

INTERNET FINANCIAL REPORTING IN BOSNIA AND HERZEGOVINA

Zaimović Tarik *, Zaimović Azra **, Fazlić Anela ***

ABSTRACT

Using the Internet as a communication channel between a company and its stakeholders is a norm in today's economy, and the Web-based company reports have long replaced traditional forms of corporate reporting. Most investors base their entire first impression of a company on information available on its Web page, and often, an entire initial performance assessment is based on data available on-line. Internet Financial Reporting (IFR), in its broadest form, has become one of the pivotal factors in effective functioning of capital markets. Building on earlier studies, we analyzed the IFR practices of companies traded on two stock exchanges in Bosnia and Herzegovina by estimating multiple regressions separately for both stock exchanges. Our findings clearly show that voluntary disclosure of reports and other forms of company information for analyzed companies is still simplistic. Furthermore, our estimations revealed that profitability measured by return on equity and market activity represented by share turnover significantly affect the IFR index for companies traded on the Banja Luka Stock Exchange (BLSE); with companies traded on the Sarajevo Stock Exchange (SASE), size measured by total asset, as well as market activity measured by share turnover, have a positive effect on the IFR index. On both stock exchanges, companies from the financial industry have on average higher IFR scores than other companies. With respect to expanding earlier studies, this study used an extended sample for Bosnian and Herzegovinian assessments, and as a result, observed additional factors related to the

Internet Financial Reporting practices of companies traded on two stock markets in BiH.

Keywords: the Internet financial reporting, SASE, BLSE, BiH

JEL: G32

INTRODUCTION

As the Internet becomes an irreplaceable part of life, the need for on-line visibility and promotion becomes a never-ending story for companies' management. Investors ranging from small to intuitional are looking at the Internet as a one-way window to companies' profile, market approach and financial status. These investors will often base their entire first impression of organization on its Web promotion. Financial statements in their broadest sense are one of the primary sources of publicly- available information for company's performance and business activities. Thus, financial reporting on the Internet becomes one of the pivotal factors in effective functioning of capital markets. The late 1990s have seen some of the first assessments of what would become "the Internet Financial Reporting" (henceforth, IFR). Over time, the IFR concept has changed and now it entails usage of the Internet in providing information about overall financial performance of a company – not just in mandatory disclosures but also comprehensive reporting and information sharing on all financial and market activities. The content of IFR often includes annual and quarterly reporting, media statements, information about stock price and trading,

* School of Economics and Business Sarajevo, tarik.zaimovic@efsa.unsa.ba

** School of Economics and Business Sarajevo, azra.zaimovic@efsa.unsa.ba

*** anela_fazlic@hotmail.com

different reports and analyses, as well as ownership, management and employee data, etc.

Building on earlier papers about IFR, especially Bartulović and Pervan (2014), this study extends prior research conducted in Bosnia and Herzegovina (henceforth, BiH) by analyzing a larger sample and focusing on IFR practices of companies traded on both stock markets: the Sarajevo and Banja Luka Stock Exchanges. Based on previous studies' findings, we develop a multiple regression model appropriate for this market. In all, our sample has included a total of 88 companies and next to their IFR scores, our analysis reveals specific determinants related to IFR scores for each of two analyzed markets (stock exchanges of two BiH entities: Federation of BiH and Republic of Srpska¹).

1. IFR FRAMEWORK IN BIH

One of the principle objectives of financial reporting is to inform interested groups about company's financial position and its business performance. At its core, financial reporting is the product of accounting systems, but today it often represents a key communication channel between the company and its shareholders, stakeholders and potential investors. A financial reporting framework in the broad sense refers to all the regulations governing financial reporting in any given country. As individual countries have developed differently, the differences in the financial reporting practices have differed. In order to harmonize different approaches, the FASB² and the IASB³ have issued a number of norms and rulings with the aim of aligning existing accounting standards and practices, among

¹ According to BiH Constitution, the state has two rather independent entities with two financial markets and two stock-exchanges in Sarajevo and Banja Luka.

² Financial Accounting Standards Board

³ International Accounting Standards Board

which is mandatory and voluntary financial reporting. An important step forward in harmonizing accounting practices was made with the EU Council of Ministers in 2002 with a decision requiring companies whose shares are traded on capital markets in the EU to apply accounting standards of the IASB starting in 2005. This Decision by the EU has secured greater business transparency, easier financial analysis and ultimately faster investment decisions (Pervan, 2005).

In the Federation of BiH (henceforth, FBiH), which is a sub-federal entity in BiH, accounting and financial reporting is regulated by the Law on Accounting and Auditing. The obligation to prepare and present financial statements for legal entities with the mandatory application of International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) is prescribed by Articles 33-37 of the Law. Additional provisions on financial reporting are subject to the Regulation on Disclosure of Information and Reporting. This requires all listed joint stock companies to make disclosures of their semi-annual and annual reports on operations and the reports of external auditors on the official website, as well as to submit them to the Sarajevo Stock Exchange (henceforth, SASE) for publication on stock exchange's website. Companies are also required to publish reports and statements on events which significantly impact financial performance on company's official website. In addition, all listed joint stock companies should publish quarterly and nine-month operating reports and make them available on-line.

As in FBiH, the Law on Accounting and Auditing regulates this area in Republic of Srpska (henceforth, RS). According to RS Law the preparation and the publication of financial statements shall adhere to International Performance Standards for Financial Reporting. Financial reporting for listed joint stock companies is further

regulated by the Law on Securities and the Regulations on disclosure of information for listed joint stock companies. Listed joint-stock companies are obliged to publish annual financial reports, half-yearly financial statements, audit reports and reports on important business events on company's official website. Also, collected reports are published on the Banja Luka Stock Exchange's website (henceforth, BLSE).

2. LITERATURE REVIEW

In reviewing the to-date IFR studies, we have accounted for the changing scope of IFR standards as well as role of the Internet in daily life. Access to information, as well as disclosure of information, is now more important than ever. It increases trust between parties and leads to more investments; ultimately decreasing costs (Depoers, 2000).

A number of studies analyse IFR, however these results do not provide comparable picture to today's Internet applications. The nature of business as well as Web tools and practices, have changed substantially in the last decade. Thus, the studies about IFR can be divided into three categories: *descriptive*, which analyses the practical application of IFR in individual countries (Cooke, 1989, 1993; Brennan & Hourigan, 1998, Hedlin, 1999); *comparative*, which compares countries or sectors (Gowthorpe & Amat, 1999; Marston & Polei, 2004); and *explanatory*, which analyses factors that affect practices and scope of IFR (Craven & Morston, 1999; Andrikopoulos et al., 2013; Garay et al., 2013; Bartulović & Pervan, 2014).

Some early studies of 150 most successful companies in the USA showed that 65% have a website, but only 23% published complete annual reports (Louwers et al., 1996). Subsequent research conducted in 1997 and 1998 on a sample of 290 companies from the

USA, showed that 70% of companies were reporting their financial information on the Internet (Ashbaugh et al., 1999). Furthermore, Lymer et al. (1999) found that disclosure of financial information on the Internet has become a growing practice of companies that are listed on the Stock Exchanges.

However, there was a big difference in the scope and usefulness of the information available when assessing individual countries. In 2002, Bonsón and Escobar (2002), conducted an assessment of 20 biggest companies in each EU country (total sample size 300) and concluded that 86% of the companies publish a balance sheet and profit and loss statement, 77% publish auditors' reports, 71% publish internal financial statements and 69% publish historical data. Bogdan et al. (2008), in their assessment of stock exchange in Bucharest, found that 77% of the observed companies had their own Website, while only 48% of them used these pages for financial reporting.

In a more comparative assessment, Deller et al. (1999) found that 91% of US corporations used the Internet for investor relations, while this practice is a little less common for UK and German companies (72% and 71% respectively). By using the sample of the largest companies from France, Holland and Belgium, Geerings et al. (2003) found that those companies from France and Holland have better IFR practice of those from Belgium, both in the scope and frequency of reporting. In a more content-oriented study of companies from the USA, Canada, UK, Australia and Hong Kong, Allam and Lymer (2003) found that almost all companies publish their balance sheet, profit and loss account and cash flow report. Still, the authors pointed out that the most frequent file format is PDF, while a more analytical file format, like Excel, was found only in 12% of the cases.

As expected, the studies conducted in the Western Balkans region have shown that the

level of IFR is not satisfactory, even for the biggest companies. Pervan (2005), in a sample of 38 firms from Croatia, showed that only 39.4% of them voluntarily publish a set of five annual financial statements. A subsequent study of Croatian and Slovenian companies by the same author (Pervan, 2006), showed that the IFR index is positively correlated to size, profitability, number of shareholders and trading volume for Croatian companies in tourism and shipping. For Slovenia, the Index was positively correlated with official quotation, market capitalisation and market-to-book value.

The research of 100 largest companies in terms of revenue from BiH showed that balance sheets and profit and loss statements could be found on the official website of only 47.2% (41.7%) of the companies, while the complete audit reports were published by only two companies (Zaimović & Zaimović, 2011). At the same time, comparative analysis from 2012 (Bartulović & Pervan, 2014) on a sample of 91 companies listed on the Zagreb, Belgrade, Banja Luka, Sarajevo and Ljubljana Stock Exchanges, showed that the highest level of IFR, measured by the defined IFR scale, was recorded in Slovenia at 23.25. Croatia followed with IFR score of 21.27. Other markets ratings were: 9.75 Belgrade, 6.74 in Sarajevo and 3.61 for the Banja Luka Stock Exchange.

Explanatory research can assess factors which affect Internet financial reporting. As expected, a number of studies showed that large companies are more likely to adhere to IFR practice than the small ones (McKinnon & Dalimunthe, 1993; Gowthorpe & Amat, 1999; Craven & Marston, 1999; Andrikopolous & Diakidis, 2007; Depoers, 2010). However, recent studies have showed that factors affecting IFR differ, and in one of the earliest explanatory studies Pirchegger and Wagenhofer (1999) investigated Austrian- and German-listed companies by evaluating the quality of a website based on financial and

nonfinancial criteria, followed by regression analysis of achieved grades. The results show that the IFR practices of Austrian companies were influenced by company's size and the percentage of shares traded on stock exchange, while for German companies, the IRF was affected by Website quality and size. Craven and Morston (1999) conducted a research on a sample of 100 largest British companies and concluded that there is a positive relationship between company size and the scope of IFR. They also found no significant relationship between IFR and industry sector.

Among many, the studies prepared by Bonson and Escobar (2006) analysed voluntary IFR practices on a large sample of 300 EU companies. Twenty largest companies measured by market capitalisation from each EU country were selected. Authors composed 23 criteria-based transparency indices, and the results showed that companies from Northern and Central Europe have higher index values compared to companies from Southern Europe. Also, the industry sector as well as company size are correlated with the transparency index. Multivariate analysis (Marston & Polei, 2004) confirmed that among five factors (size, profitability, stock trading, systemic risk and international trade), only company size (measured by market capitalization) had a significant impact on IFR. In addition to the size of the company, research has shown that there are other factors that significantly affect IFR. Among them there are profitability, type of industry (Hussainey & Al-Nodel, 2008; Aly et al., 2009), whether the shares of the company are traded on foreign markets (Marston & Polei, 2004), and ownership structure (Eng & Mak, 2003).

Andrikopoulos et al. (2013), in their study of websites of 171 international-listed shipping corporations, found a statistically-significant and positive relationship between the extent of Internet disclosure and corporate performance in the shipping industry. The

authors concluded that more financial information available via the web in recent years demonstrates that web disclosure could be seen as a prerequisite for sound financial performance. Finally, in a rather comprehensive study, Garay et al. (2013), while analysing relationship between an Internet-based corporate disclosure index and firm value in seven largest stock markets of Latin America, found that an increase of 1% in the level of disclosure is associated with an increase of 0.1592% in Tobin's Q and 0.0119% in ROA. The authors have taken into account companies' characteristics, industry, and country of origin. Garay et al. (2013) study provides confirmation that companies can differentiate themselves by adopting better financial and corporate disclosure practices, especially in relation to IFR.

In a more regional context, analysis of 35 companies listed on the Sarajevo Stock Exchange has shown that factors significantly affecting IFR are stock exchange activities, percentage of market capitalization and trading in shares; the size, profitability and type of industry do not affect the level of IFR (Pervan & Filipović, 2008). Extensive analysis of 91 companies from the Western Balkans conducted in 2012 showed that the variable assessing official listing had the greatest impact on IFR in Croatia, while companies in the construction sector have a lower level of IFR reporting than in other sectors. Market activity had a significant negative impact on IFR of Slovene sample which indicates that companies with shares that are traded more have a lower level of IFR. However, this conclusion may be due to a small sample size. For companies listed on the Belgrade Stock Exchange, the analysis showed that companies from the trade sector have low levels of IFR. As for the Sarajevo Stock Exchange, the significant variables are total assets, official listing, and the pharmaceutical sector. Noting that the overall sample for BiH is rather small, for the companies sample from the Banja Luka

Stock Exchange, the only significant variable is the listing on the official market. On average, the study found that the variables indicating market activity are, in most cases, positively correlated with the level of IFR (Bartulović & Pervan, 2014).

3. METHODOLOGY

Based on comprehensive and most recent regionally-focused IFR study, (Bartulović & Pervan, 2014), our research methodology follows a similar two-step process, but for a significantly larger sample. The first part of the paper gives a comparative assessment measured through the Internet Financial Reporting Score (IFR score), while the second part gives an explanatory analysis that estimates variables related to IFR score for both capital markets; in FBiH and RS.

3.1. Sample

This paper focuses on the capital markets of BiH, more precisely companies traded on the official stock exchanges, the Sarajevo and the Banja Luka Stock Exchanges. Since these are developing capital markets, a pervasive problem of illiquidity exists.

Table 3.1. Sample overview (authors' analyses)

<i>Stock exchange</i>	<i>Total number of companies</i>	<i>Number of companies in market segments</i>	
Sarajevo	57	2	Quotation
		26	Primary free market
		29	Secondary free market
Banja Luka	31	27	Official stock market
		4	Free market

Thus, as a basic criterion for inclusion in the sample, we used the information of whether shares are traded in the last quarter of 2013.

Following this principle, the sample includes 88 companies for which there is a real demand of wider investor public for financial reports. The structure of companies included in the sample is presented in the table above.

3.2. Sample valuation

Referencing similar studies (Marston & Polei, 2004; Xiao et al., 2004; Pervan, 2006), an index of financial reporting on the Internet (IFR index) was used to measure the quality of voluntary Internet reporting of the sample used. Guided by the methodology used by Bartulović and Pervan (2014), we made a similar IFR index consisting of 30 elements grouped into 6 categories, presented in table 3: *Technical aspects of the website; Financial Statements; Annual reports, Transparency of Management and Supervisory Board; The Attitude of the Company to Investors and Other Useful Information.*

Table 3.2. Basic statistical characteristics of IFR index (authors' analyses)

<i>Number of observations</i>	88
<i>Arithmetic mean</i>	7.88
<i>Highest value</i>	26
<i>Lowest value</i>	2
<i>Variance</i>	49.90
<i>Standard deviation</i>	7.06
<i>Median</i>	6

Voluntary Internet disclosure of companies in BiH resulted with the values of the IFR index, as reported above. Assigning a weight to each element of the index can often result in authors' subjective assessment (Marston & Polei, 2004; Mohd & Noor, 2011; Pertiwi & Hermana, 2012) and distort the results. In order to prevent this, each element was assigned values of 1 (if the element was present on the website) or 0 (if the element was not present on company's website). The sum of the given rating represents the final

value of the index. In the event that there is no website, the index value was 0.

Table 3.3. The values of the elements IFR index (authors' analyses)

TECHNICAL ASPECTS OF THE WEB SITE		
	Web site in the local language	73
	Website in English	53
	Internal search	28
	HTML	2
	PDF	20
	Excel	30
	Download	38
	Web map	7
	Contacts	73
FINANCIAL REPORTS		
	Balance sheet (2012)	26
	Profit and Loss Statement (2012)	25
	Statement of Cash Flows (2012)	18
	Statement of Changes in Equity (2012)	18
	Auditor's report (2012)	13
	Notes to Financial Statements (2012)	18
	The accounting policies (2012)	9
BUSINESS REPORT		
	The annual business report (2012)	17
	The semi-annual business report (2013)	27
	The quarterly business report (2013)	8
	Reports on events which significantly impact the business (2012)	33
	Reports from past years	28
TRANSPARENCY OF MANAGEMENT AND SUPERVISORY BOARD		
	Data about management	31
	Data about supervisory board	22
	Code of Corporate Governance	12
INVESTOR TREATMENT		
	Special part of the Web for investors	13
	Information on the last share price	5
	Information on dividends	3
OTHER INFORMATION		
	Report on corporate social responsibility	18
	Human Resources - Career and job opportunities	13
	Sponsorships	8

A closer look at the elements of an IFR index gives us some interesting information. Analysis of the availability of five basic financial statements showed that the balance sheet was available for 26 companies (30%) and the profit and loss statement for 25 companies (28%). Statements of cash flows, changes in equity and notes to the financial statements were found for 18 companies (20%). In 10 cases, the financial statements were only available as part of the Annual Report. Report type is diverse, though mostly in Excel and PDF format. In addition to the financial statements, information on the last share price and dividend data, important indicators for investors were found in small number. Data on the last share price was found in five companies, and information on payment of dividends in only three companies.

3.3. Analysis of the variables that affect IFR evaluation of the selected sample

The second part of the paper refers to the explanatory analysis and identification of variables that affect the quality of voluntary Internet financial reporting. Using multiple regression analysis, we examine the link between IFR index (y) as the dependent variable and several independent variables ($x_1, x_2, x_3 \dots$). The basic form of the regression model is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + e$$

In selecting independent variables, we were guided by findings presented in earlier studies. The main groups of independent variables composing our estimated model are: *size* (Brennan & Hourigan, 1999; Craven & Morston, 1999; Pirchegger & Wagenhofer, 1999; Bonsón & Escobar, 2002, 2006; Marston, 2003; Allam & Lymer, 2003; Marston & Polei, 2004; Aly et al., 2009; Bartulović & Pervan, 2014;), *profitability* (Marston & Polei, 2004; Aly et al., 2009; Bartulović & Pervan, 2014) *market activity*

(Marston, 2003; Pervan, 2005; Bartulović & Pervan, 2014), as well as a dummy variable for *financial sector*. The table below shows the variables used to measure the basic three groups of independent variables:

Table 3.4. Overview of independent variables (authors' analyses)

<i>Variable</i>	<i>Label</i>	<i>Description</i>
Size		
Total market capitalization	TKAP	Market capitalization (end of 2013)
Total assets	UAKT	From balance sheet (2012)
Total revenues	UPH	From balance sheet (2012)
Profitability		
Return on assets	ROA	Net income/total assets (2012)
Return on equity	ROE	Net income/equity (2012)
Profit margin	ROS	Net income/revenue (2012)
Market activity		
Share turnover	PROM	Share turnover (in 2013)
Percentage of market capitalization	PTK	Total capitalization of company/Total market capitalization (end of 2013)

Data on independent variables was obtained from various sources (annual reports of companies, annual reports of Stock Exchanges and Securities Commissions), depending on where the requested information is available. Also, our estimated model included only the companies that have websites; from the initial sample eight companies were excluded (four for which we

were unable to obtain data on independent variables and additional four companies due to official market zero share turnovers in 2013). The final number of companies in the regression analysis sample is 65: 40 companies from the Sarajevo Stock Exchange and 25 companies from the Banja Luka Stock Exchange. This is a significant sample increase compared to earlier studies assessing IFR practices in BiH.

We have run two parallel analyses for both stock exchanges in BiH. The next table summarizes descriptive statistics for the dependent variable (IFR score) for both groups of companies, i.e. stock exchanges. IFRBL stands for IFR scores for companies from the Banja Luka Stock Exchange, and IFRSA stands for IFR scores for companies from the Sarajevo Stock Exchange.

Table 3.5. Descriptive statistics for dependent variables (authors' analyses)

Variable	Obs	Mean	Std. Dev.	Min	Max
IFRBL	25	10.24	7.16054	3	26
IFRSA	40	9.725	6.755767	2	25

Based on the two-way ANOVA test, we find that there is no statistically significant difference in means of IFR scores for

Table 3.6. Test of between-subjects effects (authors' analyses)

Dependent Variable: IFRSA					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	676.966 ^a	15	45.131	.789	.673
Intercept	2459.574	1	2459.574	42.976	.000
IFRBL	676.966	15	45.131	.789	.673
Error	744.000	13	57.231		
Total	4908.000	29			
Corrected Total	1420.966	28			

a. R Squared = .476 (Adjusted R Squared = -.128)

companies from two stock exchanges (p = 0.673), so both samples are alike.⁴

⁴ If two means are compared, as in our case, ANOVA test will give the results as t-test.

The dependent variable was also tested for the normal distribution, by SK test (Skewness-Kurtosis Test). The null hypothesis of this test is that a random variable is normally distributed. Based on the results presented in the table below, we can conclude that the null hypothesis about dependent variable normal distribution cannot be rejected at the significance level of 5%, in both cases.

Table 3.7. Skewness-Kurtosis test (authors's analyses)

Variable	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
IFRBL	0.064	0.663	3.91	0.1413
IFRSA	0.020	0.895	5.28	0.0713

Having in mind previous research, we have formulated a general research model:

$$IFR = \beta_0 + \beta_1 SIZE + \beta_2 PROFITABILITY + \beta_3 MARKET ACTIVITY + \beta_4 FINANCIAL IND + e$$

Among previously-listed independent variables, we found that BiH's capital market size is best described by total asset (UAKT), profitability by return on equity (ROE), while market activity is best represented by share

turnover (PROM). We also expand the model with a dummy variable, controlling for "financial industry" (banking and insurance industry), where 1 stands for a financial company, 0 for non-financial companies. We hypothesize that there is a statistically

significant difference between financial and other companies in their scope of Internet financial reporting, since the BiH financial industry is the most and best regulated industry. We estimate the following multiple cross-section regression model:

$$IFR = \beta_0 + \beta_1 UAKT + \beta_2 ROE + \beta_3 PROM + \beta_4 FIN + e$$

where IFR represents dependent variable, UAKT, ROE, PROM and FIN are independent variables, and "e" stands for residuals. Unlike earlier studies (Bartulovic & Pervan 2014), we did not drop insignificant independent variables from the model; instead these variables served as control variables in our model.

Table 3.9. Variance inflation factors for BLSE model's independent variables (authors' analyses)

Variable	VIF	1/VIF
UAKT	1.44	0.694759
ROE	1.72	0.582392
PROM	1.52	0.658230
FIN	1.53	0.653278
Mean VIF	1.55	

Our regression analysis reveals that return on equity (ROE, $p=0.024$), share turnover (PROM, $p=0.001$) and a variable controlling for the financial industry (FIN, $p=0.004$) are statistically significant. The level of Internet financial reporting for companies from BLSE

Table 3.8. Results of estimated regression model for companies from BLSE (authors' analyses)

Source	SS	df	MS	Number of obs =	25
				F(4, 20) =	5.01
Model	615.598223	4	153.899556	Prob > F =	0.0058
Residual	614.961777	20	30.7480888	R-squared =	0.5003
				Adj R-squared =	0.4003
Total	1230.56	24	51.2733333	Root MSE =	5.5451

IFRBL	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
UAKT	-3.00e-09	4.03e-09	-0.74	0.465	-1.14e-08	5.40e-09
ROE	-51.71694	21.11423	-2.45	0.024	-95.76046	-7.67342
PROM	2.06e-06	5.40e-07	3.83	0.001	9.39e-07	3.19e-06
FIN	22.79936	7.002038	3.26	0.004	8.193367	37.40536
_cons	9.084759	1.440359	6.31	0.000	6.080223	12.08929

The estimated regression model as a whole has statistically significant predictive capability, the F-ratio is 5.01 ($p=0.006$). The proportion of the variance explained by the model is 40.03%. In order to describe if there is a multicollinearity in the regression analysis, the variance inflation factor (VIF) was calculated. Since none of the VIFs is larger than 5, we can conclude that there is no multicollinearity in the estimated model.

is positively related with share turnover and the financial industry; companies from the financial industry and companies with larger share turnover have, on average, higher IFR scores than other companies.

It is interesting that although ROE's influence on IFR score is significant, there is a negative relationship. A possible explanation of this relationship might be that profitable companies, although joint stock companies, have closed ownership and are not interested in disclosing relevant financial information to the public on the Banja Luka Stock Exchange. The variable controlling for size (UAKT) is not significant, i.e. companies have the same level of Internet financial reporting regardless of their size on this stock exchange.

We tested whether our data meets the assumptions of multiple linear regressions with regression diagnostics. Multiple regression normality was tested by Skewness-Kurtosis test (SK test). The test is insignificant ($p=0.125$), so we can conclude that residuals are identically and independently distributed. The Breusch-Pagan test on heteroskedasticity is insignificant ($p=0.1852$), so we can conclude that the variance of the residuals is homogenous. The Ramsey RESET test using powers of the fitted values was used to check for omitted variables and the correct specification of the model. The test is not significant ($p=0.3484$), so we can conclude that there is no specification error.

The estimated regression model for the Sarajevo Stock Exchange as a whole is statistically significant, the F-ratio is 7.57 ($p=0.000$). The explanatory power of the regression model as measured by adj. R-squared is 40.27%. The regression analysis does not suffer from multicollinearity, since all VIFs are about 1 (i.e., predictors are not correlated).

Table 3.11. Variance inflation factors for SASE model's independent variables (authors' analyses)

Variable	VIF	1/VIF
FIN	1.03	0.973578
UAKT	1.02	0.981874
ROE	1.01	0.987081
PROM	1.01	0.989144
Mean VIF	1.02	

Variables total asset (UAKT, $p=0.003$), share turnover (PROM, $p=0.001$) and a variable controlling for the financial industry (FIN, $p=0.021$) are statistically significant. The level of Internet financial reporting for companies from SASE is positively related with total asset, share turnover and financial industry. Companies with larger total assets, larger

Table 3.10. Results of estimated regression model for companies from SASE (authors' analyses)

Source	SS	Df	MS	Number of obs =	40
Model	825.793597	4	206.448399	F(4, 35) =	7.57
Residual	954.181403	35	27.2623258	Prob > F =	0.0002
				R-squared =	0.4639
				Adj R-squared =	0.4027
Total	1779.975	39	45.6403846	Root MSE =	5.2213

IFRSA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
UAKT	4.28e-09	1.34e-09	3.19	0.003	1.56e-09	7.00e-09
ROE	-.2412613	1.275364	-0.19	0.851	-2.830387	2.347865
PROM	5.33e-07	1.48e-07	3.61	0.001	2.33e-07	8.33e-07
FIN	5.313779	2.202014	2.41	0.021	.8434542	9.784104
_cons	6.750801	1.014911	6.65	0.000	4.690423	8.81118

share turnover, and companies from the financial industry have, on average, higher IFR scores than other companies. On the Sarajevo Stock Exchange, profitability measured by ROE does not significantly influence Internet financial reporting (i.e., companies have the same level of Internet financial reporting regardless of their return on equity).

The same regression diagnostic tests were performed for this regression, as for the previous one. SK test is significant ($p=0.014$), so we can conclude that residuals are not identically and independently distributed. Heteroskedasticity test (Breusch-Pagan test) is insignificant ($p=0.706$), so the variance of the residuals is homogenous. Ovttest (The Ramsey RESET test) is not significant ($p=0.193$), so we can conclude that there is no specification error.

4. CONCLUSION

In this paper we analysed the Internet Financial Reporting practices of companies traded on stock markets in BiH: the Sarajevo and Banja Luka Stock Exchanges. Due to illiquidity of the market, one of the criteria for inclusion in the sample was trading of shares in the last quarter of 2013. As a result, a total of 88 companies were included in the sample (57 companies traded on the Sarajevo Stock Exchange and 31 on the BL Stock Exchange).

Following similar studies, our paper is divided into two sections. In the first part, our analysis reported a very low quality in published financial information. The analysis of disclosures for five basic financial statements revealed that balance sheets were available for 30%, profit and loss statement at 28%, and the statements of cash flows, changes in equity and notes to the financial statements at 20% of the analysed companies. Finally, data on the last share price was found for only 5 companies, and information on the payment of dividends in just 3 instances. In all, the results show that voluntary disclosure for

companies traded on both stock markets in BiH is still limited. We can only speculate as to the reasons, but the general economic environment and low level of corporate governance are often cited as the main causes. Still, unsatisfactory practices for the analysed companies, even the mandatory reports and date, reveal the weak role of a market regulatory authority. For the companies to overcome increasing competition, it is necessary to increase the scope and quality of information provided.

The second part of our study provided results for an estimated regression model including 65 companies. The sample included 40 companies from the Sarajevo Stock Exchange and 25 companies from the Banja Luka Stock Exchange in multiple regression analyses conducted separately for both stock exchanges. The results for BLSE companies revealed that profitability measured by return on equity, market activity represented by share turnover, and whether the company was part of the financial industry statistically impacted the IFR index (i.e., companies from the financial industry and with larger share turnover have, on average, higher IFR scores than other companies). Interestingly, ROE influence on IFR score is significantly and negatively correlated, which can be explained by the fact that profitable joint stock companies often have closed ownership and are not interested in disclosing financial information to the public. Size measured by total assets showed no influence on IFR voluntary disclosure. Estimated regression for companies traded on SASE reveal that total assets, share turnover, and companies from the financial industry are statistically positively affecting the IFR index (i.e., companies with larger total assets, a larger share turnover and from financial industry have, on average, higher IFR scores than other companies). Profitability measured by ROE does not influence Internet financial reporting

practices in the model estimated for companies traded on SASE.

For future research, it would be interesting and useful to analyse the extent to which higher Internet financial disclosure impacts investments, development and efficiency of capital markets in Bosnia and Herzegovina. It would also be useful to expand this analysis to other South East European countries/markets.

ACKNOWLEDGMENT

The authors would like to extend a special acknowledgment, as an irreplaceable part of our research team, to our principal research assistant Mrs. Mustafić A. for valuable contributions and overall research diligence.

REFERENCES

1. Allam, A. & Lymer, A. (2003). Developments in Internet Financial Reporting: Review and Analysis Across Five Developed Countries. *The International Journal of Digital Accounting Research*. 3, pp.165-199.
2. Aly D., Simon J. & Hussainey K. (2009). Determinants of corporate internet reporting: evidence from Egypt. *Managerial Auditing Journal*. 25(2), pp.182-202.
3. Andrikopoulos A., Merika A., Triantafyllou A. & Merikas AG. (2013). Internet disclosure and corporate performance: A case study of the international shipping industry, *Transportation Research*. Part A 47, pp. 141-152
4. Andrikopoulos, A., & Diakidis, N. (2007). Financial reporting practices on the internet: the case of companies listed in the Cyprus Stock Exchange. *Working Paper Series, SSRN-id999183* (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=999183, Accessed: 21 October 2015)
5. Ashbaugh, H., Johnstone, K.M. & Warfield, T.D. (1999). Corporate Reporting on the Internet. *Accounting Horizons*. 13(3), pp.241-257.
6. Bartulović, M. & Pervan, I. (2014); Determinants of voluntary Internet Financial Reporting: analysis for selected CEE countries. *International Journal of Economics and Statistics*. 2. pp. 32-39
7. Bogdan, V. & Pop, C. M. (2008). Romanian Companies' Web-Based Disclosure Choices and Capital Markets. *Annales Universitatis Apulensis Series Oeconomica*, 1(10)
8. Bonsón, E. & Escobar, T. (2002). A Survey on Voluntary Disclosure on the Internet. Empirical Evidence from 300 European Union Companies. *The International Journal of Digital Accounting Research*. 2(1), pp.27-51.
9. Bonsón, E. & Escobar, T. (2006). Digital reporting in Eastern Europe: An empirical study. *International Journal of Accounting Information Systems*. 7, pp.299-318.
10. Brennan, N. & Hourigan, D. (1999). Corporate Reporting on the Internet by Irish Companies. *Irish Accounting Review*. 7(1), pp.37-68.
11. Cooke, T.E. (1989). Disclosure in the corporate annual reports of Swedish companies. *Accounting & Business Research*. 19(74), pp.113-124.
12. Cooke, T.E. (1993). Disclosure in Japanese corporate annual reports. *Journal of Business; Finance and Accounting*. 20(4), pp.521-535.

13. Craven, B. & Marston, C. (1999). Financial reporting on the Internet by leading UK companies. *The European Accounting Review*. 8(2), pp.321-333
14. Deller, D. & Stubenrath M. & Weber C. (1999). A survey on the use of the Internet for investor relations in the USA, the UK and Germany. *The European Accounting Review*. 8(2), pp.351-346.
15. Depoers, F. (2000). A cost benefit study of voluntary disclosure: some empirical evidence from French listed companies. *European Accounting Review*. 9(2), pp.245-263
16. Eng L.L.& Mak Y.T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy*, 22, pp.325-345
17. Garay U., González M., Guzmán A. & Trujillo M.A. (2013). Internet-based corporate disclosure and market value: Evidence from Latin America. *Emerging Markets Review*. 17, pp. 150-168
18. Geerlings, J., Bollen L. & Hassink, H. (2003). Investor relations on the Internet: a survey of the Euronext zone. *The European Accounting Review*. 12(3), pp.567-579.
19. Gowthorpe C. & Amat O. (1999). External reporting of accounting and financial information via the Internet in Spain. *The European Accounting Review*. 8(2), pp.365-371.
20. Hedlin, P. (1999). The Internet as a vehicle for investor relations: the Swedish case, *The European Accounting Review*. 8(2), pp.373-381.
21. Hussainey, K. & Al-Nodel, A. (2008). Corporate governance online reporting by Saudi listed companies. *Research in Accounting in Emerging Economics*. 8, pp.39-64.
22. Louwers, T., Pasewark, W. & E. Typpo; (1998). Silicon Valley Meets Norwalk. *Journal of Accountancy*. pp.20-24.
23. Lymer A, Debreceny R, Gray GL, & Rahman A. (1999). Business reporting on the Internet. *International Accounting Standards Committee*, London, ISBN: 0905625773
24. Marston, C. & Polei, A. (2004). Corporate reporting on the Internet by German companies. *International Journal of Accounting Information Systems*. 5(3), pp.285-311.
25. Marston, C. (2003). Financial reporting on the Internet by leading Japanese companies. *Corporate communications: An international journal*, 8(1), pp.23-34.
26. McKinnon, J. & Dalimunthe, L. (1993). Voluntary disclosure of segment information by Australian diversified companies. *Accounting & Finance*. 33(1); pp.33-50.
27. Mohd, N. A. & Noor, A (2011). The use of disclosure indices in internet financial reporting research. *Journal of Global Business and Economics*, 3(1):157-173.
28. Pertiwi, A. D. & Hermana, B. (2012). Comparing Internet Financial Reporting Index Between Bank and Non Bank in Indonesia. *Journal of Internet Banking and Commerce*, 18(2):2-14
29. Pervan, I. & Filipović, I. (2008). Internet financial reporting – practice of listed companies from Sarajevo stock exchange. *Proceedings of 4th International Conference Transitional Challenges of EU Integration and Globalization Sarajevo*, University of

- Sarajevo, School of Economics and Business, October 2008
30. Pervan, I. (2005). Financijsko izvješćivanje na Internetu i praksa hrvatskih dioničkih društava koja kotiraju na burzama. *Financijska teorija i praksa*. 29 (2), pp.77-193.
 31. Pervan, I. (2006). Dobrovoljno financijsko istraživanje na internetu: Analiza prakse hrvatskih i slovenskih dioničkih društava koja kotiraju na burzama. *Finansijska teorija i praksa*. 30(1), pp.1-27.
 32. Pirchegger, B. & Wagenhofer, A. (1999). Financial information on the Internet: a survey of the homepages of Austrian companies. *The European Accounting Review*. 8(2), pp.383-395.
 33. Xiao, J.Z., Yang, H. & Chow, C.W. (2004). The determinants and characteristics of voluntary internet-based disclosures by listed Chinese companies. *Journal of Accounting & Public*. 23(3), pp.191-225.
 34. Zaimović, A. & Zaimović, T. (2011). Finansijsko izvještavanje na internetu – stanje u BiH, *Zbornik radova Četrnaestog međunarodnog simpozija Udruženja-Udruge računovođa i revizora FBiH "Računovodstvena profesija u funkciji unapređenja poslovanja*, pp.271-284.