Internet Reporting Index of Companies Listed in the Alternative Trading System New Connect Organized by the Warsaw Stock Exchange

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The internet is a major means of communication in business nowadays, in all its aspects, including communication between investors and issuers. This research paper examines the extent of information disclosed by companies listed on the New Connect trading platform. This market is focused on small, dynamic companies, predominantly from new technology industries, that are trying to gain attention of investors who accept higher risk associated with supporting companies with capital in their early stages and who will reap benefits in the future, when a company moves into a major market or is sold to a strategic investor. The primary aim of the article is to create a comprehensive Internet Reporting Index (IRI) applicable to smaller companies listed in the alternative trading system in Poland. The IRI index proposed in this paper was inspired by the New Connect Issuers Code of Good Practices, which contains 22 suggested items that should be disclosed on corporate websites so that a company is considered to represent good corporate governance. The secondary aim of the article is to verify six hypotheses about IRI of 106 companies being constituents of the NCI Index. The results stemming from Pearson's correlation and non-parametric tests suggest that only association with the medical sector is correlated with the Internet Reporting Index.

Keywords: internet reporting index, disclosure index, New Connect, corporate governance, investor relations.

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Indeks Raportowania Internetowego spółek notowanych w alternatywnym systemie obrotu New Connect organizowanym przez Giełdę Papierów Wartościowych w Warszawie

Internet stanowi główny środek komunikacji w dzisiejszym biznesie, we wszelkich jego aspektach, w tym również pomiędzy inwestorami i emitentami. W artykule zbadano zakres informacji ujawnianych przez spółki notowane na New Connect na ich stronach internetowych. Rynek New Connect adresowany jest głównie do spółek sektora nowych technologii, które zamierzają przyciągnąć inwestorów akceptujących zwiększony, w porównaniu z głównym rynkiem, poziom ryzyka w zamian za korzyści, które mogą uzyskać w przyszłości w postaci większych stóp zwrotu z inwestycji. Celem artykułu jest stworzenie wszechstronnego Indeksu Raportowania Internetowego (IRI), dostosowanego do spółek notowanych na regulowanym alternatywnym systemie obrotu New Connect. Indeks ten stworzono w oparciu o Kodeks Dobrych Praktyk spółek notowanych na New Connect, które w sekcji 3. wymieniają 22 rodzaje informacji,

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które powinny się znaleźć na stronie internetowej emitenta. W artykule zamieszczono wyniki weryfikacji sześciu hipotez. Wyniki testów korelacji Pearsona oraz testów nieparametrycznych wskazują, że jedynie fakt przynależności do sektora medycznego jest słabo skorelowany z wielkością wskaźnika IRI. Pozostałe badane czynniki nie wykazują statystycznej korelacji z wielkością zaproponowanego wskaźnika IRI.

1. Introduction

These days, the internet as a medium to disseminate and access content of all kinds shapes the world that we live in. Its development has also impacted how companies communicate with their stakeholders, particularly investors or prospective investors, who are seeking information for construction of their portfolios. The evolution of the internet as a medium of spread of corporate information gave rise to a new corporate reporting environment that differs from the traditional paper-based one. The internet offers the facility to provide all interested parties with information that can be used in the decision-making process immediately, globally and at a low cost.

Historically, research into the use of the internet for sharing corporate information with stakeholders in general dates back to the mid 1990s. Since that time, multiple papers have been published – first concentrating on developed economies, and subsequently switching to developing economies. Academics, in most cases, analysed voluntary disclosure practices using variables derived from agency and signalling theories. The first paper about internet financial reporting targeting Poland was published in 2011 (Czajor & Michalak, 2011). In that work, the authors created the internet financial disclosure quality measure taking into account four characteristics of information provided on the internet websites of major Polish companies. The primary objective of this research was to develop a comprehensive Internet Reporting Index that best describes companies that are listed on the *New Connect* trading platform organized by the Warsaw Stock Exchange (WSE). *New Connect* is a platform that was created by WSE in 2007 as a twin market to London's *AIM* (Alternative Investment Market) or OMX's *First North*, with a view to attracting investors who accept higher risk in their investment in exchange for potentially higher profits. *New Connect* is mainly focused on small and mid-size dynamic and developing enterprises associated with various sectors of the economy. Listed companies mostly represent new technology sectors such as IT, telecommunications, biotechnology or medical. The specific characteristics of *New Connect* make formal obligations and information requirements imposed on stock issuers more liberal in comparison to the main market, which makes the cost of capital cheaper for issuers. However, from investors' point of view, a reduced extent of information provided means higher risk of investment, as the level of information asymmetry is greater. To introduce a standardized framework of corporate governance, the Warsaw Stock Exchange, acting as a market organizer, produced a document called *New Connect Issuers Code of Good Practice* (New Connect Issuers Code of Good Practice, 2010) with a view to benefiting market participants. Section 3 of that paper focuses on the information that issuers should disclose on their corporate websites. It contains 22 pieces of information about: basic information about the company and its activities (front page), description of the company's activities, with an indication which activities contribute to overall revenues the most, description of the market on which the company operates, with an indication of the company's position on the market, curricula vitae of the members of Board of Directors and Board of Management, information about

the relationships between the members of Board of Directors and shareholders possessing at least 5% of the votes at the Shareholders' General Meeting, corporate documents, strategic plans, published financial forecasts for the current year, with assumptions for the forecasts, shareholder structure indicating major shareholders and information about the shares available in free float, contact details of investor relations personnel, etc.

To my best knowledge, there is no similar research about the level of the internet disclosures by companies listed on the *New Connect* market. In her research paper, Dyczkowska (2014) created the Internet Financial Reporting Index that was based on a sample of 143 companies listed on the main market of the Warsaw Stock Exchange. The inspiration for my research was the mentioned article by Dyczkowska and the fact that *New Connect* might form an interesting alternative for investors who are seeking to increase their alpha when constructing their portfolios, at the expense of higher risk. This market, however, is facing bad publicity in the media due to several bankruptcies of companies listed there that failed on their bond indentures and due to generally poor liquidity of the market in question. The level of corporate information provided on the website seems to be crucial for attracting entities which deliver capital to listed companies. The Internet Reporting Index proposed in this paper acts as a measure of the extent of information that is disclosed in the sample of NCI constituents and provides the opportunity to rank them from those that share more information with stakeholders, hence minimize information asymmetry, to those that do not share information at all. This measure can be used as a kind of litmus paper to select only companies of "good quality IRI" for further analysis.

This paper comprises four sections: Introduction – where a brief outline of internet reporting and the *New Connect* market has been presented, Previous Research – where the analysis of internet reporting literature has been discussed with a focus on description of independent variables and economic theories establishing foundations of this research, Methodology of Research and Results – depicting the sample selection, the IRI index construction and hypothesis verification, and the Conclusion section – consisting of a short summary of results and an indication for future research.

2. Previous Research

The analysis of literature on internet reporting indicates a few theories based on which the research has been conducted. Those mostly referenced were the legitimacy theory, the agency theory and the signalling theory. Among these, the agency theory and the signalling theory seem to be the fundament of a vast majority of research; therefore, this research is also grounded on them.

Legitimacy is most commonly defined as "generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995).

The agency theory is a subset of financial economics that focuses on conflicts of interests between people with different interests in the same assets. It attempts to explain the relationship between principals (shareholders) and agents (managers). Principals delegate (or hire) agents to achieve specific goals. There are two main problems related to the agency theory – how to align the goals of the principal so that they are not in conflict (agency problem) and that the principal and agent reconcile different tolerances for risk (Arrow, 1971).

The signalling theory, first developed by Spence (1973) to explain the behaviours on labour markets, measures the reaction to informational asymmetry. Management have more information about companies than investors do, hence by disclosing some information, they might improve the liquidity of the company's shares, which subsequently leads to a lower cost of capital. On the other hand, some less positive information might be hidden from the public sight (Diamond & Verrecchia, 1991). A situation common on financial markets where there is a divorce of ownership (shareholders) from control (management) creates asymmetry as agents are likely to have access to superior information in comparison to the principal. In this case, the behaviour of the agent is more difficult to observe and assess by the principal. The impact of such a situation can be mitigated by the use of voluntary disclosures that can take several

forms: minutes of meetings with analysts, press releases, annual reports, etc. (Hanafi, Kasim, Ibrahim, & Hancock, 2009).

The Internet Reporting Index proposed in this research is grounded on these theories in the way, it measures the extent of information disclosed on the corporate website. The higher value of IRI, the better company performance in general, in accordance with the signalling theory assumptions. A higher value of the proposed IRI means that the management discloses more information to stakeholders, minimizing the information asymmetry (which forms part of the agency theory). A linkage with the legitimacy theory is through construction of the Internet Reporting Index, which is based on norms that the Warsaw Stock Exchange suggested in the published *Code of Good Practices of Companies Listed on New Connect*.

Most of internet reporting studies focus on developed countries, mainly the United States (Gowthorpe & Flynn, 1997; Orens, Aerts, & Cormier, 2010; Kelton, 2012), the United Kingdom (Hussey & Sowinska, 1999; Dunne, Helliar, Lymer, & Mousa, 2013) and the European Union (Marston & Polei, 2004). In recent years, however, there has been an observable switch of interest of internet reporting towards developing countries, including Turkey (Uyar, 2011), Poland (Dyczkowska, 2014), Egypt (Samaha, Dahawy, Abdel-Meguid, & Abdallah, 2012; Khalil & Maghraby, 2017), Argentina (Alali & Romero, 2012), Iran (Ghasempour & MdYusof, 2014), Bangladesh (Biswas & Bala, 2015), Ghana (Appiah, Amankwah, & Adu Asamoah, 2016).

What is observable is that factors that affect internet reporting vary across countries, markets and there is no common voice by researchers on that matter. These factors include firm attributes such as: size, profitability, liquidity, leverage, association with a certain industry, auditor type, as well as other characteristics, mainly ownership structure, association of board members with significant shareholders, etc. Probably, it is impossible to generalize the results of previous studies because of differences between countries, cultures, legal requirements and economic developments.

Among the most frequently recognized dependent variables, six have been selected for this study in order to determine whether there is a correlation between the Internet Reporting Index and size, profitability, age, association with IT sector, association with the medical sector and liquidity.

In their seminal paper, Oyelere, Laswad and Fisher (2003) concentrate on internet disclosures made by New Zealand's companies, and examine the determinants of such reporting practices, which according to them are: company size, profitability, liquidity, industrial sector and shareholder's dispersion.

Age of the company is assumed to have a positive correlation with the Internet Reporting Index, as mature companies tend to disclose more information in order to limit the information asymmetry gap between shareholders and management, aiming to maintain the capital required for their growth. Age does not seem to be a well examined independent variable that might have an impact on the level of the IRI index in the literature.

3. Methodology of Research and Results

The study focuses on both financial and non-financial information disclosed on corporate websites by selected entities.

For the purpose of the research, a sample of 106 companies being constituents of the NCI Index has been randomly selected as of 24th August 2017 (the list of companies is presented in Appendix I). The data source for volume, price and EPS was Thomson Reuters Eikon, whereas the details about the companies' websites were obtained from the Warsaw Stock Exchange online service. The information about company age was collected from the National Court Register (Polish *Krajowy Rejestr Sądowy – KRS*).

The NCI Index consists of 200 most reliable and most liquid companies of the *New Connect* market and is generally an indicator of market sentiment. Given the general poor liquidity of stocks listed on *New Connect*, the sample of NCI index is justified for verifying research hypotheses, especially those questioning relationships between IRI and volume. This sample, representing 53% of the NCI population, provides the balance between obtaining sufficient variance for reliable statistical inferences and the resources that should be employed for input data collection.

Firstly, based on 13 elements suggested in the *Code of Good Practices of Companies Listed on New Connect*, a survey examining the presence of certain information as regards internet reporting on corporate websites was developed. This survey consists of the information presented in Table 1.

Table 1. Survey about information disclosed on corporate websites

Variable	Definition	Frequency
DP3.1 (X1)	Basic information about the company and its activities.	96%
DP3.2 (X2)	Extended description of the company's activities, with an indication of the segment that generates the majority of revenues	82%
DP3.3 (X3)	Description of the market on which the company operates	54%
DP3.4 (X4)	Curricula vitae of the members of Board of Directors	56%
DP3.6 (X5)	Registration documents and other corporate documents	82%
DP3.7 (X6)	Strategic plans	38%
DP3.9 (X7)	Structure of ownership	87%
DP 3.10 (X8)	Contact details of the person responsible for investor relations	49%
DP 3.11 (X9)	Management discussion and analysis	69%
DP 3.12 (X10)	Current and periodic reports	82%
DP 3.13 (X11)	Investors calendar	41%
DP 3.19 (X12)	Information about the authorised advisor	38%
DP 3.20 (X13)	Information about the market maker	50%

Source: author's own work.

For this purpose, a dichotomous scoring scheme was applied whereby a disclosed item was granted the score of 1 and 0 if otherwise. The Internet Reporting Index might be presented formulaically as follows:

$$\text{Internet Reporting Index (IRI)} = \frac{\text{Total number of disclosed factors}}{\text{Maximal number of disclosed factors}} \quad (1)$$

$$IRI = \frac{\sum_{i=1}^{m} DF_i}{\sum_{i=1}^{n} DF_i},$$

where $m \leq n$.

The IRI value equal to or higher than 0.66 is considered to be "good reporting", between 0.33 (inclusive) and 0.66 "average reporting" and below 0.33 "poor reporting". The Internet Reporting Index is an exogenous variable in the model and it was measured by assessing the content of each of the sampled companies' websites. It captures the extent of voluntary disclosures. The study was conducted between 1st and 10th September 2017 and all the sampled companies had their corporate websites accessible. The quality of the Internet Reporting Index in the sample was as follows in Table 2.

Table 2. Internet Reporting Index score frequency

IRI	Number of companies
Good (IRI above 0.66)	50
Average (IRI between 0.33 and 0.66	44
Poor (IRI below 0.33)	12
Total	106

Source: author's own work.

Among 106 sampled companies, only one had the value of IRI equal to 0 (Bit Evil SA) and four were granted the maximal value of 1 (Pharmena SA, Derma Fix Medical SA, G Energy SA and Softblue SA).

Endogenous variables in the model include profitability (EPS), size (market capitalization), age (years since being registered in the National Court Register), association with the IT sector (binary variable), association with the medical sector (binary variable) and liquidity (volume).

Secondly, in order to verify six hypotheses about IRI of 106 companies being constituents of NCI Index:

H1: There is a positive correlation b*etween the Internet Reporting Index and profitability.*

H2: There is a positive correlation between the Internet Reporting Index and the firm size.

H3: There is a positive correlation between the Internet Reporting Index and age of the company.

H4: There is a positive correlation between the Internet Reporting Index and association with the IT sector.

H5: There is a positive correlation between the Internet Reporting Index and association with the medical sector.

H6: There is a positive correlation between the Internet Reporting Index and the volume of transactions on the stock.

The correlation between the variables was examined. Table 3 depicts Pearson's correlation between variables. These metrics suggest that only association with the medical sector is correlated (positively) with the Internet Reporting Index. The correlation of 0.228 indicates a weak correlation at the 0.05 significance level. The correlation between the Internet Reporting Index and other variables was statistically insignificant. The results stemming from Pearson's correlation were confirmed by the results of non-parametric tests (Spearman's rho correlation and Kendall's tau-b) with the exception that non-parametric tests indicate also significance at the 0.05 level correlation between the Internet Reporting Index and size measured through market capitalization.

Table 3. Results of Pearson's correlation

		Correlations						
		Volume	Medical	IT	Mcap (PLN)	Age (KRS)	EPS (PLN)	Internet Disclosure Index
Volume	Pearson Correlation	1	–.049	.013	–.039	–.088	–.013	.063
	Sig. (2 – tailed)		.624	.898	.699	.379	.899	.532
	N	101	101	101	101	101	101	101
Medical	Pearson Correlation	–.049	1	–.125	–.030	–.041	–.180	.228
	Sig. (2 – tailed)	.624		.202	.762	.676	.065	.019
	N	101	106	106	106	106	106	106

continued Table 3

		Correlations						
		Volume	**Medical**	**IT**	**Mcap (PLN)**	**Age (KRS)**	**EPS (PLN)**	**Internet Disclosure Index**
IT	Pearson Correlation	.013	–.125	1	.075	–085	.040	–.106
	Sig. (2 – tailed)	.898	.202		.447	.387	.687	.278
	N	101	106	106	106	106	106	106
Mcap (PLN)	Pearson Correlation	–.039	–.030	.075	1	–.003	.389**	.161
	Sig. (2 – tailed)	.699	.762	.447		.974	.000	.100
	N	101	106	106	106	106	106	106
Age (KRS)	Pearson Correlation	–.088	–.041	–.085	–.003	1	–.027	.033
	Sig. (2 – tailed)	.379	.676	.387	.974		.787	.733
	N	101	106	106	106	106	106	106
EPS (PLN)	Pearson Correlation	–.013	–.180	.040	.389**	–.027	1	–.110
	Sig. (2 – tailed)	.899	.065	.687	.000	.787		.263
	N	101	106	106	106	106	106	106
Internet Disclosure Index	Pearson Correlation	.063	.228*	–.106	.161	.033	–.110	1
	Sig. (2 – tailed)	.532	.019	.278	.100	.733	.263	
	N	101	106	106	106	106	106	106

*. Correlation is significant at the 0.05 level (2 – tailed).

**. Correlation is significant at the 0.01 level (2 – tailed).

Source: author's own work.

4. Conclusion

The results of the research suggest that only association with the medical sector is correlated positively in the sense of Pearson's correlation with the value of the Internet Reporting Index proposed. Other dependent variables such as volume of transactions on the stock (average from 6 months), association with the IT sector, market capitalization, age of the company and earnings per share were not statistically correlated to IRI at the 0.05 significance level.

This result is confirmed by non-parametric Kendall's tau b and Spearman's correlations at the 0.05 significance level. Additionally, these two tests suggest that also market capitalization is weakly positively correlated with the Internet Reporting Index score at the same significance level.

The details of Kendall's tau b and Spearman's correlation are presented in the table 4.

Given this was initial research into this field, it is impossible to compare the results with other examinations. The results are not very conclusive observations, therefore in the future it would be necessary to utilize not only one-dimensional dichotomous scale but also to include the quality of information provided as an additional dimension and endeavour to build a statistically significant regression which might have better explanatory power than Pearson's correlation.

Table 4. Results of non-parametric tests

Correlations			Volume	Medical	IT	Mcap (PLN)	Age (KRS)	EPS (PLN)	Internet Disclosure Index
Kendall's tau_b	Volume	Correlation Coefficient	1.000	−.028	.115	−.109	−.001	−.195**	.005
		Sig. (2 – tailed)	.	.739	.164	.111	.988	.005	.943
		N	101	101	101	101	101	101	101
	Medical	Correlation Coefficient	−.028	1.000	−.125	.070	−.068	−.114	.207*
		Sig. (2 – tailed)	.739	.	.201	.383	.419	.161	.013
		N	101	106	106	106	106	106	106
	IT	Correlation Coefficient	.115	−.125	1.000	−.062	−.063	.049	−.068
		Sig. (2 – tailed)	.164	.201	.	.436	.450	.549	.420
		N	101	106	106	106	106	106	106
	Mcap (PLN)	Correlation Coefficient	−.109	.070	−.062	1.000	.036	−164*	.166*
		Sig. (2 – tailed)	.111	.383	.436	.	.597	.014	.016
		N	101	106	106	106	106	106	106
	Age (KRS)	Correlation Coefficient	−.001	−.068	−.063	.036	1.000	.113	.024
		Sig. (2 – tailed)	.988	.419	.450	.597	.	.104	.739
		N	101	106	106	106	106	106	106
	EPS (PLN)	Correlation Coefficient	−.195**	−.114	.049	.164*	.113	1.000	.011
		Sig. (2 – tailed)	.005	.161	.549	.014	.104	.	.880
		N	101	106	106	106	106	106	106
	Internet Disclosure Index	Correlation Coefficient	.005	.207*	−.068	.166*	.024	.011	1.000
		Sig. (2 – tailed)	.943	.013	.420	.016	.739	.880	.
		N	101	106	106	106	106	106	106

Spearman's rho								
	Volume	Correlation Coefficient	1.000	−.033	.139	−.164	−.006	−.283**	.006
		Sig. (2 – tailed)	.	.740	.165	.102	.953	.004	.952
		N	101	101	101	101	101	101	101
	Medical	Correlation Coefficient	−.033	1.000	−.125	.085	−.079	−.137	.242*
		Sig. (2 – tailed)	.740	.	.202	.385	.421	.162	.013
		N	101	106	106	106	106	106	106
	IT	Correlation Coefficient	.139	−.125	1.000	−.076	−.074	.058	−.079
		Sig. (2 – tailed)	.165	.202	.	.439	.453	.552	.423
		N	101	106	106	106	106	106	106
	Mcap (PLN)	Correlation Coefficient	−.164	.085	−.076	1.000	.050	.219*	.230*
		Sig. (2 – tailed)	.102	.385	.439	.	.613	.024	.018
		N	101	106	106	106	106	106	106
	Age (KRS)	Correlation Coefficient	−.006	−.079	−.074	.050	1.000	.155	.022
		Sig. (2 – tailed)	.953	.421	.453	.613	.	.112	.822
		N	101	106	106	106	106	106	106
	EPS (PLN)	Correlation Coefficient	−.283**	−.137	.058	.219*	.155	1.000	.018
		Sig. (2 – tailed)	.004	.162	.552	.024	.112	.	.853
		N	101	106	106	106	106	106	106
	Internet Disclosure Index	Correlation Coefficient	.006	.242*	−.079	.230*	.022	.018	1.000
		Sig. (2 – tailed)	.952	.013	.423	.018	.822	.853	.
		N	101	106	106	106	106	106	106

Source: author's own work.

Appendix I

Table 5. Sample details

No.	Name	Sector standardized	Website address	IRI
1	Baltic Ceramics Investments SA	Other	www.balticceramicsinvestments.com	0.77
2	Site SA	IT	www.site.pl	0.54
3	Partner Nieruchomosci SA	Other	www.partnernieruchomosci.com.pl	0.46
4	Damf Inwestycje SA	IT	www.damfinwestycje.pl	0.77
5	Fachowcy.pl Ventures SA	Other	www.fachowcy.pl	0.85
6	Geotrekk SA	IT	www.geotrekk.pl	0.69
7	Nowoczesna Firma SA	Other	www.nf.pl	0.38
8	Momo SA	Chemicals	www.momo.com.pl	0.31
9	Aztec International SA	Other	www.aztec-international.eu	0.62
10	Boruta Zachem SA	Chemicals	www.boruta-zachem.pl	0.85
11	K&K Herbal Poland SA	Medical	www.kkpoland.pl	0.92
12	Grupa HRC SA	HR	www.hrc.com.pl	0.77
13	Medapp SA	IT	www.medapp.pl	0.62
14	Farm 51 Group SA	Other	www.thefarm51.com	0.62
15	Pixel Venture Capital SA	Finance	www.pixelvc.pl	0.62
16	Macro Games SA	Other	www.macrogames.pl	0.54
17	Milkpol SA	Food, Beverages & Agriculture	www.milkpol.com.pl	0.62
18	Teliani Valley Polska SA	Food, Beverages & Agriculture	www.telianivalley.pl	0.38
19	Suntech SA	IT	www.suntech.pl	0.62
20	Rajdy 4x4 SA	Other	www.rajdy4x4-sa.pl	0.23
21	QubicGames SA	Other	www.qubicgames.com	0.85
22	Sferanet SA	IT	www.sferanet.pl	0.85
23	Alumast SA	Other	www.alumast.eu	0.69
24	Pharmena SA	Chemicals	www.pharmena.com.pl	1
25	LS Tech Homes SA	Other	www.lstech-homes.com	0.62
26	Astro SA	Other	www.astrosa.pl	0.23
27	Eurosnack SA	food, Beverages & Agriculture	www.eurosnack.pl	0.85
28	Geotrans SA	Other	http://geotranssa.com.pl	0.85
29	Aqua SA Bielsko-Biala	Other	www.aqua.com.pl	0.92
30	Cloud Technologies SA	IT	www.cloudtechnologies.pl	0.69
31	Agroliga Group PLC	Food, Beverages & Agriculture	www.agroliga.com.ua	0.54
32	Platige Image SA	Other	www.platige.com	0.62
33	Orphee SA	Medical	www.orphee-medical.com	0.46
34	JR Holding SA	Other	www.jrholding.pl	0.92

continued Table 5

No.	Name	Sector standardized	Website address	IRI
35	Letus Capital SA	Finance	http://letuscap.com	0.46
36	Tech Invest Group SA	IT	www.tigsa.pl	0.77
37	Copernicus Securities SA	Finance	www.copernicus.pl	0.85
38	Fluid SA	Chemicals	www.fluid.pl	0.85
39	Mennica Skarbowa SA	Finance	www.gmksa.pl	0.85
40	Bit Evil SA	IT	www.bitevil.com	0
41	Auxilia SA	Other	www.auxilia.pl	0.85
42	Erne Ventures SA	Finance	http://www.erne.pl	0.46
43	Eo Networks SA	IT	www.eo.pl	0.85
44	Robinson Europe SA	Other	www.robinson.pl	0.23
45	Genomed SA	Medical	www.genomed.pl	0.92
46	Boomerang SA	Other	www.boomerang.com.pl	0.15
47	Ekopol Górnośląski Holding SA	Chemicals	www.eg.com.pl	0.62
48	Automatyka Pomiary Sterowanie SA	Other	www.aps.pl	0.62
49	NWAI Dom Maklerski SA	Finance	www.nwai.pl	0.85
50	Star Fitness SA	Other	www.star-fitness.pl	0.38
51	Onico SA	Chemicals	www.onico.pl	0.54
52	Europejski Fundusz Energii SA	IT	www.efesa.pl	0.62
53	e-Kiosk SA	Other	www.e-kiosk.pl	0.62
54	Eskimos SA	Food, Beverages & Agriculture	www.eskimossa.pl	0.62
55	M Trans SA	Other	www.mtrans.co	0.62
56	EBC Solicitors SA	Finance	www.ebcsolicitors.pl	0.77
57	ATC Cargo SA	Other	www.atc-cargo.pl	0.92
58	Stem Cells Spin SA	Medical	www.stemcellsspin.com.pl	0.77
59	Mera SA	Other	www.mera.pl	0.54
60	Uhy Eca SA	Finance	www.ecagroup.pl	0.77
61	e-Muzyka SA	Other	www.e-muzyka.pl	0.69
62	Korbank SA	IT	www.korbank.pl	0.31
63	Perma Fix Medical SA	Medical	www.medical-isotope.com	1
64	Beskidzkie Biuro Consultingowe SA	Other	www.bbc-polska.com	0.85
65	Merit Invest SA	Finance	www.meritinvest.pl	0.77
66	Presto SA	Other	www.presto-kominy.pl	0.69
67	Dom Lekarski SA	Medical	www.domlekarski.pl	0.77
68	Auto Spa SA	Other	www.auto-spa.eu	0.85
69	G Energy SA	Other	www.genergy.pl	1
70	Inbook SA	Other	www.inbook.com.pl	0.62
71	ArtP Capital SA	Other	www.artpcapital.pl	0.69
72	01Cyberaton SA	Other	www.01cyberaton.eu	0.62

No.	Name	Sector standardized	Website address	IRI
73	Verbicom SA	IT	www.verbicom.pl	0.46
74	Grupa Emmerson SA	Other	www.grupaemmerson.pl	0.62
75	InteliWISE SA	IT	www.inteliwise.pl	0.62
76	Szar SA	Other	www.szar.pl	0.31
77	Bras SA	Other	www.inventi-power.pl	0.77
78	Softblue SA	IT	www.softblue.pl	1
79	Kancelaria Prawna Inkaso WEC SA	Other	www.kancelariawec.eu	0.92
80	Present24 SA	Other	www.present24sa.pl	0.46
81	Acrebit SA	IT	www.acrebit.pl	0.31
82	Dolnoslaskie Centrum Developerskie SA	Other	www.dcdsa.pl	0.77
83	Przedsiebiorstwo Telekomunikacyjne Telgam SA	IT	www.telgam.pl	0.15
84	Infoscan SA	Medical	www.infoscan.pl	0.85
85	GLG Pharma SA	Medical	www.glgpharma.pl	0.77
86	Prymus SA	Chemicals	www.prymussa.pl	0.92
87	Photon Energy NV	Other	www.photonenergy.com	0.69
88	Internity SA	Other	www.internitysa.pl	0.54
89	Caspar Asset Management SA	Finance	www.caspar.com.pl	0.69
90	Lauren Peso Polska SA	Other	www.laurenpeso.pl	0.38
91	Grempco SA	Finance	www.grempco.com	0.38
92	Rotopino.pl SA	Other	www.rotopino.pl	0.46
93	Logintrade SA	Other	www.logintrade.pl	0.69
94	Advertigo SA	Other	www.advertigo.pl	0.15
95	Aqua SA	Other	www.aqua.poznan.pl	0.62
96	Investeko SA	Other	www.investeko.pl	0.54
97	Centrum Finansowe Banku BPS SA	Finance	www.cfbps.pl	0.54
98	Ekobox SA	Other	www.ekobox.pl	0.23
99	Agromep SA	Other	www.agromep.pl	0.62
100	Analizy Online SA	Finance	www.analizy.pl	0.69
101	Kofama Kozle SA	Other	www.kofama.pl	0.54
102	Hurtimex SA	Other	www.hurtimex.com.pl	0.46
103	Ackerman SA	Other	www.ackerman.pl	0.46
104	Wodkan Przedsiebiorstwo Wodociagow i Kanalizacji SA	Food, Beverages & Agriculture	www.wodkan.com.pl	0.69
105	Notoria Serwis SA	Finance	www.notoria.pl	0.38
106	5th Avenue Holding SA	Other	www.5avenueholding.com	0.85

Source: author's own work.

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