evaluate changing needs of stakeholders towards voluntary disclosures and to what extent companies are prepared to meet those expectations using new technologies. The other question was how disseminators of information determine an extent of voluntary disclosures of corporate financial reporting via the Internet. The second question raises a problem of recognizing investors' needs. Too much information as well as lack of appropriate information on a website may cause that this source will become

useless for investors. Therefore, managers may not be guided by randomness in Internet disclosures, although as a result of restricted and asymmetrical interactions such as one way communication these situations may take place.

The assessment of quality of financial reporting information disclosed on corporate websites is a starting point for other analyses which aim at discovering impacts of various factors on scopes of both financial and non-financial disclosures[3]. Such an approach requires developing synthetic disclosure measures and a set of hypotheses concerning an influence power of particular determinants on disclosure quality.

The leading research studies have considered a long list of factors affecting quality of Internet financial reporting. The most influential determinants include: a company size[4] (Ashbaugh *et al.,* 1999; Craven & Marston, 1999; Pirchegger & Wagenhofer, 1999; Debreceny *et al.,* 2002; Allam & Lymer, 2003; Oyelere *et al.,* 2003; Kelton & Yang, 2008; Ojah & Mokoaleli-Mokoteli, 2012), profitability[5] (Ashbaugh *et al.,*1999; Trabelsi *et al.,* 2008; Homayoun & Rahman, 2010), a shareholder structure[6] (Oyelere *et al.,* 2003; Kelton & Yang, 2008; Yap *et al.,* 2011), a management board[7] (Homayoun & Rahman, 2010; Yap *et al.,* 2011), an audit committee[8] (Kelton & Yang, 2008, Yap *et al.,* 2011), R&D expenses (Trabelsi, *et al.,* 2008), an audit made by Big 4 (Kelton & Yang, 2008), corporate governance mechanisms (Kelton & Yang, 2008), foreign listings (Debreceny *et al.,* 2002), a share of free-float (Pirchegger & Wagenhofer, 1999) or a gearing level (Prabowo & Angkoso, 2006)[9]. Regarding the analysis of the factors influencing voluntary disclosures Bogdan *et al* (2009) claim that recent studies have referred mostly to agency and signaling theories.

The agency theory stems from a risk-sharing problem explored by Arrow (1971). The risk-sharing problem appears between cooperating parties which have various attitudes to risk due to different risk preferences. The agency theory extends risk-sharing problem and emphasizes a dilemma of divergent attitudes to corporate objectives of two parties, where the first one is a principal who delegates work and expects outstanding results, and the other one is an agent who performs that work (Jensen & Meckling, 1976; Eisenhardt,1989). Moreover, Eisenhardt (1989) stresses that a principal very often has to face difficulties in controlling what an agent is actually doing. Sometimes such a control may be impossible or very expensive. As a result of agency problems, which may be reflected in unsatisfactory value-decreasing investments, investors are stimulated to enforce disclosure of information on managerial decisions what aims at a congruence on investors' and managers' interests (Ojah & Mokoaleli-Mokoteli, 2012).

The signaling theory assumes that managers are more eager to increase voluntary disclosure if they have propitious news to announce or expect a growth in future profits (Verrecchia, 1983). The explanation may be that more profitable companies are expected to benefit from open communication with investors since in this way

they signal their competitive advantage. Nevertheless, prior research studies had not provided unambiguous evidence on a positive relation between firm's profitability and an extent of corporate disclosures.

This paper fills in a gap concerning studies on IF disclosures by Polish stock issuers in the body of domestic literature, where only Czajor and Michalak (2011) investigated disclosure practices of the largest Polish companies[10]. This study develops a synthetic measure of IF disclosure quality considering four characteristics of information provided on corporate websites. The paper contributes also to a knowledge on determinants of the quality of IF disclosures, though, in a limited manner, since it investigates three factors only.

3. Research methodology

3.1. Research purpose and method

The paper aims at evaluating quality of the IF disclosures carried out by Polish stock issuers through investors' sections included on corporate websites. An additional contribution of this study is to investigate whether there were any associations between a company size, profitability or an industry affiliation and the quality of IF disclosures.

In order to achieve the first objective a measure representing a disclosure level was developed. It was based on scores assigned to a checklist of items, and on weights assigned to particular criteria, including: completeness, accuracy, relevance and transparency (see Appendix 1).

In case of FRI disclosures all four aforementioned criteria were taken into account, whereas in case of FR disclosures the criteria of completeness, relevance and transparency were considered. The assumed methodology was applied in order to identify a range of financial information available directly on corporate websites in investor sections called: 'investor relations' or 'investor zones'.

Within information completeness it was evaluated whether stock issuers delivered a determined set of financial information deriving from a balance sheet, a profit and loss account or a cash flow statement on their corporate websites. In reference to a financial analysis it was examined whether stock issuers published financial indicators, representing such categories as: profitability, financial liquidity, leverage, efficiency and market measures, on their corporate websites. The range of presented financial information is a major factor which considerably affects the disclosure quality (Lang & Lundholm, 1993; Botosan, 1997; Healy & Palepu, 2001). Ettredge *et al.* (2001; 2002) carried out a similar research, however, they examined disclosures of information in a more general way. They explored

whether 259 entities defined by the Association for Investment Management and Research (AIMR) and 490 technology companies identified by Compustat published accounting and non-accounting information on their corporate websites. The researchers checked whether companies presented complete annual reports or portions of annual reports, SEC filings, quarterly reports, monthly sales and la ink to SEC Edgar site. They also examined if companies disclosed lists of analysts or links to those, a calendar of planned financial events, updated information on stock prices, dividend reinvestment plans or other relevant information of non-accounting character.

In the study presented in this paper information accuracy was examined respecting precision with which financial information was presented in investor sections. Therefore, the attention was paid to disclosures of detailed items from financial reports and to financial information which derives from financial reports indirectly, as for example, a net indebtedness or a working capital. A duration of a reporting period to which financial information referred was examined as well. Finally it was checked whether there appeared a link between data presented on a website and source documents, as for example, audited financial reports.

Within information relevance it was assessed whether financial information put on a corporate website concerned close periods, including: last years, 6- or 3-months.

The assessment of information transparency was based on examining whether financial information was submitted in a form which was friendly to a potential reader. Therefore, it was investigated whether information published on corporate websites was demonstrated in an orderly manner with a chronological sequence and clear, logical presentation. Moreover, it was checked if an investor had an opportunity to compare current information with data coming from previous reporting periods. It was assessed if corporate websites enabled to screen information concerning a determined reporting period only or enabled to use an interactive chart allowing for a choice of particular items and their visual confrontation. In case of financial ratios it was evaluated whether a company published explanations to the construction of financial ratios.

In order to obtain a measure of the IF disclosure quality a scoring method was applied. Firstly, particular items within each criterion were evaluated using dummy variables. In certain cases 3- or 5-level grading scale were used. An average score value for each criterion was multiplied by the assumed weight. A sum of those products gave the ultimate measure of the quality of IF disclosures.

The assignment of weights to particular criteria was an important aspect of the whole research procedure. While establishing weights it was assumed that evaluation of FRI disclosures were more significant than FR disclosures, since the latter derived from information included in financial reports. Therefore, the quality

of disclosed financial reporting information was incorporated to a model with a 60% weight, whereas the quality of financial ratios with 40% share. Particular criteria obtained the following weights (criteria 1-4 refer to FRI disclosures, criteria 5-7 refer to FR disclosures):

1. Completeness of financial reporting information (weight = 20%). That criterion was assumed as the most important, since information coming from financial reports is a starting point to assess economic and financial condition of a company and to recognize potential threats to a business activity.
2. Accuracy of financial reporting information (weight = 15%). This criterion underlines an importance of thorough and detailed assessment of a range of financial information disclosed at investor sections.
3. Relevance of financial reporting information (weight = 15%). It was assumed that information relevance is as important as information accuracy, since outdated information becomes useless and may be perceived only as a benchmark to periodical comparisons.
4. Transparency of financial reporting information (weight = 10%). A way how financial information is disclosed affects its usefulness to existing and potential shareholders. A presentation of financial information in an orderly and clearly manner proves that a stock issuer takes care of its own credibility towards investors.
5. Completeness of financial ratios (weight = 15%). This criterion obtained lower importance than completeness of financial reporting information, since even if financial ratios were not disclosed on a corporate website an investor could compute them base on financial reports.
6. Relevance of financial ratios (weight = 15%). Justification as in point 3.
7. Transparency of financial ratios (weight = 10%). Justification as in point 4.

3.2. Formulation of research hypotheses

In order to examine whether there exist associations between a company size, profitability, an industrial affiliation and the quality of IF disclosures the three null hypotheses were developed which will be tested using Mann-Whitney or Kruskall-Wallis tests.

H1: There is no significant relation between a company size and the quality of IF *disclosure.*

Following research studies provided by Marston and Leow (1998), Craven and Marston (1999), Ashbaugh *et al*. (1999) it can be stated that IF disclosures were positively associated with a company size on an example of UK and US companies. Similar results were obtained by Pirchegger and Wagenhoffer (1999) on Austrian and German companies.

Some researchers claim that larger organizations are supposed to be more motivated to provide better quality of financial disclosures since it is less expensive for them to do so than for smaller companies, and in this way they can reduce information asymmetry and agency costs, as well (Marston, 2003; Prabowo & Angkoso, 2006). Larger companies, therefore, beside conventional ways of disseminating information (print-based) are more interested in experimenting with new web-based tool, including audio and video messages. Ettredge *et al*. (2001) remark that for some IR managers corporate websites are deemed to be an integral component of a communication strategy which provides individual investors with reliable information about a company.

H2: *There is no significant relation between profitability of a company and quality of IF disclosure.*

There appear opinions in the literature that more profitable companies are expected to comply with voluntary disclosures since they have financial resources to cover expenses associated with effective information policy (Marston, 2003: 28). Moreover, profitable companies may be more motivated to disseminate positive financial information to distinguish themselves from less profitable firms (Prabowo & Angkoso, 2006: 94). Prior research studies, however, provide different evidence on this association which may be explained by various constructs applied to measure Internet disclosures and a profitability level. Ashbaugh *et al*. (1999), Oyelere *et al*. (2003) and Pervan (2006) investigated association between profitability and Internet financial disclosures and stated that there were statistically valid positive relations between those two variables. Marston (2003), in turn, found no significant relationship between profitability and an extent of financial disclosures. The results of the abovementioned studies referred to companies located in different countries (Ashbaugh *et al*. (1999) examined US companies, Oyelere *et al*. (2003) investigated New Zealand firms, Pervan (2006) focused on Croatian and Slovene companies, whereas Marston (2003) scrutinized Japanese firms). Moreover, researchers used various constructs for IF disclosures and applied different profitability measures, including: ROA, ROS, pre-tax profit or pre-tax-profit to capital employed. All that may explain incoherent final results.

H3: *There is no significant relation between an industrial affiliation and quality of IF disclosures.*

Evidence on relationships between industry types and the extent of IF disclosures show that there is no consensus in the literature on this topic. Differences in disclosure practices among companies of the same industry may indicate that some companies are trying to conceal important information from investors (Craven & Marston, 1999). Accordingly, it is expected that such differences may be appear between different industry types rather than among companies of the same industry. However, Craven and Marston (1999) proved in their study that an

industry type was not a significant determinant of an extent of Internet reporting, whereas Ismail (2002), Oyelere *et al.* (2003) and Xiao *et al*. (2004) found significant association between those two variables.

3.3. Research sample

The group of objects examined in this paper consisted of 143 publicly traded Polish companies which were listed on the Warsaw Stock Exchange and belonged to the WIG sectoral indices. Ten sectoral indices representing different branches of Polish economy were analyzed. A distribution of stock issuers across particular sectors is shown in table 1.

Table 1. Structure of research objects

Industry[11]	Number	Company name
WIG - basic materials	6	*BOGDANKA, COALENERG, JSW, KGHM, NEWWORLDR, SADOVAYA*
WIG - chemical	5	*AZOTY TARNÓW, CIECH, POLICE, PUŁAWY, SYNTHOS*
WIG - construction	30	*AWBUD, BIPROMET, BUDIMEX, BUDOPOL, ELBUDOWA, ELEKTROTI, ENERGOPLD, ENERGOPOL, ERBUD, HBPOLSKA, HERKULES, INSTALKRK, INTERBUD, MIRBUD, MOSTALEXP, MOSTALPLC, MOSTALWAR, MOSTALZAB, PANOVA, PBG, PBOANIOLA, POLAQUA, POLIMEXMS, PROCHEM, PROJPRZEM, TESGAS, TRAKCJA, ULMA, UNIBEP, ZUE*
WIG - developers	24	*08OCTAVA, ALTERCO, BBDEVNFI, CELTIC, DOMDEV, ECHO, EDINVEST, GANT, GTC, INPRO, JHMDEV, JWCONSTR, LCCORP, ORCOGROUP, PLAZACNTR, POLNORD, RANKPROGR, ROBYG, RONSON, TRITON, TUP, VANTAGE, WARIMPEX, WIKANA*
WIG - energy	7	*CEZ, ENEA, ESTAR, KOGENERA, PGE, PEP, TAURONPE*
WIG - food	24	*AGROTON, AGROWILL, AMBRA, ASTARTA, COLIAN, DUDA, GRAAL, KERNEL, KOFOLA, KRUSZWICA, KSGAGRO, IMCOMPANY, INDYKPOL, MAKARONPL, MIESZKO, MILKILAND, OTMUCHÓW, OVOSTAR, PAMAPOL, PBSFINANSE, PEPEES, SEKO, SOBIESKI, WAWEL*

Industry[11]	Number	Company name
WIG – information technology	22	*ARCUS, ASSECOBS, ASSECOPOL, ASSECOSEE, ASSECOSLO, ATM, ATMSI, CALATRAVA, B3SYSTEM, CDRED, CITYINTER, COMARCH, COMP, ELZAB, IVMX, MCLOGIC, NTTSYSTEM, PCGUARD, QUMAKSEK, SYGNITY, TALEX, WASKO*
WIG - media	13	*4FUNMEDIA, ADVGRUPA, AGORA, ATMGRUPA, CCIINT, CYFRPLSAT, K2INTERNET, KINOPOL, MIT, NETMEDIA, NOKAUT, POINTGROUP, TVN*
WIG – oil & gas	7	*CPENERGIA, KOV, LOTOS, MOL, PETROLINV, PGNIG, PKNORLEN*
WIG - telecommunication	5	*HAWE, HYPERION, MNI, NETIA, TPSA*

The examined companies comprised a full population of stock issuers being a part of particular sectorial indices, therefore, it could be stated that selected groups were representative for all companies of the basic market of the Warsaw Stock Exchange. The number of participants of that market amounted to 438 companies in 2012, with a total capitalization of 180 000 million EUR. The research sample amounted to 17% of the capitalization at the basic market and to 33% of a number of stock issuers listed on the basic market. The index of *WIG-banking* was excluded from a study, since reports and information provided by financial institutions differ from those delivered by other stock issuers. The research results are based on data as of June 2012.

4. Preliminary findings on disclosures

4. 1. Disclosure of financial reporting information

A preliminary assessment of the FRI disclosures showed that 41 out of 143 stock issuers (28.7%) did not provide any information coming from financial statements directly in their investor sections. In those cases the existing or potential investors would have to search for financial reporting information in source documents.

An analysis of the 'completeness' criterion proved that only 26 stock issuers (18.2%) obtained a very high or high scores. Three companies included in *WIG-media* (*AGORA, ADVGRUPA, CYFRPLSAT*), one developer (*RANKPROGR*) and one company from *WIG-basic materials* (*JSW*) were ranked as the best stock issuers in terms of completeness of financial reporting information. Among those entities only the media company (*AGORA*) disclosed all financial reporting

information distinguished in appendix 1 and obtained a maximum score. Another three, including *RANKPROGR, ADVGRUPA, JSW*, lacked only one item among those determined in appendix 1. Those were net profit (loss) on sales, total net cash flow or EBIDTA respectively. Fifteen stock issuers (10.5%) obtained poor or very poor evaluations of completeness of financial reporting information disclosed through investor sections. That group was represented by companies belonging to seven sectors[12], including: *WIG-basic materials* (1 object), *WIG-construction* (3), *WIG-developers* (4), *WIG-information technology* (3), *WIG-media* (1), *WIG-oil & gas* (1), *WIG-telecommunication* (2).

The accuracy level was the second criterion which was evaluated. Research findings showed that 59 stock issuers (41.2%) were ranked poorly or very poorly. A lack of detailed information on asset structure and operating, investment or financial cash flows were indicated among the main reasons for such an evaluation. Those companies did not disclose information coming from semi-annual reports as a rule, and did not provide a link between presented financial reporting information with source documents. Only 11 stock issuers (7.7%) were recognized as highly or very highly accurate in terms of FRI disclosures. The list of the best companies contained *JSW* (0.92), *CYFRPLSAT* (0.89) and *ENEA* (0.86). Those entities disclosed all additional items distinguished in the appendix 1, including: division of total assets into fixed and currents assets, division of total liabilities into short-term and long-term ones, disclosure of share capital, and net cash flows concerning operating, investment or financial activities. The latter two companies disclosed also other financial reporting information which was not mentioned in the appendix 1. *JSW* (*WIG-basic materials*) and *ENEA* (*WIG-energy*) provided information deriving from annual, semi-annual and quarterly reports, whereas *CYFRPLSAT* (*WIG-media*) and *JSW* placed a direct link between presented information and the source documents in their investor sections.

The assessment of the third criterion – a relevance level – delivered interesting results. On the one hand, more than a half of examined companies (58.0%) disclosed annual information concerning a previous year, however, only 18 stock issuers (12.6%) published current financial reporting information concerning the first quarter of 2012. On the other hand, there appeared a developer, whose most recent financial reporting information referred to 2008 and four other stock issuers whose latest published information concerned 2009.

The analysis of a transparency level showed that 27 stock issuers (18.9%) obtained high or very high scores. It resulted from the fact that some companies gave investors an possibility to select from which period they wanted to have information presented. Moreover, all stock issuers, who were evaluated highly or very highly published information from previous reporting periods (at least two years retrospectively) which enabled to compare current financial situation with the

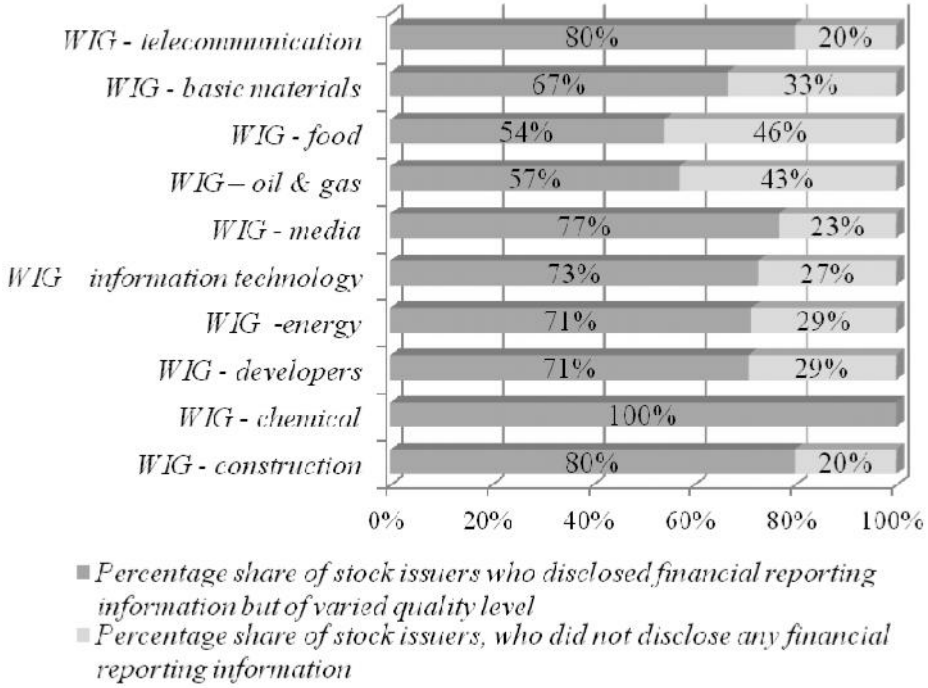
past position. Some of those companies offered static or interactive charts[13] to visualize financial information. In case of 18 stock issuers (12.6%) transparency of presented data was poor or very poor. That was manifested by a lack of appropriate information or unintelligible items included in unclear structures of tables.

Table 2. The assessment of FRI disclosures

Criteria		Number of companies	Structure
Lack of FRI disclosures in investor sections		**41**	**28.7%**
Presence of FRI disclosures in investor sections		**102**	**71.3%**
Completeness level	**Scoring scale**		
• very poor	(0,00 – 0.20)	1	0.7%
• poor	[0.20 – 0.40)	14	9.8%
• moderate	[0.40 – 0.60)	61	42.6%
• high	[0.60 – 0.80)	21	14.7%
• very high	[0.80 – 1.00]	5	3.5%
Accuracy level	**Scoring scale**		
• very poor	(0,00 – 0.20)	21	14.7%
• poor	[0.20 – 0.40)	38	26.5%
• moderate	[0.40 – 0.60)	32	22.4%
• high	[0.60 – 0.80)	8	5.6%
• very high	[0.80 – 1.00]	3	2.1%
Relevance level	**Scoring scale**		
• very poor	0.00	19	13.3%
• moderate	0.50	65	45.4%
• very high	1.00	18	12.6%
Transparency level	**Scoring scale**		
• very poor	(0,00 – 0.20)	3	2.1%
• poor	[0.20 – 0.40)	15	10.5%
• moderate	[0.40 – 0.60)	57	39.7%
• high	[0.60 – 0.80)	21	14.7%
• very high	[0.80 – 1.00]	6	4.2%

Figure 1 reflects a share of companies which did not disclose financial reporting information in investor sections in comparison to all stock issuers being a part of particular sectoral indices. *WIG-food* and *WIG–oil & gas* indices included a considerable share of companies which did not publish any financial reporting information (46% and 43% respectively).

Figure 1. FRI disclosures (by sectors)



Although a scope of IF disclosures is voluntary, such a situation should be perceived negatively. In case of *WIG-food* the situation may stem from the fact that most of stock issuers from this sector were foreign organizations (6 Ukrainian companies and one from Lithuania) which did not paid necessary attention to voluntary standards recommended by model investor relations. Interestingly, all companies from *WIG-chemical* published financial reporting information in the investor sections and were evaluated highly or at least moderately.

An overall assessment of four criteria allowed for identification of 16 stock issuers whose quality of FRI disclosures was high with a score value equal to at least 0.60, or very high with a score value equal to at least 0.80 (see table 3). *JSW* (*WIG – oil & gas*) and *ADVGRUPA* (*WIG-Media*) were classified as the best companies in the ranking. Interestingly, only one company which belonged to the most numerous index of *WIG-construction* was placed highly in the ranking, whereas 7 construction companies (23.3%) were assessed poorly of very poorly. Moreover, there were 6 construction companies which did not disclose any financial reporting information in a direct manner on their corporate websites. Therefore, it should be stated that even 43.3% of a composition of *WIG-construction* index should be perceived as unsatisfactory in terms of financial disclosures.

Table 3. Top stock issuers respecting FRI disclosures

Rank	Company name	Industry	Scoring	Disclosure level
I.	*JSW*	*WIG - basic materials*	0.96	VERY
II.	*ADVGRUPA*	*WIG - media*	0.85	HIGH
III.	*RONSON*	*WIG - developers*	0.78	
IV.	*ATM*	*WIG – information technology*	0.76	
IV.	*HAWE*	*WIG - telecommunication*	0.76	
IV.	*PKNORLEN*	*WIG – oil & gas*	0.76	
V.	*ENEA*	*WIG - energy*	0.74	
VI.	*CELTIC*	*WIG - developers*	0.72	
VI.	*SYNTHOS*	*WIG - chemical*	0.72	HIGH
VII.	*AGORA*	*WIG - media*	0.69	
VIII.	*CYFRPLSAT*	*WIG - media*	0.68	
IX.	*DUDA*	*WIG - food*	0.67	
X.	*PEP*	*WIG - energy*	0.64	
XI.	*PEPEES*	*WIG - food*	0.63	
XI.	*CDRED*	*WIG – information technology*	0.63	
XII.	*HBPOLSKA*	*WIG - construction*	0,62	

With regard to that remark it is worth observing other numerous indices, including *WIG-developers* (24 companies), *WIG-information technology* (22 companies) and *WIG-food* (24 companies). A dissatisfactory level of disclosure quality concerned a half of a group in case of developers and IT companies, and two third of a group size in case of food companies[14].

4.2. Disclosure of financial ratios

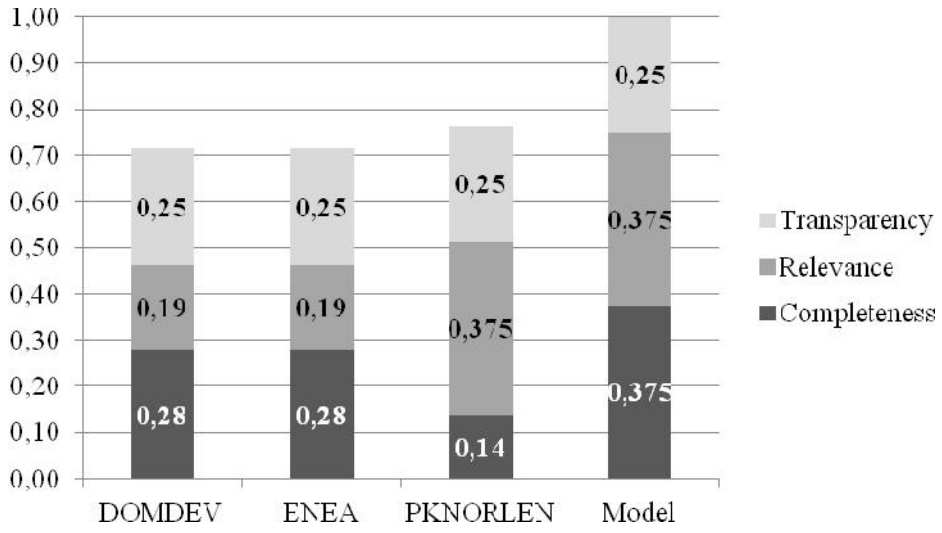
The study of completeness of financial ratios aimed at checking whether stock issuers disclosed a determined set of performance indicators, representing different categories in the investor sections (see appendix 1).

The most frequently reported area was profitability. All companies which were highly evaluated in terms of completeness disclosed: return on sales (*ROS*), return on assets (*ROA*) and return on equity (*ROE*). The same companies published the following indicators of financial liquidity: a current ratio and a quick ratio. Considering category of leverage and a structure of financing almost all highly assessed companies disclosed debt-to-asset ratio. The category of efficiency was the most frequently described by two indicators: average collection period and average payment time. However, an analysis of a whole population of examined companies indicated that both efficiency and solvency categories were the least popular areas to be reported by stock issuers. Earnings per share (*EPS*), dividend

per share (*DPS*) and book value per share were the most common stock market ratios disclosed by the examined companies (see appendix 2).

Research findings concerning FR disclosures showed that 58 companies (40.6%) did not disclose any financial ratios using Internet investor sections, 37 companies (25.8%) obtained low or very low ratings, whereas 49 stock issuers (33.6%) were evaluated at least moderately considering all assumed criteria.

Figure 2. Top stock issuers in the assessment of FR disclosure



Source: Own presentation.

Figure 2 presents the top 3 companies in terms of disclosing financial ratios, including *DOMDEV* (*WIG-developers*), *ENEA* (*WIG-energy*) and *PKNORLEN* (*WIG-oil & gas*). They were compared to a model. It can be remarked that *DOMDEV* and *ENEA* collected almost 75% of scores in terms of completeness when they were compared to the model. Interestingly, both companies provided financial indicators on their English version of corporate websites what was still a standard practice in reference to other Polish stock issuers. *PKN ORLEN* was highly evaluated in terms of relevance which meant that it published current data of the last quarter. All distinguished stock issuers were appreciated for disclosing financial ratios in a transparent and friendly way for potential readers.

4.3. Overall remarks

The research on the quality of IF disclosures indicated that information on net sales revenues and various levels of financial results were the most frequent items

presented on corporate websites. Stock issuers quite often disclosed also information on total assets and equity (see table 4).

Only a quarter of stock companies, which published financial reporting information in investor sections, provided any data on net cash flows. This result has to be perceived negatively, since for investors who make decisions connected with projected dividend pay-outs net cash flows are of a greater importance than accrual information. In the long-term period net cash flows are crucial for sustaining dividend payments (Sharma, 2001). Although financial results do not reflect effects of cash events which are not included in profit and loss accounts, they have an impact on balance sheet items (Glautier, 1999). Moreover, information on net cash flows plays a critical role in measuring business solvency, determining needs for external financing and estimating possibilities to generate future cash flows (Gottlieb & Lewczyński, 1993).

Table 4. A scope of financial reporting information disclosed by stock issuers

Financial information	Disclosure frequency
Net sales revenue	98%
Net profit (loss)	95%
EBIT	91%
Equity	80%
Total assets	79%
Gross profit (loss)	75%
Long-term liabilities	64%
Short-term liabilities	64%
Share capital	47%
Total liabilities and provisions	44%
EBIDTA	34%
Net cash flows from operating activity	29%
Current assets	28%
Net cash flows from investment activity	25%
Net cash flows from financial activity	25%
Fixed assets	25%
Total net cash flows	23%
Cash and other marketable securities	18%
Gross profit (loss) on sales	18%
Net profit (loss) on sales	8%

Beside the basic financial reporting information (see table 4) some companies disclosed supplementary information concerning net debt[15], net working capital[16], capital expenditures (*CAPEX*), sales by segments and depreciation. Moreover, two

stock issuers[17] provided an opportunity of immediate preview of full-sized financial reports, including: a balance sheet, a profit and loss account and a cash flow statement. This facility ranked them highly among the best companies in terms of disclosure quality.

The second phase of the research covered the analysis of FR disclosures. The following six categories, according to which disclosed indicators were classified, were identified: profitability measures (14), financial liquidity measures (4), leverage and structure of financing measures (9), stock market measures (8), efficiency measures (6) and solvency measures (5)[18]. The appendix 2 presents a scope and a calculation of formulas of financial ratios disclosed to investors. They were ordered according to a disclosure frequency.

A return on sales, earnings per share and a current ratio were the most frequently published indicators. They were provided on corporate websites by more than a half of stock issuers, who disclosed any financial ratios.

Profitability measures were the most willingly presented category, including 11 different indicators identified in investor sections of the examined companies. The appendix 2 shows a list of key profitability ratios which represent relations between various levels of financial results and net sales revenues, total assets or equity, as well as indicators which appeared more rarely as *EBIDTA* or *CAPEX* to total revenues. Interestingly, the examined stock issuers did not pay close attention to a disclosure of solvency ratios, which seem to be interesting to investors. If a stock company becomes insolvent, investors may lose a lot in comparison to creditors whose claims are superior in bankruptcy proceedings (Śnieżek & Wiatr, 2011). Only 3 stock issuers published at least one solvency indicator[19].

An assessment of disclosures of financial indicators provided clear evidence that only about 60% of the examined companies presented any financial ratios, whereas about one third of stock issuers was assessed at least moderately in terms of completeness, relevance and transparency of delivered financial ratios.

The scoring method used in this study selected 10 best companies (7%) which were assessed highly in terms of the assumed criteria. An average score in this group was equal to 0.68. None of the examined companies exceeded a bottom limit of 0.80 which would classify them very highly in the ranking. The best group in terms of IF disclosures included stock issuers representing: *WIG-media* (3), *WIG-developers* (3), *WIG-oil & gas* (1), *WIG-energy* (1), *WIG-information technology* (1) and *WIG-telecommunication* (1) (see appendix 3).

Table 5. Overall combined assessment of IF disclosures

Quality level	Industry[20]	Number of companies	Average scoring
HIGH	*WIG – developers (3),* *WIG – energy (1)* *WIG – information technology (1),* *WIG – media (3),* *WIG – oil & gas (1),* *WIG – telecommunication (1),* *WIG – basic materials (1)*	10	0.68
MODERATE	*WIG – chemical (5)* *WIG – construction (15)* *WIG – developers (5)* *WIG – energy (2)* *WIG – food (6)* *WIG – information technology (9)* *WIG – media (5)* *WIG – oil & gas (2)* *WIG – telecommunication (1)*	51	0.51
POOR	*WIG – basic materials (2)* *WIG – construction (8)* *WIG – developers (7)* *WIG – energy (2)* *WIG – food (7)* *WIG – information technology (6)* *WIG – media (1)* *WIG – oil & gas (1)* *WIG – telecommunication (2)*	36	0.33
VERY POOR	*WIG – basic materials (1)* *WIG – construction (1)* *WIG – developers (2)* *WIG – media (1)*	5	0.14
	TOTAL NUMBER OF COMPANIES	**102**	
	LOWER QUARTILE	0.36	
	MEDIAN	0.45	
	UPPER QUARTILE	0.53	
	MAXIMUM	0.78	
	MINIMUM	0.11	

ADVGRUPA (*WIG-media*) was placed on the top in the final ranking although it was ranked at the second and then the fourth place in terms of FRI and FR disclosures respectively. Other interesting remarks are that all companies included in *WIG-chemicals* were assessed at least moderately, whereas the most numerous

sectorial indices as *WIG-construction*, *WIG-developers*, *WIG-information technology* and *WIG-food* were represented by the significant percentage of companies whose overall disclosure level was assessed at the poorest[21].

5. Results of hypothesis testing

In order to find relations between variables the Pearson's correlation coefficients were computed. Table 6 presents results of correlation analysis and description of variables. It is worth remarking that 19 companies were excluded from a research sample, since either it was impossible to find any financial information on their websites or companies published consolidated financial statement only, whereas data considered in this study related to information deriving from separate financial reports.

First of all, it should be noticed that statistically significant correlations at 10% significance level were observed only in three cases. A company size was positively correlated with the quality of FRI disclosures and the total quality of Internet financial disclosures, which proved to some extent observations provided in the previous studies of Marston and Leow (1998), Pirchegger and Wagenhoffer (1999), Craven and Marston (1999), Ashbaugh *et al*. (1999).

Profitability of the examined companies was found to be negatively correlated with the quality of financial reporting disclosures. The relationship was statistically significant at 10% significance level. The explanation of the negative association between those two variables may stem from the fact that stock companies which performed poorly in the previous period were more likely to inform about their actual situation by publishing information from financial statement on their corporate websites. Reliable presentation of actual performance, even if not satisfactory, strengthens credibility of a company among its investors.

Table 6. Correlation matrix (n=124)

	Y1	Y2	Y3
X1	**0.1734***	0.1428	**0.1732***
X2	**-0.1493***	-0.1207	-0.1395

Y1 (quality of FRI disclosures)
Y2 (quality of FR disclosures)
Y3 (quality of IF disclosures)
X1 (company size calculated as natural logarithm of total assets)
X2 (profitability measured as return on sales)

*significant at 10% level

Table 7. Results of non-parametric Mann-Whitney test

Grouping variable	**FRI disclosures**			**FR disclosures**			**Total IF disclosures**		
Total	**N** 124	**Mean rank**	**Sum of ranks**	**N** 124	**Mean rank**	**Sum of ranks**	**N** 124	**Mean rank**	**Sum of ranks**
1. Acceptable disclosure level	69	68.96	4758.00	45	69.12	3110.50	58	69.29	4019.00
2. Unacceptable disclosure level	55	54.40	2992.00	79	58.73	4639.50	66	56.53	3731.00
Variable: ***COMPANY SIZE***	*U Mann-Whitney: 1452.00* *Z: -2.238* *Sig (2-tailed): 0.025* ***(p<0.05)***			*U Mann-Whitney: 1479.00* *Z: -1.546* *Sig (2-tailed): 0.122*			*U Mann-Whitney: 1520.00* *Z: -1.971* *Sig (2-tailed): 0.049* ***(p<0.05)***		
Total	124			124			124		
1. Acceptable disclosure level	69	57.01	3934.00	45	56.77	2554.50	58	56.95	3303.00
2. Unacceptable disclosure level	55	69.38	3816.00	79	65.77	5195.50	66	67.38	4447.00
Variable: ***PROFITABILITY***	*U Mann-Whitney: 1519.00* *Z: 1.901* *Sig (2-tailed): 0.057* ***(p<0.10)***			*U Mann-Whitney: 1519.50* *Z: 1.338* *Sig (2-tailed): 0.181*			*U Mann-Whitney: 1592.00* *Z: 1.610* *Sig (2-tailed): 0.107*		

Since relations between considered variables were rather weak, it was checked whether there existed any statistically valid differences considering company sizes and profitability in the context of disclosure quality. In order to conduct an analysis Mann-Whitney test was applied and two groups were distinguished. The first one covered objects which obtained an acceptable disclosure level (69 companies). It meant that the quality of disclosure level was at least moderate, regarding results of the scoring method. The second group consisted of objects classified as those with an unacceptable disclosure level, including companies which obtained very poor or poor scores. The results of non-parametric Mann-Whitney test were presented in table 7. With regard to those results it was argued that there were statistically relevant differences ($p<0.05$) in the company sizes considering the quality of IF disclosures. Both in terms of the quality of FRI disclosures and IF disclosures the first group of objects with an acceptable disclosure level included larger companies than the second group. Accordingly, the assumed null hypothesis that there is no significant relation between company size and the quality of IF disclosures may be rejected.

Likewise significant differences in profitability levels were observed in reference to the quality of reporting information disclosures ($p<0.1$). However, since there was no evidence that return on sales was statistically correlated with total Internet financial disclosures and also Mann-Whitney test did not prove any statistically valid differences in profitability levels considering the quality of IF disclosures the second hypothesis was validated.

In the context of the third hypothesis it should be stated that the results obtained validated a statement that there was no significant relation between an industrial affiliation and the quality of IF disclosures. In order to conduct that analysis and ensure appropriate group size the 10 WIG sectoral indices were classified into four independent clusters including:

1. Food industry (*WIG – food*)
2. Industrial production (*WIG - basic materials, WIG – oil & gas, WIG – energy, WIG – chemical)*
3. Construction (*WIG – developers, WIG – construction)*
4. ICT sector (*WIG - telecommunication*, *WIG - media*, *WIG – information technology)*

An application of Kruskall-Wallis test confirmed that both FRI, FR and IF disclosures did not differ while considering particular industry types. In each case chi-square statistics, which evaluated differences in mean ranks were not significant ($p>0.1$). It means that medians were equal across all clusters. Interestingly, although the mean ranks between clusters did not differ substantially, it should be remarked that the food industry was characterised by the lowest mean rank in comparison to the other clusters and in reference to each dependent variable.

Table 8. Results of non-parametric Kruskall-Wallis test

FRI disclosures

Grouping	N	Sum of ranks	Mean rank
Food industry	23	1319.50	57.37
Production industry	25	1996.00	79.84
Construction	54	3860.00	71.48
ICT sector	41	3120.50	76.11

Kruskall-Wallis Test H (3, N=143) = 4.278, p = 0.233

FR disclosures

Grouping	N	Sum of ranks	Mean rank
Food industry	23	1552.00	67.48
Production industry	25	1752.50	70.10
Construction	54	3937.50	72.92
ICT sector	41	3054.00	74.49

Kruskall-Wallis Test H (3, N=143) = 0.537, p = 0.911

Total IF disclosures

Grouping	N	Sum of ranks	Mean rank
Food industry	23	1406.50	61.15
Production industry	25	1904.50	76.18
Construction	54	3882.50	71.90
ICT sector	41	3102.50	75.67

Kruskall-Wallis Test H (3, N=143) = 2,206, p = 0.5308

6. Conclusions

The final assessment of a disclosure quality indicated diverse approach of stock issuers to the way of presenting financial reporting information and financial ratios to investors. A careful analysis showed differences within completeness, accuracy, relevance and transparency of disclosed financial information, which was conditioned to some extent by a business activity. The diverse approach to a problem can be explained by a lack of obligatory regulations. Polish stock companies may independently shape an image of Internet investor relations

following a structure of a model IR web service and voluntary standards determined by the Supervisory Board of the Warsaw Stock Exchange[22]. Although both a compliance with the recommended good practices and an attention to disclosure quality can contribute to building confidence between stock issuers and investors, a significant number of entities is still not aware of potential benefits of transparent information policy and follows obligatory regulations which induce submission of periodical and current financial reports only. The direct and transparent presentation of financial issues in investor sections is considered to be of a minor importance.

In this study the research sample consisted of 143 stock companies which belonged to the WIG sectorial indices, whereas, a total number of companies listed on the Warsaw Stock Exchange was equal to 438 in the research period. This may be a limitation, since general conclusions reflect situation in determined group of objects only. The advantage, however, is sophisticated character of examined objects. The research sample covered 10 industries.

New challenges for future research would be, therefore, extending the research sample to all companies listed on a basic market, focusing on entities publicly traded on alternative markets which are quickly developing in Poland, and scrutinizing corporate websites in terms of presenting non-financial information, which may be relevant for potential investors. Moreover, further analysis of factors which may significantly affect quality of IF disclosures seems to be important, particularly for Polish stock market where such research has not been conducted yet.

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Appendix 1. IF disclosure checklist items

I. Completeness of financial reporting information (weight 20%)

Does a company disclose information deriving from a balance sheet?

- total assets (0 – no; 1 – yes)
- total liabilities and provisions (0 – no; 1 – yes)
- equity (0 – no; 1 – yes)

Does a company disclose information deriving from a profit and loss account?

- net sales revenues (0 – no; 1 – yes)
- gross profit (loss) on sales (0 – no; 1 – yes)
- net profit (loss) on sales (0 – no; 1 – yes)
- operating profit (loss) (0 – no; 1 – yes)
- operating profit (loss) + depreciation (0 – no; 1 – yes)
- gross profit (loss) (0 – no; 1 – yes)
- net profit (loss) (0 – no; 1 – yes)

Does a company disclose information deriving from a cash flow statement?

- total net cash flows (0 – no; 1 – yes)
- cash and other marketable securities (0 – no; 1 – yes)

II. Accuracy of financial reporting information (weight 15%)

Does a company disclose detailed items, including:

- fixed and current assets? (0 – no; 0,5 – only one of the two; 1 - both)
- short-term and long-term liabilities? (0 – no; 0,5 – only one of the two; 1 - both)
- share capital ? (0 – no; 1 – yes)
- net cash flows on operating, investment or financial activities? (0 – no ; 0,5 – at least one item; 1 – all)

Does a company disclose other items coming from financial reports? (0 – no; 0,25 – a little; 0,5 – moderately; 0,75 - satisfactorily; 1 - fully)

Does information disclosed on the corporate website refer to an annual period? (0 – no; 1 – yes)

Does information disclosed on the corporate website refer to a semi-annual period? (0 – no; 1 – yes)

Does information disclosed on the corporate website refer to a quarter period? (0 – no; 1 – yes)

Is there a direct connection between financial information available on the corporate website and a source document? (0 – no; 1 – yes)

III. Relevance of financial reporting information (weight 15%)

Does investor relations section include current financial information? (0 – no; 0,5 – moderately[23]; 1- yes[24])

IV. Transparency financial reporting information (weight 10%)

Is financial information presented in a way which is comprehensible to investors? (0 – no; 1 – yes)

Is there a possibility to examine financial information concerning a determined period? (0 – no; 1 – yes)

Is there a possibility to compare financial information on static or interactive charts? (0 – no; 1 – yes)

Is there a possibility to compare disclosed financial information to at least two preceding reporting periods? (0 – no; 1 – yes)

V. Completeness of financial ratios (weight 15%)

Does a company disclose profitability ratios?

- operating profit margin (0 – no; 1 – yes)
- net profit (loss) ratio (0 – no; 1 – yes)
- return on assets ratio (0 – no; 1 – yes)
- return on equity ratio (0 – no; 1 – yes)

Does a company disclose liquidity ratios?

- current ratio (0 – no; 1 – yes)
- quick ratio (0 – no; 1 – yes)
- cash ratio (0 – no; 1 – yes)

Does a company disclose leverage ratios?

- debt to asset ratio (0 – no; 1 – yes)
- long-term debt to equity ratio (0 – no; 1 – yes)
- debt to equity ratio (0 – no; 1 – yes)

Does a company disclose efficiency ratios?

- asset turnover ratio (0 – no; 1 – yes)
- inventory collection period (0 – no; 1 – yes)
- average payment period (0 – no; 1 – yes)
- average collection period (0 – no; 1 – yes)

Does a company disclose stock market ratios?

- earnings per share ratio (0 – no; 1 – yes)
- dividend per share ratio (0 – no; 1 – yes)
- book value per share (0 – no; 1 – yes)
- price-earnings ratio (0 – no; 1 – yes)

Does a company disclose other ratios not included in the abovementioned catalogue? (0 – no; 1 – yes)

VI. Relevance of financial ratios (weight 15%)

Does investor relations section include current financial ratios? (0 – no; 0,5 – moderately; 1- yes)

VII. Transparency of financial ratios (weight 10%)

Are financial ratios presented in a way which is comprehensible to investors? (0 – no; 0,5 – moderately, 1 – yes)

Appendix 2. The scope of financial ratios disclosed to investors by stock issuers using corporate websites

Ratios	Explanation	Category	No	Share[25]
Return on sales (ROS)	Net profit (loss) / Net sales revenues	Profitability	46	
Earnings per share (EPS)	Net profit (loss) / Number of shares	Stock market ratios	44	more than 50%
Current ratio	Current Assets / Current liabilities	Financial liquidity	43	
Debt-to-asset ratio	Total liabilities / Total assets	Leverage & financing structure	38	
Dividend per share (DPS)	Sum of dividends over a period / Number of shares	Stock market ratios	30	more than 25%
Book value per share	Equity / Number of shares	Stock market ratios	24	
Operating profit margin	Operating profit (loss) / Net sales revenue	Profitability	23	
Return on assets (ROA)	Net profit (loss) / Total assets	Profitability	16	
Return on capital employed	Net operating profit after tax / (Equity + Net debt)	Profitability	16	
EBITDA margin on sales	(Operating profit (loss) + Depreciation) / Net sales revenues	Profitability	15	
Quick ratio	(Current assets - Inventories) / Total liabilities	Financial liquidity	12	
Average collection period	(Accounts receivable x 365 days) / Net sales revenues	Efficiency	9	
Gross profit margin on sales	Gross profit (loss) on sales / Net sales revenues	Profitability	8	more than 5%
Average payment period	(Accounts payable x 365 days) / Cost of goods sold	Efficiency	8	
Return on equity (ROE)	Net profit (loss) / Equity	Profitability	7	
Inventory conversion period	(Average inventory x 365 days) / Cost of goods sold	Efficiency	7	
Cash ratio	Cash and marketable securities / Current liabilities	Financial liquidity	6	
Net profit margin on sales	Net profit (loss) on sales / Net sales revenues	Profitability	5	
Gross profit margin	Gross profit (loss) / Net sales revenues	Profitability	5	
Debt-equity ratio	Total liabilities / Equity	Leverage & financing structure	5	
Long-term debt to equity	Long-term liabilities / Equity	Leverage & financing structure	4	
Price-earnings ratio (P/E)	Market price per share / Earnings per share	Stock market ratios	4	less than 5%
Asset turnover	Net sales revenues / Average assets	Efficiency	3	

Ratios	Explanation	Category	No	Share[25]
Cash conversion cycle	Inventory conversion period + Average collection period – Average payment period	Efficiency	3	
Net sales revenues per share	Net sales revenues / Number of shares	Stock market ratios	3	
Price to book value ratio	Market price per share / (Balance sheet price per share[26])	Stock market ratios	3	
Net debt to EBIDTA ratio	(Total liabilities – Cash and marketable securities)/ (Operating profit (loss) + Depreciation)	Leverage & financing structure	3	
Equity to assets ratio	Equity / Total assets	Leverage & financing structure	2	
Equity to fixed assets ratio	Equity / Fixed assets	Leverage & financing structure	2	less than 5%
Current receivables to current liabilities ratio	Current receivables / Current liabilities	Financial liquidity	1	
Sustainability of financing ratio	(Equity + Long-term liabilities + Long-term provisions)/ Total assets	Leverage & financing structure	1	
Equity to total liabilities ratio	Equity / Total liabilities	Leverage & financing structure	1	
Operating result per share	Operating profit (loss) / Number of shares	Stock market ratios	1	
Administrative costs to revenues	Administrative costs / Total revenues	Efficiency	1	
EV/EBIT	Enterprise value[27] / Operating profit (loss)	Stock market ratios	1	
Net debt to equity ratio	(Total liabilities - Cash and marketable securities) / Equity	Leverage & financing structure	1	
Interest coverage ratio (I)	Operating profit (loss) / Interests	Solvency	1	
Interest coverage ratio (II)	(Operating profit (loss) + Depreciation) / Interest	Solvency	1	
Interest coverage ratio (III)	Operating profit (loss) after eliminating write-offs / Interest	Solvency	1	
Interest coverage ratio (IV)	(Net cash flows from operating activity – Capital expenditures on fixed assets) / Interests	Solvency	1	
Gross cash flow margin	(Gross profit (loss) + Depreciation) / Total revenues	Profitability	1	
Net cash flow margin	(Net profit (loss) + Depreciation) / Total revenues	Profitability	1	
Ratio of debt repayment	Net cash flows from operating activity / Loans	Solvency	1	

Ratios	Explanation	Category	No	Share[25]
EBIDTA margin	(Operating profit (loss) + Depreciation) / Total revenues	Profitability	1	
CAPEX / Total revenues	Capital expenditures / Total revenues	Profitability	1	
Free cash flows / Total revenues	(NOPAT + Depreciation – Capital expenditures + (-) Changes in working capital) / Total revenues	Profitability	1	

[1] Research on compliance with corporate governance standards by Polish stock issuers listed on Warsaw Stock Exchange was conducted by Campbell *et al* (2009) and Dyczkowska (2012).

[2] (See: http://naszmodel.gpw.pl/podstrona_02_02_en.html).

[3] Non-financial disclosures may concern provision of information on: mission and corporate strategy, prizes and awards, shareholders' structure, management and supervisory boards, shareholders' general meetings, corporate documents (articles of association, rules of management and supervisory boards, declarations on application of corporate governance standards), corporate social responsibility (CSR reports), dividend policy, company image (investors' presentations, analyst coverage).

[4] A company size is measured as a natural logarithm of total assets or a market value (Asbaugh *et al*, 1999; Debreceny *et al*, 2002; Ettredge *et al*, 2002, Ojah *et al*, 2012) or as an average value of assets.

[5] Profitability may be measured as a return on equity (Homayoun & Rahman, 2010) or a return on assets (Ashbaugh, 1999; Prabowo & Angkoso, 2006).

[6] Concentrated or dispersed ownership is determined by a number of shareholders and a number of shares owned by the largest five shareholders in a total number of shares issued.

[7] The impacts of the following factors are considered: independence of a president, number of management board members, share of independent non-executive directors in a total number of management board members, share of members with skills in accountancy and management in a total number of management board members, frequency of meetings of management board members.

[8] In terms of an audit committee a number of financial experts in an audit committee, a number of directors in an audit committee, frequency of meetings of an audit committee members are considered:

[9] Gearing level was calculated as: long-term liabilities to total assets (Prabowo & Angkoso, 2012) or as: (capital expenditure – (operating CF + depreciation)) / (operating CF + depreciation) (Ojah, 2012)

[10] Their findings were presented at the EEA Congress.

[11] Composition of sectoral indices on June 15, 2012 according to information included on: www.gpw.pl

[12] The number of stock issuers were indicated in the brackets.

[13] Interactive charts enable to create own diagrams by users of investor web-sections. This facility was delivered by *PBG (WIG-construction)*, which gave a possibility to choose particular items on horizontal and vertical axes and compare them over time. The list of

items to be compared included: net sales revenues, operating profit (loss), gross profit (loss), net profit (loss), depreciation, investment expenditure and earnings per share. The data was provided for the 7 consecutive years of 2004-2010.

[14] An unsatisfactory level of disclosure quality is comprehended as a lack of financial reporting information, low or very low disclosure quality.

[15] Total liabilities – short-terms investments

[16] Current assets – current liabilities

[17] *CYFRPLSAT* and *AGORA* (*WIG-media*)

[18] The numbers in brackets indicate a number of ratios for a particular criterion.

[19] *AGORA* disclosed 3 interest coverage ratios, which present relations between interests and operating profit (loss) or operating profit (loss) after eliminating write-offs or free net cash flows. *KERNEL* published interest coverage ratio (II) which showed to what extent EBIDTA covered interest whereas *PKNORLEN* disclosed a relation of net cash flows from operating activity to loans.

[20] The numbers in the brackets indicate a number of entities

[21] This percentage equaled to 50%, 67%, 55% and 75% for *WIG-construction*, *WIG-developers*, *WIG-information technology* and *WIG-food* respectively.

[22] A document „Best Practices for WSE Listed Companies" provides that stock issuers should publish current and periodical reports on their corporate websites. A stock company is expected to disclose the following financial information for the last five years according to the model IR web service: net sales revenues, operating profit (loss), gross profit (loss), net profit (loss), total assets, liabilities and provision on liabilities, long-term and short term liabilities, equity, share capital, number of shares, the amounts of dividends declared and paid out. Moreover, stock issuer is required to present return on sales, return on assets, current ratio and a gearing ratio.

[23] Information disclosed on the corporate website refers to the previous year 2011

[24] Information disclosed on the corporate website refers to the preceding first quarter of the year 2012.

[25] Share of entities which disclosed directly particular financial ratios in total number of stock issuers, who provide information any information on financial ratios.

[26] Equity per number of shares

[27] (Market price per share * Number of shares + Total liabilities + Preferred shares – Cash and cash equivalents)