DETERMINATION OF ACCOUNTING MANIPULATIONS IN THE FINANCIAL STATEMENTS USING ACCRUAL BASED INVESTMENT RATIOS

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ABSTRACT

The subject of this paper is research of an impact of accrual based investment ratios on the determination of accounting manipulations in the financial statements of the listed companies in the Federation of Bosnia and Herzegovina (FBiH). The main objective of this research is to identify the accrual based investment ratios that contribute to the determination of accounting manipulations and to create a model of an impact of accrual based investment ratios on determination of accounting manipulations in financial statements of the companies. Methodological approach to research determination of accounting manipulations is based on accrual based financial ratios - the investment indicators. Researchers have used the technique of analysing the content of auditing and financial statements to collect research data for the period from 2010 to 2014 on a sample of the listed companies from the capital market in FBiH. In the research, inferential statistics has been applied as a fundamental form of the scientific-cognitive process. The obtained results have been presented by graphs and tabular views. The research results revealed that the accrual based investment ratios contribute to the determination of accounting manipulations in the financial statements of the listed companies in FBiH. Furthermore, a model of impact has been obtained, which indicates that accrual based investment ratio Earnings Per Share (EPS) has a significant impact on the determination of the accounting manipulations in the financial statements. Finally, the research revealed that accrual based investment ratios are a useful tool in determining the accounting manipulations in the financial statements of the companies.

Keywords: Financial statements, Accounting manipulations, Accrual based investment ratios

JEL classification: M40

INTRODUCTION

The role of the accounting system is not only bookkeeping and financial reporting, but also providing high quality and timely information to all users of financial statements. In that context, financial statements represent the main source of information for business decision making. "The aim of financial statements of general purpose is to provide information about the financial position, financial success and cash flows of business entity, which are useful to a wide range of users in economic decision making" (IAS 1, p. 9). The main assumption of the International Financial Reporting Standards (IFRS) is that financial statements faithfully represent the financial position, financial performance and cash flows of the entity. However, there are often financial reports that are materially misstated. It is of special interest to all users of financial statements to achieve financial statements without accounting manipulations.

The researches that focus on the analysis of relations between different financial or nonfinancial indicators and accounting manipulations in financial statements of companies are always interesting to both science and profession. American scientific and research area have a special focus on these types of research. American scientific community particularly emphasizes this type of research. On the other side, researches regarding the quality of financial statements are not so frequent in the European countries. "The main reason for the lack of such research in Europe is the problem of data availability arising from the fact of non-transparent markets and unwillingness of companies to publicly announce a full set of their financial statements" (Aljinović Barač, Klepo, 2006, p. 274). In that context, the aim of this research is to create the model of impact

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of accrual based investment ratios on the determination of accounting manipulations in financial statements of companies. Additionally, the aim is also to identify the accrual based investment ratios that contribute to the determination of accounting manipulations in the financial statements. Therefore, the main assumption of this paper is that accrual based investment ratios have a contribution to the determination of accounting manipulations in financial statements of companies. Several researches suggested improving the existing determination models that relate different financial and non-financial indicators and quality of financial statements (Dechow et al., 2010; Bayley & Taylor, 2007; Prevoo, 2007).

2. THEORETICAL BACKGROUND OF THE RESEARCH

2.1. Prior Literature Review

The analysis of the accruals measures (Jones, 1991; Dechow & Dichev, 2002; Jones, 2007) as well as the research of selected and specially developed financial and nonfinancial indicators and their impact on the determination and prediction of material misstatement and accounting manipulations were in the focus of recent researches (Beneish, 1999; Dechow, 2010).

Kamarudina and Ismail (2014, pp. 226-236) emphasized that prior studies measure earnings quality by using time-series properties of earnings including earnings persistence, predictability, timeliness and volatility; relating accruals to future cash flows, associating earnings with stock market metrics such as stock prices and returns, and assessing the level of discretionary accruals. The literature emphasizes that the quality of earnings is very important as the earnings figure is widely used in many contractual agreements and investing decisions.

Beneish wrote two very important papers in the area of financial statements quality in 1997 and 1999. In the first research, Beneish (1997, pp. 271-309) analysed the financial statements of 64 companies with material misstatements and found that Days Sales in Receivables as an indicator of business activity, and the Gross Margin indicator are most important for the company's classification regarding material misstatements in financial statements. Additional research (Beneish, 1999, pp. 24-36) revealed that indicators of the average duration of Days Sales in Receivables, Gross Margin Index, Asset Quality Index, Sales General and Administration Index and Positive Accrual Dummy are key factors that have impact on the quality of financial statements.

Another significant model based on financial and nonfinancial indicators is the F-model that is the result of research for the year 2008 (Dechow et al., 2010). The research found that activity indicators: Receivables index and Inventory index have a significant impact on the determination of material misstatement in the financial statements.

Aljinović Barać, Vuko and Šodan (2017) examined the frequency and nature of accounting violations that resulted in modified audit opinions (MAOs); determinants of MAO decision; and underlying motives, targets and techniques of accounting manipulations. The results (2017, pp. 788-809) show that MAOs are expressed in 29% of audit reports of listed companies in Croatia. A majority of the qualifications refer to noncompliance with provisions of IAS39, IAS16, IAS1, IAS2 and IAS36. The survey results show that manipulations are principally oriented towards creditors, tax authorities and suppliers with the intention to hide bad performance, get better terms of crediting, and minimize fiscal and political costs.

The role of financial indicators in determining future business events is revealed and demonstrated in the previous period for the purpose of bankruptcy (Altman, 1968), as well as other business events such as business activity reduction or capital increase (Korcan et al., 2013). However, additional researches are also suggested in order to analyse the impact of financial indicators on the determination of accounting manipulations of financial statements (Korcan et al., 2013, pp. 1-75). Based on the presented data, the topic of this research is new, current and insufficiently explored, especially in the domestic and regional conditions.

2.2. Accounting Manipulations Conceptualization

Within accounting and auditing theory, "Earnings Management" is a particular scientific and professional area that investigates different factors and their impact on the quality of financial statements. The term "Earnings Management" usually implies taking certain interventions in the accounting process to modify accounting amounts, e.g. to modify the risk perceived by the users of financial statements. (Stolowy & Breton, 2000). According to Healy and Wahlen (1999, p. 368), accounting manipulation as the result of earnings management "occurs when managers use estimates in financial reporting and in structuring financial statements to mislead the financial statement users." Thus, most of the approaches point out that earnings management represents a set of accounting techniques that management uses to modify disclosure and valuation of financial performance, financial position, and cash flows of the company. As the result of the undertaken activities, accounting manipulations occur in financial statements.

"In most cases, accounts manipulations are defined as opportunistically used discretion over accounting numbers with intention to mislead users of information" (Aljinović Barać & Klepo, 2006, p. 274). Schipper (1989, p. 2) defines accounting manipulations as "a purposeful intervention in the external financial reporting, with the intent of obtaining some private gain." Jameson (1988, p. 20) defines accounting manipulations as a process that operates within the letter of both law and accounting standards but it is quite clearly against the spirit of both. In general, accounting manipulations can be defined as the manipulations of accounting numbers that are not in accordance with the concept of "true and fair view."

Ronen and Yaari (2008) pointed out that accounting manipulation occurs because of a choice of accounting policies that have impact to the accounting amount. Furthermore, Aljinović Barać and Klepo (2006, p. 274) emphasized that the "contents of account manipulations implicate the ways accounting is used to alter the number reported in financial reports in order to modify users' perception of company's performance. The numbers can be manipulated:

- by using "pure" accounting choices (misusing alternative accounting politics and estimates),
- by opportunistically classifying and disclosing items, or
- by structuring and timing real transactions in order to achieve reporting goals.

The first and the last case can be defined as inter-period accounting manipulations, while the second case are intra-period accounting manipulation."
The range of accounting manipulations is mostly discussed within the context of legal and illegal actions. Gulin (2002, p. 34) emphasized that "although the label "manipulations" evokes negative connotations associated with illegal actions, not all manipulations are a priori illegal and negative. In most cases, manipulations are understood to be the legal end of a continuum while financial statement fraud is at the illegal."

According to IFRS, accounting manipulation includes financial statements that contain material misstatements. According to IAS 8 "the error is material if it can, individually or collectively, affect the economic decisions that users make on the basis of financial statements. The materiality depends on the combination of size and type of omitted or incorrectly presented items of financial statements." Accounting errors and the material ones arise from the recognition, measurement, presentation or disclosure of the elements of financial statements. The reasons for the occurrence of errors can arise from the lack of information, wrong assessment of a particular business event or financial effect of the transaction, lack of knowledge or intention to misstate.

2.3. Definition of Accrual Based Investment Ratios

The basic generic classification of financial analysis ratios implies accrual based financial statement ratios and the cash based financial statement ratios. There are different classifications of accrual based investment ratios. The accrual based investment ratios used in the specific research are presented in Table 2.1 with the appropriate description and the method of calculation.

Accrual based investment ratios are important instrument of financial analysis both for present and future potential investors on the capital market. The main features of accrual based investment ratios in relation to other accrual-based ratios are:

- Accrual based investment ratios are partly out of control and influence of the management,
- Calculation of accrual based investment ratios requires data from external sources, primarily the capital market.

Earnings per share and Dividend per share are indicators that imply the ratio of the net financial result available for dividing and the average number of ordinary shares. According to Žager et al. (2008, p. 254), the earnings per share (EPS) ratio is usually higher than the dividend per share (DPS), due to fact that all profits will not be paid to the shareholders as dividend. However, in some situations DPS may be higher than EPS, due to fact that dividend from the previous and current year is payed to the shareholders.

- According to White et al. (2003, p. 151), the main issues regarding EPS ratio are:
- Application of different accounting policies can significantly affect the amount of earnings and the value of EPS,
- Inconsistent definition of ordinary shares may significantly affect the number of shares and the value of EPS,
- Different financing and dividend policies distort the value of EPS indicator (e.g. company that pays lower preferential dividends may have the higher value of EPS in relation to the company that pays higher preferential dividends),
- The concept of "earnings" includes amortization and other non-cash transactions that should be excluded when calculating the value of the shareholders.

These disadvantages imply the use of cash flow per share as an alternative indicator.
Price to Earnings per share ratio (P/E) is one of the most important investment indicators that implies investors' willingness to pay for one unit of earnings per share of the company. It is calculated as the ratio of the Market price per share (P) (take the average price data for the observed share in the observed period if it is available) and EPS in the observed period.

The most significant accrual based investment indicators are those that point to the profitability of company's shares. We calculate these accrual base investment indicators as the ratio of EPS or DPS to the Market price of the company's shares (PPS). Therefore, Total Share profitability (E/P) and Dividend Share profitability (D/PPS) can be used in the analysis. These ratios are indicators of the profitability of the total capital expressed in this market value, rather than in a bookkeeping value (as is the case of calculation of accrual based profitability ratios).

Table 2.1. - The classification and the method of calculation of accrual based investment ratios

Ratio name	Ratio Label		Ratio description and the method of calculation
Earnings per share	EPS	=	Net financial result / Average number of shares
Dividend per share	DPS	=	Dividend (for payment to shareholders) / Average number of shares
Price / Earnings Ratio	P/E	=	Share Market Price / Earnings per share
Dividend ratio	D/EPS	=	Dividend per share / Earnings per share
Total Share profitability	E/P	=	Earnings per share / Share Market Price
Dividend profitability	D/PPS	=	Dividend per share / Share Market Price

Source: Žager et al., 2008, pp. 243-296

Previous research has revealed the usefulness of different form of investment indicators in assessing the quality of financial statements. According to Omoye and Eraghbe (2014, pp. 206-215), investment indicators are related to fraud in financial statements. On the other hand, Dechow et al. (2010, pp. 1-68) have found that companies with material misstatements in financial statements have, among other things, higher value of the investment indicators.

3. RESEARCH DESIGN

3.1. Research Model Design

The methodological approach to the research of the quality of financial statements implies methods of researching and analysing material misstatements in financial statements. Therefore, it is possible to identify three basic methodological approaches to the researching of material misstatements in financial statements:

1. Accrual based researches of material misstatements;
2. Financial and nonfinancial indicator based researches of material misstatements; and
3. Alternative approaches to research of material misstatements.

In this research, the methodological approach is based on accrual based financial ratios, investment indicators in particular. The research model is presented in the form of a multiple linear regression equation (Jones, 1991, Beneish, 1997; Beneish, 1999; Dechow and Dichev, 2002).

$$MM_{i,t} = \beta_{0i,t} + \beta_1 EPS_{i,t} + \beta_2 DPS_{i,t} + \beta_3 P/E_{i,t} + \quad (1)$$

$$\beta_4 D/EPS_{i,t} + \beta_5 E/P_{i,t} + \beta_6 D/PPS_{i,t} + \varepsilon_{i,t} \quad (2)$$

Where the items are defined as follows

MM	-	Accounting manipulations in financial statements
$\beta_{0,}$ $\beta_{1,....,}$ β_n	-	Parameters (coefficients) with independent variables
EPS	-	Earnings per share
DPS	-	Dividend per share
P/E	-	Price / Earnings Ratio
D/ EPS	-	Dividend ratio
E/P	-	Total Share profitability
D/ PPS	-	Dividend profitability
$\varepsilon_{i,t}$	-	A statistical (random) error
i,t	-	For a company *i*, in the period *t*

The research model is based on financial indicators (ratios) as the key factors for determination of accounting manipulations in the financial statements. Financial indicators represent the ratios of certain financial statements positions. Several key differences can be identified between accrual based models and financial ratios based models for determinations of accounting manipulations (Jones, 1991, Dechow and Dichev, 2002). Accrual based models observe changes in certain accounting categories (income, receivables, property, plant and equipment) and the impact on the quality of financial statements. On the other hand, financial rations and non-financial information are used in financial ratios based models for determination of accounting manipulation in the financial statements. Furthermore, financial ratios based models also use external financial information (primarily from the capital market), as well as nonfinancial information such as the structure of ownership, frequency of changes in external auditors, number of board members, employee fluctuation rate and others. Financial ratios based models are developed after accrual based models and represent a response to the disadvantages of accrual based models.

One of the main objectives of this research is to create the model of impact of accrual based investment ratios on the determination of accounting manipulations in financial statements of companies. The conceptual model of research implies the assumption that the accrual based investment ratios are in the function of determination of accounting manipulations in financial statements of companies.

3.2. Sample Design

For the purposes of the empirical research, a sample with the treatment and control group of companies is designed. The companies with detected accounting manipulations in the financial statements are included in the treatment sample group, while all other companies without detected accounting manipulations in the financial statements are included in the sample control group. Audited annual financial statements of companies whose equity securities (shares) are listed on the organized capital market in the Federation of Bosnia and Herzegovina (Sarajevo Stock Exchange - SASE) are included in treatment and control sample group (see Table 3.1).
In the first step, the sample included the total population of 208 companies whose shares are in the quotes of the company (one issuer), the primary free market (29 companies) and the secondary free market (179 companies) of the SASE. In the second step, the sample excluded all inactive companies (whose shares are not active, etc.) as well as financial institutions due to the institutional differences.

Finally, it can be noted that 117 companies or 66.86% of the total number of companies included in the treatment and control sample is an indicator at an appropriate level. Because the audited annual financial statements were collected for one or more years, the final sample includes 257 audited annual financial statements (treatment and control group), or 29.37 % of the total population, which is an appropriate and acceptable indicator especially in the field of social researches. Due to the time pattern of the sample for the purpose of this research, the sample includes the companies listed on the organized equity market of the SASE, in a five-year period from 2010 to 2014.

3.3. Data Collection Design

The methodology design implies the selection of appropriate instruments for collecting, systematizing, classifying and processing statistical data. The technique of analysing the content of auditing and financial statements is used to collect the research data for the period from 2010 to 2014 on a sample of companies whose securities are quoted on the capital market in the Federation of Bosnia and Herzegovina. In the next step, the data were classified and ranked where needed. This research considers accounting manipulations as a dichotomous variable with two possible rank states: the financial statements without detected accounting manipulations (rank 0) and the financial statements with detected accounting manipulations (rank 1). Furthermore, the data were entered into a database where variable classification and the calculation of the required financial analysis ratios were performed. The data from the audit statements were related to the relevant data from the annual financial statements. Finally, the data were reviewed and prepared for entry into the statistical analysis and testing program (SPSS - Statistical Package for Social Sciences). In this research, the statistical methods that include the application of inferential statistics were applied as the fundamental form of the scientific-cognitive process. The obtained results were presented by tabular views. Specifically, differential tests were applied, including the parametric T-test

Table 3.1. - Designing a research sample

Description	Number
Companies on the quotation, free primary and secondary market of SASE	208
Inactive companies whose shares are not traded (suspension and others)	(12)
Financial entities and institutions	(21)
TOTAL number of population companies	**175**
Not available dana form financial statements of companies	(58)
Total number of companies included in sample	**117**
Total number of financial statement included in sample	**257**

Source: author's creation

and nonparametric Man-U-Whitney test, as well as binary logistic regression in order to identify activity indicators that have a significant impact on the determination of material misstatement in financial statements.

4. DISCUSSION OF RESEARCH RESULTS

Accrual based investment ratios represent a useful source of information for present and future investors when deciding whether and when to invest in a particular company on the capital market. This paper includes the analysis of the following indicators: EPS, DPS, P/E, D/EPS, E/P, and D/PPS. The results of the analysis (see Table 3) point out those companies without accounting manipulations in the financial statements have better average values for most of the accrual based investment ratios compared to companies with detected accounting manipulations in financial statements.

Regarding the analysis of investment ratios, the results presented in Table 4.1 indicate that companies without detected accounting manipulations in financial statements have a positive value of EPS that is on average 0.92 BAM per share. On the other hand, companies with detected accounting manipulations have negative EPS due to their negative business performance. Furthermore, companies without detected accounting manipulations have paid dividends at the average level of 0.12 BAM per share. Companies with detected accounting manipulations in the financial statements have paid 0.06 BAM dividend share, which is 50% less comparing to companies without detected accounting manipulations. It is interesting to observe P/E, which is at a better level for companies with detected accounting manipulations in financial statements (5.02) compared to companies without detected accounting manipulations in financial statements (4.14). Either this can be a result of the weaker average performance or possible market value overestimates of companies with detected accounting manipulations.

Regarding the tests of differences in the accrual based investment ratios between the two

Table 4.1. - Accrual based investment ratio analysis in relation to accounting manipulations

Accounting Manipulations		EPS	DPS	P/E	D/EPS	E/P	D/PPS
Without detected accounting manipulations	N	133	136	127	136	101	101
	Mean	0.922196	0.122434	4.147488	0.056901	0.209657	0.043478
	Median	0.262100	0.000000	0.000000	0.000000	0.043500	0.000000
	St.deviation	3.6589558	0.6660043	12.9463441	0.3617139	0.8917963	0.1820659
	% of total N	61.0%	60.7%	68.3%	62.1%	58.0%	57.7%
With detected accounting manipulations	N	85	88	59	83	73	74
	Mean	-0.277107	0.059013	5.022722	0.035452	-0.110115	0.002405
	Median	0.014500	0.000000	0.000000	0.000000	0.003000	0.000000
	St.deviation	2.7873084	0.2877260	16.6361410	0.1905717	1.1235070	0.0082591
	% of total N	39.0%	39.3%	31.7%	37.9%	42.0%	42.3%
Total	N	218	224	186	219	174	175
	Mean	0.454578	0.097518	4.425116	0.048772	0.075500	0.026110
	Median	0.045050	0.000000	0.000000	0.000000	0.010550	0.000000
	St.deviation	3.3904191	0.5493500	14.1806100	0.3078837	1.0050343	0.1396182
	% of total N	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Research results (N=257), SPSS v. 20

observed groups of companies, the results of the conducted Mann-Whitney U test (see Table 4.2) reveal that there is a statistically significant difference in the EPS (p = 0.007) and E/P (p = 0.002) at a 5% significance level. A statistically significant difference in other accrual-based investment ratios was not determined between the observed groups of companies using the Mann-Whitney U test.

Table 4.2. - Results of the difference testing using the Mann-Whitney U test

No.	Accrual based investment indicator	Label	Mann-Whitney test
			Sig.
1.	Earnings per share	EPS	0.007*
2.	Dividend per share	DPS	0.624
3.	Price / Earnings Ratio	P/E	0.326
4.	Dividend ratio	D/EPS	0.113
5.	Total Share profitability	E/P	0.002*
6.	Dividend profitability	D/PPS	0.241

*p<0.01, ** p<0,05

Source: Research results (N=257), SPSS v. 20

Table 4.3. - Results of the difference testing using the Independent Samples T-Test

F		Levene's Test for Equality of Variances	T-test for Equality of Means							
		Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
								Lower	Upper	
EPS	Equal variances assumed	4.848	0.029	2.580	216	0.011	1.1993033	0.4647903	0.2831981	2.1154085
	Equal variances not assumed			2.737	209.332	0.007	1.1993033	0.4382492	0.3353558	2.0632508
DPS	Equal variances assumed	6.717	0.010	0.843	222	0.400	0.0634213	0.0752045	-0.0847847	0.2116274
	Equal variances not assumed			0.978	198.486	0.329	0.0634213	0.0648247	-0.0644121	0.1912548
P/E	Equal variances assumed	5.469	0.020	-0.391	184	0.696	-0.8752338	2.2393412	-5.2933209	3.5428532
	Equal variances not assumed			-0.357	91.879	0.722	-0.8752338	2.4516554	-5.7445185	3.9940508
D/EPS	Equal variances assumed	4.626	0.033	0.499	217	0.618	0.0214489	0.0429585	-0.0632204	0.1061183
	Equal variances not assumed			0.573	213.140	0.567	0.0214489	0.0374112	-0.0522944	0.0951922
E/P	Equal variances assumed	0.347	0.557	2.091	172	0.038	0.3197725	0.1529115	0.0179478	0.6215972
	Equal variances not assumed			2.016	132.694	0.046	0.3197725	0.1586367	0.0059886	0.6335564
D/PPS	Equal variances assumed	14.823	0.000	1.938	173	0.054	0.0410728	0.0211970	-0.0007652	0.0829108
	Equal variances not assumed			2.264	100.561	0.026	0.0410728	0.0181417	0.0050827	0.0770629

Source: Research results (N=257), SPSS v. 20

On the other hand, the results of the conducted T-test, presented in Table 4.3, confirm the previously presented results of the nonparametric test of difference. There is a statistically significant difference in the EPS (df=216; p=0.011) and (E/P (df=172; p=0.038) between the companies with detected accounting manipulations and the companies without detected accounting manipulations in financial statements at 5% significance level.

However, the T-test has identified additional accrual based investment ratio that significantly differs between the two observed groups of companies at a significance level of 5%. That indicator is D/PPS (df = 173; p = 0.053). The T-test has not revealed any statistically significant differences in other accrual based investment ratio between the two observed groups of companies.

Due to the development of the model of the impact of accrual based investment ratio to the determination of accounting manipulations in financial statements of companies, binary logistic regression was conducted. The additional reason to apply binary logistic regression is the fact that the data in the research sample do not follow normal distribution. The test results (see Table 4.4) show that EPS as the accrual based investment ratio contributes to the determination of accounting manipulations in financial statements of companies, at a statistically significant level of 5%.

The obtained model of impact of accrual based investment ratio on the determination of accounting manipulations is statistically relevant (Chi-square = 3.638; df = 1; p = 0,05). The obtained model points out accrual based investment ratio that could serve as useful tool in determination of accounting manipulations, since there is a relation between the value of the EPS indicator and the occurrence of accounting manipulations in the financial statements. The results of the statistical analysis indicate the basic characteristics of the obtained model. Hosmer and Lemeshow tests indicate how well the model is fit to data, and the statistical significance value of the test should be higher than 0.05 (p>0.05). In this case, the statistical significance value of the Hosmer and Lemeshow test is higher than 0.05 (p=0.107) which indicates that the model is well adjusted to the data.

The Beta coefficient value of the predictor shows the direction and intensity of impact on the determination of accounting manipulations in financial statements. The Beta coefficient results show that the indicator EPS has an impact (B=-0.087) on the determination of accounting manipulations in financial statements at a statistically significant level (p=0.066). Furthermore, the higher value of EPS contributes to the lower value of the model that indicates lower probability of accounting manipulations in financial statements. On the other hand, the lower value of the EPS contributes to the higher value of the model or to the higher probability of accounting manipulations in financial statements. Furthermore, the probability factor Exp (B) of EPS (0.917) implies that if EPS ratio increases by 1.00, the probability of occurrence of accounting manipulations in financial statements decreases by 8.30%. This additionally implies the relation of this predictor (EPS) with the dependent variable and its ability to determine accounting manipulations in financial statements.

5. CONCLUSIONS

This paper examines the impact of the accrual based investment ratios on the determination of accounting manipulations in financial statements of companies. Financial statements are a useful and important source of information for making different decisions. The results of the conducted research indicate that the

Table 4.4. - Results of applied logistic regression

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 6[a]	EPS	-0.087	0.047	3.388	1	0.066	0.917
	Constant	-0.636	0.195	10.627	1	0.001	0.529

a. Variable(s) entered on step 1: EPS, DPS, PE, DEPS, EP, DPPS.

Source: Research results (N=257), SPSS v. 20

accrual based investment ratios, as the result of the analysis of the financial statements, have a contribution to the determination of accounting manipulations in financial statements of the companies. There is a significant difference ($p<0.05$) in the accrual based investment ratios: EPS and E/P between companies with accounting manipulations in financial statements and companies without accounting manipulations in financial statements. In addition, a statistically significant difference between the observed two groups of companies was revealed in D/PPS. Furthermore, a model of impact was obtained, which indicates that accrual based investment ratio EPS contributes to the determination of accounting manipulations in financial statements. In the end, the research revealed that accrual based investment ratios are a useful tool in determination of accounting manipulations in financial statements of companies. The forthcoming researches should take into consideration the analysis of the impact of accrual based investment ratios on the determination of accounting manipulations in financial statements of different types of business activities. In addition, it would be interesting to research the impact of cash based investment ratios on the determination of accounting manipulations in financial statements of companies.

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