

Impact of transparency level on the value relevance of accounting information: empirical analysis for SEE countries

I. Pervan and M. Bartulović

Abstract— In this paper, based on the sample of 97 corporations the authors analyzed the value relevance of accounting information on the capital markets of Southeast Europe. In the first part of the research authors analyzed and compared value relevance on the following capital markets: Ljubljana Stock Exchange, Zagreb Stock Exchange, Sarajevo Stock Exchange, Banja Luka Stock Exchange and Belgrade Stock Exchange. The research results have shown that the accounting information are value relevant on all the observed markets but also that there are certain differences in the value relevance among countries. In the second part of the research authors tested the hypothesis that level of transparency is positively related with value relevance i.e. higher transparency of annual report should result with higher value relevance of accounting information. According to the empirical research hypothesis is confirmed since it is possible to distinguish companies that belong to group of countries with lower value relevance from those that belong to group of countries with higher value relevance based on data about transparency level, i.e. IFR score.

Keywords— accounting information, international differences, transparency, value relevance.

I. INTRODUCTION

ONE of the fundamental objectives of financial accounting is to meet the information needs of investors on capital markets. In this context the value relevance studies present a line of research which analyses the usefulness of accounting information in the process of decision making.

Namely, accounting information is considered value relevant if it is associated with share prices. If this relationship does not exist it can be concluded that accounting information are not value relevant or that financial statements do not meet one of its primary goals. In the literature the concept of value relevance is defined in different ways.

According to Beaver [1] accounting information is value relevant if it is associated to market value of equity (with shares or returns). Similarly, in [2] it is stated that "*value relevance studies examine association between accounting information and market variables*". Value relevance studies represent the most productive area in accounting research in

the last 20 years and they are conducted in most of developed countries. In recent years in the area of value relevance research focus is on comparing the value relevance of accounting information among different countries and on determining the factors that cause the observed differences.

Specifically, nowadays when the processes of internationalization and globalization are becoming more important the problem of financial statements comparability is becoming more expressed and some researchers consider how the free market international accounting reform can be looked as a part of a problematic globalization process [3]. Financial information that is universally understood and comparable should improve relations between various users of financial statements such as bankers, investors, etc. But it is also important to state that application of International Financial Reporting Standards (IFRS) is determined in each EU country through a wide range of political, historical and cultural barriers [4], [5].

Transition countries of South and East Europe are characterized by preparing financial statements for fiscal and other purposes of the state authorities and there still exists distinction between financial accounting for external users and management accounting in greater extent than it is common in developed countries [6]. In order to achieve harmonization in financial reporting and thus reduce the differences in the value relevance of accounting information since 2005 the use of IFRS is mandatory for all the companies whose shares are listed on the capital markets of EU.

Such regulation is aimed to achieve approximately equal value relevance of accounting information, but existing research [7], [8], [9], [10], [11] show that despite of financial reporting harmonization certain differences still exist. In this paper authors analyze impact of transparency level on value relevance of accounting information. More precisely, authors test the hypothesis that the level of transparency is related with value relevance of accounting information and assume that it is possible to differentiate companies that belong to group of countries with lower value relevance from those that belong to group of countries with higher value relevance based on data about transparency level, i.e. about IFR score.

The contribution of this paper to the existing literature in this area is in conducting a value relevance study on new, transition capital markets where the practice of conducting such studies does not still exist.

I. Pervan is with University of Split, Faculty of Economics, Cvite Fiskovica 5, 21000 Split, Croatia (phone: 385-21-430-639; fax: 385-21-430-701; e-mail: pervan@efst.hr).

M. Bartulovic is with University of Split, Center for professional studies, Livanjska 5, 21000 Croatia (e-mail: mvasilj@oss.unist.hr).

II. LITERATURE REVIEW

A. Value relevance studies

A large number of value relevance studies that were conducted in the last 20 years have its origin in different corporate governance systems. Authors consider that differences in corporate governance systems cause differences in value relevance among different countries. As examples of studies where differences in value relevance are explained by different institutional and legal frames studies [12], [8] and [9] can be pointed out. Ali and Hwang [12] compared value relevance of accounting information for 16 countries in the period from 1986 to 1995 in order to determine differences in the value relevance between countries that belong to continental or to Anglo-Saxon model of corporate governance. Research results have shown that value relevance of accounting information is lower in countries that belong to continental corporate governance system and which are characterized by a strong bank orientation in raising external capital.

Influence of differences in corporate governance systems on the quality of accounting earnings was analyzed by [8]. Authors conducted research on four countries that belong to Anglo-Saxon corporate governance model (Australia, Canada, USA and United Kingdom) and on three countries that belong to continental corporate governance model (France, Germany, Japan). Finally the sample consisted of more than 40.000 observations in the period 1985 – 1995. Authors analyzed two important characteristics of accounting earnings (conservatism and timeliness) and research results have shown that timeliness is higher in countries that belong to Anglo-Saxon corporate governance model.

Black and White [9] compared value relevance of book value and earnings in Germany, Japan and USA. Research results show that value relevance of book value is higher than value relevance of earnings in Germany while the results are less robust for Japanese companies. More precisely, for Japanese sample book value is more value relevant than earnings only in the case of companies that reported negative earnings. Results also show that value relevance of earnings is higher than value relevance of book value for the sample of USA companies.

Second stream of research is based on comparing value relevance of accounting information prepared according to different accounting standards. As examples of such studies papers [7] and [13] can be pointed out. Arce and Mora [7] performed a research on a sample of corporations from 8 European countries. Research results have shown that it can not be concluded that accounting information are more value relevant in market orientated systems than in bank orientated systems although it is noted that book value and earnings have different roles in valuation of a company. King and Langli [13] conducted comparative value relevance analyses on the capital markets of Germany, Norway and United Kingdom. Results have shown that accounting information are value relevant in all three observed markets. Also results have shown that accounting information are the least related to share prices in Germany (R^2 amounts 40%), the best relation with share prices was evidenced for UK capital market (R^2 amounts 70%) and

explanatory power of the accounting variables in Norway was 60%.

As separate line of value relevance studies cross time value relevance studies can be pointed out because of their significance in the value relevance literature. Study [11] can be pointed out. Devalle et al. [11] analyzed whether the value relevance of accounting information has increased after implementing International Financial Accounting Standards as mandatory for preparation of consolidated financial statements. Research results have shown that influence of earnings on share prices has increased after IFRS implementation in case of Germany, France and United Kingdom while impact of book value was decreased in all the analyzed countries except United Kingdom.

B. Transparency studies

Now days, listed firms transparency is often analyzed by the extent of information published on the firms web site. The development of Internet technology and the expansion of its use for financial reporting have stimulated a large number of academic researches in this area. Researches related to Internet financial reporting can be classified in the following three categories: research related to practical application of Internet financial reporting in individual countries, research related to comparison of Internet financial reporting practices between different countries and research into the factors that affect financial reporting on the Internet in individual countries.

The first type of research, so called descriptive research is focused on examining general characteristics of the use of Web for financial reporting in individual countries. Within the research results the authors provide data about the percentage of corporations that use Internet financial reporting, the types of financial reports issued (balance sheet, profit and loss account,...), the frequency of publishing the reports (annually, half-yearly,...) and the format of published reports (pdf, Excel,...). An example of an early study related to this topic is the research conducted by Brennan and Hourigan [14] on a sample of Irish corporations. According to the research results only 37% of listed Irish companies published their financial reports on the Internet.

Hedlin [15] founded out that the majority of Swedish firms listed on Stockholm stock exchange did use financial reporting on the internet. Similar results have been reported for USA firms [16]. Namely, at the sample of 100 biggest corporations in the USA (Fortune 100) authors came to the result that 93 companies had their own Web site. Furthermore, 74% of companies publishes balance sheet on their Web pages and 70% of companies announces profit and loss account as well as cash flow statement.

In 2005 Pervan [17] conducted a research on a sample of 38 Croatian listed companies, and according to the research results only 39,4% of the observed companies voluntary published a set of five financial reports on their web pages. Research on Internet financial reporting practices for Romanian companies whose shares are quoted on a stock exchange in Bukurest was conducted in 2008 [18] and as the most important research results authors provide the data that 76,66% of the observed companies has their own Web site

while only 48,33% of them use these pages for financial reporting.

In another type of studies, so called comparative research, authors analyze and compare Internet financial reporting practices for two or more countries. Use of Internet for investor relations was analyzed in studies [19] and [20]. Role of Internet in investor relations and research was performed on a sample of largest US, UK and German corporations [19]. According to the research results 91% of US corporations used the Internet for investor relations, and this practice is little less common for UK and German corporations where 72 or 71% of the companies has Investor relation via the Internet. Comparative research for companies from five countries (USA, Canada, UK, Australia and Hong Kong) for the years 2001 and 2002 was carried out by Allam and Lymer [21]. This study showed that most of the companies (96-100%) published their balance sheet, profit and loss account and cash flow report. Furthermore, the authors provided data that PDF was the most frequent format for the presentation of reports while formats suitable for calculations (such as Excel) were found only in 12% of the observations.

Research at a sample of 50 largest companies from France, Holland and Belgium was conducted for firms listed on Euronext [20]. According to the research results companies from France and Holland use the Internet for investor relations purposes more than Belgian companies. Furthermore, companies from all three countries presented their basic financial reports on the Net very frequently while some of the advantages of Internet reporting (such as formats suitable for calculations, mailing lists and multimedia) were less frequently used by Belgium companies.

Third type of studies dealing with Internet financial reporting is focused on factors affecting corporate decisions concerning their level of Internet financial reporting. As example for this type of research, study conducted by Pirchegger and Wagenhofer [22] for Austrian and German quoted companies can be pointed out. Firstly, authors evaluated the quality of website based on financial and non-financial criteria and than achieved grades for each company were used in regression analysis as the dependent variable. As independent variables the size of the company and the percentage of shares traded on stock exchange were used. The research results showed that for the sample of Austrian companies Internet financial reporting quality was positively and significantly correlated with both independent variables while for the German sample positive and significant correlation was confirmed between Internet site quality and size of the company.

Bonson and Escobar [23] analyzed voluntary disclosure on the Internet using a sample of 300 EU companies. The sample was formed out of the 20 largest companies by market capitalization from each EU country. Based on 23 criteria authors formed a transparency index (TI). Research results showed that TI was statistically related to country of origin, since companies from the North and Central Europe have higher TI in comparison with companies from South Europe. Also, variables industry sector and company size were positively correlated with TI.

Marston [24] analyzed the Internet reporting practice of the 100 largest Japanese companies. Using the Kruskal-Wallis test it was concluded that size was significantly related with the Japanese Web site status, while this relation was less clear for the level of disclosure. The analysis of internet financial reporting for German listed companies was conducted by Marston and Polei [25]. For German sample the level of the Internet financial reporting was positively related with foreign listing status in 2000 and 2003. The free float variable was significant only in 2000.

Bonson and Escobar [26] analyzed the differences in Internet financial reporting for 13 countries from Eastern Europe based on 44 criteria which formed the Distance Index (DI). Research was conducted on a sample of 1.543 companies and according to the research results DI was positively correlated with the Big Four Auditor, financial sector and company size. Pervan [27] analyzed voluntary reporting on the Internet in Croatia and Slovenia and research results showed that the Slovenian companies are more transparent in comparison with Croatian companies. Namely, the measure of Internet financial reporting (IFR score) was 6.85 for Croatian sample and 17.63 for the Slovenian sample.

Research on Internet financial reporting on the Athens Stock exchange was performed by Despina and Demetrios [28]. Research was conducted on a sample of 302 companies listed on the Athens Stock and the authors considered 57 factors which reflect the level of Internet financial reporting. First two factors are related to industry sectors and market capitalization while the other 55 factors are grouped in five categories. All factors together constitute an Internet Reporting Index. The average Index value for the companies quoted on Athens Stock Exchange was 30.30, and weighted average score was 49.71. Also, among other, research results have shown that market capitalization is positively related to IFR score.

III. VALUE RELEVANCE OF ACCOUNTING INFORMATION AND INTERNATIONAL DIFFERENCES

A. *Sample and research model*

The analysis of value relevance of accounting information was conducted on the capital markets of following South East European (SEE) countries: Croatia, Slovenia, Serbia and Bosnia and Herzegovina (Republika Srpska and Federation B&H). All previously mentioned countries are characterized by similar development path and transition from planned socialist economy to free market economy. In order to achieve better analysis of accounting information value relevance research is limited to only those companies that were actively traded during 2007. The base year for the sample formation was 2007 due to financial crises and the fall of liquidity on capital markets during 2008. For the stock selection a simple criterion was used – share turnover for the year 2007.

By a subjective decision of authors of the paper final research sample includes only companies whose share in total market turnover during 2007 was minimally 0.5%. The sample includes companies that achieved the above mentioned criteria for the year 2007 but it is important to notice that in accordance with previous research in this area, for example

[7], [10], and in order to increase the sample homogeneity and comparability of results among countries, financial institutions were excluded from the analysis since those institutions are characterized by certain specificities related to preparation and publication of financial reports.

Responding to these criteria a sample for selected markets was formed and finally it consists of 97 companies. Number of companies for each of the analyzed markets is shown in the following table.

Table 1: The research sample by markets

Market	No. of observations
Ljubljana Stock Exchange	16
Zagreb Stock Exchange	28
Belgrade Stock Exchange	16
Sarajevo Stock Exchange	19
Banja Luka Stock Exchange	18
Total number of observations	97

Source: Authors' calculation

In the first part of the study authors analyzed the value relevance of accounting information, i.e. the relation between accounting information and stock prices. Contribution to existing literature on value relevance is in conducting a research on new, developing capital markets and thus it is interesting to analyze whether the findings observed for developed markets are applicable on emerging markets.

Operative approach in this part of research has basis in Feltham-Ohlson valuation framework. According to the F-O model the market value of the firm can be expressed as linear function of its book value and discounted expected abnormal earnings [29], [30]. So, in this study the value relevance of accounting information is expressed as a function of earnings and book value as follows:

$$P_{i,t} = a_0 + a_1 E_{i,t} + a_2 BV_{i,t} + e_{i,t} \quad (1)$$

Where:

$P_{i,t}$ – stock price at the end of year t

$E_{i,t}$ – earnings per share during year t

$BV_{i,t}$ – book value per share at the end of year t

$e_{i,t}$ – other value relevant information in year t.

In the next part of research authors analyze the impact of transparency level on value relevance of accounting information through testing the set hypotheses:

H: The level of transparency is positively related with value relevance of accounting information.

In order to test impact of transparency level on differences in the value relevance of accounting information the following logistic regression model was developed:

$$Y = \beta_0 + \beta_1 * IFRScore \quad (2)$$

In this model the dependent variable presents the value relevance of accounting information and it takes value 0 if a company belongs to group of countries with lower value relevance or value 1 if company belongs to group of countries with higher value relevance. Namely, all the countries or more precisely, all the companies included in analysis are divided in two groups: group of countries with low value relevance and group of countries with high value relevance. This grouping is based on data on value relevance, i.e. on determination coefficients obtained by using model 1. The values of determination coefficients are then transformed in binary variables (0,1) according to the following principle: if the value of determination coefficient is above sample mean it takes value 1, and if it is below sample mean it takes value 0.

B. Measurement of transparency

Independent variable in the research model is Internet Financial Reporting Score (IFRScore) which presents the level of transparency. It is assumed that higher transparency and improved voluntary disclosure present factors that can influence the value relevance of accounting information. Increased transparency reduces information asymmetry between managers and investors and limits the discretion rights of managers. As proxy variable for transparency level, within this research the variable Internet financial reporting Score (IFRScore) was taken. IFR score was calculated according to the methodology used by [27] in his previous research.

Table 2: Criteria for the formation of Internet Financial Reporting Score

A) Information from the financial reports	
1.	Balance sheet
2.	Profit and loss account
3.	Cash flow statement
4.	Changes in shareholder equity statement
5.	Audit report
6.	Notes to the financial statements
7.	Accounting policies
8.	Segment reports
9.	Quarterly reports
10.	Half-yearly reports
11.	Reports from previous years
B) Other useful information	
12.	Last share market price
13.	Press and public releases
14.	Management analyses of operations
15.	Analyses of main business risks
16.	Supervisory board report
C) Transparency of management and supervisory board	
17.	Data about the management
18.	Information about management remuneration
19.	Supervisory board data
20.	Information concerning supervisory board remuneration

21.	Statement of managements responsibility for the financial reports
22.	Code of corporate governance
D) User support	
23.	Special part of the Web for investors
24.	Internal Web page search
25.	E-mail address
26.	Mailing lists
27.	Ability to download reports
28.	Format of reports suitable for calculations
29.	Web page in English
30.	English version of financial reports

Source: [27]

The level of internet financial reporting will be measured using technique based on 30 elements which are divided into four groups (table 2). In forming the overall Internet financial reporting score each group of criteria and each individual criterion has an equal weighting. It is important to notice that there are different approaches in the literature (for example [19]) but in order to avoid subjectivity in criteria authors have chosen equal weights for all criteria.

Total IFR score is calculated by simple summing grades for each criterion. Grade for certain criterion can be 1 (criterion is met) or 0 (criterion not met) and the maximum possible IFR score can be 30. Finally, it is assumed that higher transparency should result in higher value relevance and that differences in the level of voluntary financial reporting cause differences in the value relevance of accounting information among countries included in the research. Descriptive statistics for the variable IFR score is presented in the following table.

Table 3: Descriptive statistics for the variable IFR score

Group statistics					
	Value relevance	N	Mean	Std. Dev.	Std. Error.
IFR score	0-lower VR	53	14.02	3.629	0.499
	1-higher VR	44	25.09	3.543	0.534

Source: Authors' calculation

C. Value relevance of accounting information

Value relevance of accounting information can be defined as the measure of statistical association between accounting information and share prices and the results of the analysis of value relevance on selected markets are shown below.

Table 4: Value relevance of accounting information

Country	R ²	Sig.	
Slovenia	74.5	0.0001	
Croatia	54.1	0.0001	
Serbia	47.6	0.006	
B&H	Federation of B&H	39.3	0.007
	Republika Srpska	28.4	0.032

Source: Authors' calculation

Conducted value relevance analysis indicates that accounting information is value relevant, i.e., it is related with stock prices. Namely, regression models are significant in all the observed cases. Based on research results for the sampled countries it can be concluded that there is a relationship between accounting information and share prices. The highest value relevance, measured by coefficient of determination is in Slovenia (R² equals 74.5%).

Such results indicate that accounting information on Ljubljana Stock Exchange are related to share prices and that financial statements are useful in the process of decision making. Slovenia is followed by Croatia with value relevance of 54.1%, Serbia 47.6%, Federation of Bosnia and Herzegovina 39.3% and the lowest level of value relevance, just 28.4% is measured in Republika Srpska.

Table 5: Regression models by markets

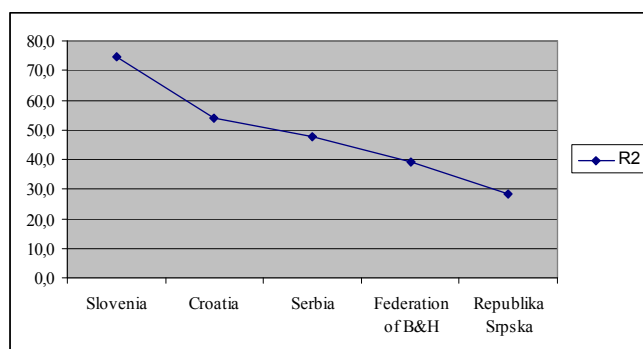
Ljubljana Stock Exchange				
Variables	a	Std. Error	Sig.	VIF
a ₀	14.475	34.334	0.680	-
a ₁	3.563	4.353	0.428	2.281
a ₂	1.457	0.380	0.002	2.281
Adj. R ²	74.5			
DW	1.735			
Zagreb Stock Exchange				
Variables	a	Std. Error	Sig.	VIF
a ₀	45.903	39.895	0.261	-
a ₁	13.649	4.892	0.010	1.184
a ₂	1.314	0.366	0.001	1.184
Adj. R ²	54.1			
DW	2.062			
Belgrade Stock Exchange				
Variables	a	Std. Error	Sig.	VIF
a ₀	37.906	33.825	0.283	-
a ₁	0.691	4.259	0.874	2.191
a ₂	1.305	0.512	0.024	2.191
Adj. R ²	47.6			
DW	2.300			
Sarajevo Stock Exchange				
Variables	a	Std. Error	Sig.	VIF
a ₀	12.678	10.762	0.256	-
a ₁	-2.857	2.506	0.271	1.959
a ₂	0.946	0.286	0.004	1.959
Adj. R ²	39.3			
DW	1.496			
Banja Luka Stock Exchange				

Variables	a	Std. Error	Sig.	VIF
a ₀	0.322	0.195	0.118	-
a ₁	2.643	6.414	0.686	1.006
a ₂	0.740	0.257	0.001	1.006
Adj. R ²	28.4			
DW	1.769			

Source: Authors' calculation

From these R² values it is evident that certain differences in value relevance still exist, meaning that investors in different countries attach different importance to financial statements and to information they contain. These observed differences are also presented through Figure 1.

Fig. 1: Differences in the value relevance of accounting information



Thus, although accounting regulators work intensively on harmonization through IFRS obtained results indicate that there are still differences in the value relevance of accounting information. Authors who analyzed factors that cause differences in value relevance of accounting information in their research emphasize that further efforts are necessary in order to identify and explain the factors that cause differences in value relevance and in this context special attention should be focused on factors at international level. Influence of transparency level on value relevance of accounting information is presented in the next part of the paper.

IV. EMPIRICAL FINDINGS ON THE IMPACT OF TRANSPARENCY LEVEL ON THE VALUE RELEVANCE

Conducted analyses indicates that on the observed capital markets accounting information is value relevant but also indicates that there are certain differences in value relevance which can not be explained by differences in legal and accounting systems. In fact, all countries included in this research belong to same corporate governance/legal systems, apply IFRS and therefore we have the research question: what causes the observed differences? This paper is aimed to explore how level of transparency (measured by IFRScore) influences value relevance of accounting information.

For empirical analysis logistic regression was applied. The dependent variable in the logistic regression model is binary and it has two possible outcomes 0 or 1 (0 indicates group of countries with lower value relevance-lower than sample mean, while 1 indicates group of countries with higher value relevance-higher than sample mean). The value relevance of accounting information for all the countries included in the study was analyzed by using F-O model. After that the arithmetical mean of the coefficient of determination (for relevance regressions) was calculated and it equals 48.78%. Based on this information all 97 corporations included in the analyses were classified in two groups.

The first group consists of companies from countries that have lower value relevance (code 0), i.e. those companies whose value relevance is below the mean and in the end this group consists out of 53 corporations whose shares are listed on Banja Luka Stock Exchange, Sarajevo Stock Exchange or Belgrade Stock Exchange. The second group (code 1) includes companies from countries with higher value relevance, i.e. companies from countries whose value relevance of accounting information is above arithmetical mean. Finally, group of countries with higher value relevance consists out of 44 corporations whose shares are listed on Ljubljana Stock Exchange or Zagreb Stock Exchange. Thus, 54.6% of the sample refers to firms with lower value relevance, and 45.4% refers to companies with higher value relevance of accounting information. In the following part of this study the results of conducted research are presented. For developed logistic regression model where the predictor variable is IFR score Hosmer and Lemeshow goodness of fit statistics was above 5% meaning that the model fits well to the data or that there is no significant differences between original and expected frequencies.

Table 6: Hosmer-Lemeshow test

Hosmer and Lemeshow test			
Step	Chi-square	df	Sig.
1	11,543	7	0,117

Source: Authors' calculation

Furthermore, explanatory power for the model measured by Nagelkerke R-square amounts 84.4% meaning that the logistic regression model in which the only predictor is disclosure index explains 84.4% variations in the value relevance of accounting information.

Table 7: Explanatory power of developed model

Model Summary			
Step	Log likelihood	Cox&Snell R Square	Nagelkerke R Square
1	36,791	0,632	0,844

Source: Authors' calculation

Table 8 presents parameters estimates and odds ratios for the logistic regression model with disclosure index as predictor.

Table 8: Parameter estimates and odds ratios for the model with disclosure index as predictor variable

Variables in the equation				
	B	S.E.	Sig.	Exp (B)
DI	0.649	0.138	0.0001	1.914
Constant	-12.747	2.686	0.0001	0.001

Source: Authors' calculation

The research results indicated that disclosure index is significantly positively related with value relevance of accounting information, which suggests that IFR score is able to distinguish corporations that belong into group of countries with lower value relevance from those that belong into the alternative group. These results are consistent with expectations since it was assumed that higher transparency (higher IFR score) should result in higher value relevance of accounting information.

Classification power of the model in which a predictor variable is IFR score equals 94.8% meaning that based on data about transparency model correctly classified 94.8% of corporations in the group of countries with lower or in the group of countries with higher value relevance of accounting information.

Table 9: Classification table

Classification table				
Observed		Predicted		
		VR		Percentage correct
		0	1	
Value relevance group	0	50	3	94.3
	1	2	42	95.5
Overall percentage				94.8

The specificity of the model, i.e. the reliability of classifying companies in the group of countries with lower value relevance amounts 94.3% meaning that out of 53 companies from the group of countries with lower value relevance, developed model correctly classified 50 companies while 3 companies were incorrectly classified into alternative group.

Sensitivity of the model, i.e. the reliability of classifying companies in the group of countries with higher value relevance equals 95.5%. Namely, the developed logistic regression model correctly classified 42 companies in the group of countries with higher value relevance while 2 companies were incorrectly classified into alternative group.

Based on the previously presented research findings it can be concluded that there are certain factors that cause differences in the value relevance of accounting information among different countries. The developed logistic regression

model in this study suggests that it is possible to differentiate corporations that belong to the group of countries with lower value relevance from those that belong to group of countries with higher value relevance based on data about firm transparency.

In the end it can be concluded that research results have shown that higher transparency of listed firms implies higher value relevance of accounting information and that noticed differences in value relevance among observed countries can be explained by different levels of transparency among these countries.

V. CONCLUSION

Value relevance studies present a stream of research which analyses the usefulness of accounting information in the process of decision making. In this paper authors use the F-O valuation framework in order to test the value relevance of accounting information on selected capital markets. Also, logistic regression was used to determine the impact of transparency level on differences in value relevance among observed countries. Research results have shown that the value relevance is highest on Ljubljana stock exchange (R^2 74.5) and lowest on Banja Luka stock exchange (R^2 28.4%). On the following markets that were included in the analyses value relevance equals as follows: Zagreb stock exchange 54.1%, Belgrade stock exchange 47.6% and Sarajevo stock exchange 39.3%.

From the obtained determination coefficients it can be concluded that there are certain differences in the value relevance on the observed capital markets. These differences cannot be explained by differences in corporate governance system or in differences in accounting standards since all the companies included in this research are characterized by the same corporate governance system and same accounting standards for listed companies.

Results of research conducted within this paper confirmed the research hypotheses and have shown that level of transparency is positively related to value relevance of accounting information and that it is possible to differentiate countries with lower value relevance from those with higher value relevance based on data about the level of transparency. More precisely, based on data about IFR score model correctly classified 94.8% of corporations in group of countries with lower or in group of countries with higher value relevance of accounting information.

Such research results indicate the need for further investigation in this area in order to determine more factors that cause differences in value relevance so that regulators and those who prepare financial statements could be aware of factors that need to be improved with the purpose of maximizing the value relevance of accounting information and consequently maximizing their usefulness and comparability at international level.

REFERENCES

- [1] W. H. Beaver, "Perspectives on recent capital markets research", *The Accounting Review*, Vol. 77, No. 2, 2002, pp. 453-474.

- [2] M. Barth, W. Beaver and W. Landsman, "The relevance of value relevance literature for financial accounting standards setting: Another view", *Journal of Accounting and Economics*, Vol. 31, 2001, pp.77-104.
- [3] R. V. Mustata and J. Strouhal, (2012, July 12) "Econometric tools used in measuring accounting harmonization: a necessity imposed through globalization", Proceedings of the 5th WSEAS International Conference on Economy and Management Transformation (Volume II), [Online]. Available: <http://www.wseas.us/e-library/conferences/2010/TimisoaraW/EMT/EMT2-40.pdf>
- [4] J. Strouhal, (2012, July 13) "Testing accounting harmonization upon the globalization of financial reporting systems", Recent Researches in Engineering Education and Software Engineering, [Online]. Available: <http://www.wseas.us/e-library/conferences/2012/CambridgeUK/SEPED/SEPED-27.pdf>
- [5] K. Šteker and M. Otrusínová, (2012, July 13) "The current state of the application of international accounting standards in the Czech Republic", Recent Researches in social science, digital convergence, manufacturing and tourism, [Online]. Available: <http://www.wseas.us/e-library/conferences/2011/Lanzarote/SOSOMACTS/SOSOMACTS-13.pdf>
- [6] D. Prochazka, (2012, July 12) "The IFRS adoption and its influence on mutual relationship of financial and management accounting systems of Czech companies", Recent Researches in Economics and Management Transformation, [Online]. Available: <http://www.wseas.us/e-library/conferences/2011/Angers/EMT/EMT-01.pdf>
- [7] M. Arce and A. Mora, "Empirical evidence of the effect of European accounting differences on the stock market valuation of earnings and book value", *The European Accounting Review*, Vol. 11, No. 3, 2002, pp. 573-599.
- [8] R. Ball, S. P. Kothari and A. Robin, "The effect of international institutional factors on properties of accounting earnings", *Journal of accounting & economics*, Vol. 29, No.1, 2000, pp. 1-51.
- [9] E. L. Black and J. J. White, "An international comparison of income statement and balance sheet information: Germany, Japan and the US", *European Accounting Review*, Vol. 12, No.1, 2003, pp. 29-46.
- [10] S. Callao, B. Cuellar and J. I. Jarne, "International differences in value relevance of accounting data and explaining factors", *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 3, No.4, 2006, pp. 387-408.
- [11] A. Devalle, E. Onali and R. Magarini, "Assessing the Value Relevance of Accounting Data After the Introduction of IFRS in Europe", *Journal of International Financial Management and Accounting*, Vol. 21, No.2, 2010, pp. 85-119.
- [12] A. Ali and H. Lee-Seok, "Country specific factors related to financial reporting and the value relevance of accounting data", *Journal of accounting research*, Vol. 38, No. 1, 2000, pp. 1-21.
- [13] R. D. King and J. Ch. Langli, "Accounting diversity and Firm Valuation", *The International Journal of Accounting*, Vol. 33, No.5, 1998, pp. 529-567.
- [14] N. Brennan and D. Hourigan, "Corporate reporting on the Internet by Irish companies", *Accountancy Ireland*, Vol. 30, No. 6, 1998, pp. 18-21.
- [15] P. Hedlin, "The Internet as a vehicle for investor relations: the Swedish case", *The European Accounting Review*, Vol. 8, No. 2, 1999, pp. 373-381.
- [16] D. N. Hurr, J. G. Kreuze and S. A. Langsam, "Using the Internet for financial reporting", *The Journal of Corporate Accounting and Finance*, Vol. 12, No. 3, pp. 67-75.
- [17] I. Pervan, "Financial reporting on the Internet and the practice of Croatian Joint Stock Companies Quotes on the Stock Exchanges", *Financial theory and practice*, Vol. 29, No. 2, 2005, pp. 159-174.
- [18] V. Bogdan and C. M. Pop, (2009, July 10) "Romanian Companies' Web-Based Disclosure Choices and Capital Markets", [Online]. Available: <http://www.oeconomica.uab.ro/upload/lucrari/1020081/9.pdf>
- [19] D. Deller, M. Stubenrath and C. Weber, "A survey on the use of the Internet for investor relations in the USA, the UK and Germany", *The European Accounting Review*, Vol. 8, No. 2, 1999, pp. 351-346.
- [20] J. Geerings, L. H. H. Bollen and H. F. D. Hassink, "Investor relations on the Internet: a survey of the Euronext zone", *The European Accounting Review*, Vol. 12, No. 3, 2003, pp. 567-579.
- [21] A. Allam and A. Lymer. (2009, July 10) "Developments of Internet Financial Reporting: Review & Analysis Across Five Developed Countries", [Online]. Available: http://bss.bham.ac.uk/bbs/static/images/cme_resources/Users/Lymer/development%paper.pdf
- [22] B. Pirchegger and A. Wagenhofer, "Financial information on the Internet: a survey of the homepages of Austrian companies", *The European Accounting Review*, Vol. 8, No. 2, 1999, pp.383-395.
- [23] E. Bonson and T. Escobar, "A Survey on the Voluntary Disclosure on the Internet. Empirical evidence from 300 European Union Companies", *The International Journal of Digital Research*, Vol. 2, No. 1, 2002, pp. 27-51.
- [24] C. Marston, "Financial reporting on the Internet by leading Japanese companies", *Corporate Communications*, Vol. 8, No. 1, 2003, pp. 23-34.
- [25] C. Marston and A. Polei, "Corporate reporting on the Internet by German companies", *International Journal of Accounting Information Systems*, Vol. 5, No. 3, 2004, pp. 281-368.
- [26] E. Bonson and T. Escobar, "Digital reporting in Eastern Europe: An empirical study", *International Journal of Accounting Information's Systems*, No. 7, 2006, pp. 299-318.
- [27] I. Pervan, "Voluntary financial reporting on the Internet: Analysis of the practice of stock market listed Croatian and Slovene joint stock companies", *Financial theory and practice*, Vol. 30, No. 1, 2006, pp. 1-27.
- [28] A. C. Despina and P. L. Demetrios, "The web based financial reporting adopted by the listed companies in the Athens Stock Exchange", *Journal of Modern Accounting and Auditing*, Vol. 5, No. 7, 2009, pp. 7-20.
- [29] G. Feltham and J. A. Ohlson, "Valuation and Clean Surplus Accounting For Operating and Financial Activities", *Contemporary Accounting Research*, Vol. 11, No.2, 1995, pp. 689-731.
- [30] J. A. Ohlson, "The theory of value and earnings, an introduction to the Ball-Brown analysis", *Contemporary Accounting Research*, Vol. 8, No.1, 1991, pp. 1-19.