

UDK 005.7:796.92(497.6 RS)

DOI: 10.7251/FIN2101013R

Siniša Rajković*

ORIGINALNI NAUČNI RAD

Diskrecioni obračunski model u funkciji detekcije kreativnog računovodstva u Republici Srpskoj

Discretionary-accruals model in the function of detection of creative accounting in the Republic of Srpska

Rezime

U posljednjih 40 godina mnogi autori su pokušali da razviju savršen model koji bi pomogao analitičarima, revizorima, investitorima, povjericima, državi i drugim korisnicima da naprave distinkciju između finansijskih izvještaja koji su bili predmet manipulativnog finansijskog izvještavanja od onih koji to nisu.

Primjenom višestruke linearne regresije, u radu se konstruiše i testira diskrecioni obračunski model za detekciju zastupljenosti kreativnog računovodstva u finansijskim izvještajima privrednih društava u Republici Srpskoj, primjeren i prilagođen našem poslovnom okruženju i uslovima tržišnog privređivanja. Konstruisani diskrecioni obračunski model testiran je na finansijskim izvještajima reprezentativnog uzorka od 400 izvještajnih entiteta za period 2016–2019. (1.600 finansijskih izvještaja). Kod ukupno 46 privrednih društava (11,5%) prosječna vrijednost diskrecionog obračuna (DACC) statistički znatno odstupa od nule, što ukazuje na moguću manipulaciju finansijskim izvještajima kod ovih izvještajnih entiteta. Rezultati su pokazali da srednja vrijednost diskrecionih obračuna (DACC), kao mjere upravljanja dobitkom, iznosi 0,3% prosječne vrijednosti ukupne aktive. Prema područjima djelatnosti, nalazi su pokazali da su najveća odstupanja kod preduzeća koja se bave informisanjem (0.0608), zdravstvom (-0.0531) i naukom (0.0486), dok je najveća prosječna vrijednost DACC-a u posmatranom četvorogodišnjem periodu zabilježena kod privrednih društava sa sjedištem u regionima Istočnog Sarajeva (0.0158) i Doboja (-0.0093).

Ključne riječi: diskrecioni obračunski model, Jonesov model, višestruka linearna regresija, upravljanje zaradom (earnings management).

Abstract

In the last 40 years, many authors have tried to develop a perfect model that would help analysts, auditors, investors, creditors, the state, and other users make a distinction between financial statements that have been subject to manipulative financial reporting and those that have not.

By applying multiple linear regressions, the paper constructs and tests a discretionary accounting model for detecting the representation of creative accounting in the financial statements of companies in the Republic of Srpska, appropriate and adapted to our business environment and market conditions. The constructed discretionary-accruals model was tested on the financial statements of a representative sample of 400 reporting entities for the period 2016-2019 (1,600 financial statements). In a total of 46 companies (11.5%), the average value of the discretionary-accruals (DACC) deviates statistically significantly from zero, which indicates the possible manipulation of financial statements in these reporting entities. The results showed that the mean value of discretionary accruals (DACC), as a earnings management measure, is 0.3% of the average value of total assets. According to the areas of activity, the findings showed that the largest deviations are in companies engaged in information (0.0608), health (-0.0531) and science (0.0486), while the highest average value of DACC in the observed four-year period was recorded in companies based in the regions of East Sarajevo (0.0158) and Doboij (-0.0093).

Keywords: Discretionary-accruals model, Jones Model, multiple linear regression, earnings management.

* Savez računovođa i revizora Republike Srpske, e-mail: sinisa.rajkovic@srrrs.org

UVOD

Fleksibilnost MSFI/MRS i ostavljanje mogućnosti izbora između određenih računovodstvenih politika i procjena stvorili su prostor za moguće računovodstvene manipulacije i uticaj na oblikovanje finansijskih izvještaja. Drugim riječima, do upravljanja zaradama (earning management) najčešće dolazi korišćenjem diskrecionog prava menadžmenta pri izboru i primjeni različitih računovodstvenih metoda i procjena. Zahvaljujući ovoj slobodi izbora, menadžmentu je na neki način omogućeno upravljanje finansijskim rezultatom naviše ili naniže u zavisnosti od interesa. Ako ovo uzmemo u obzir, onda se opravdano postavlja pitanje da li su finansijski izvještaji pouzdana informaciona podloga za donošenje poslovnih odluka.

Kada je riječ o modelima za otkrivanje zastupljenosti kreativnog (manipulativnog) računovodstva u finansijskim izvještajima, brojni autori saglasni su u tome da ne postoji idealan model. U literaturi se mogu pronaći različiti modeli za otkrivanje kreativnog finansijskog izvještavanja, a među najzapaženijim su svakako diskrecioni obračunski modeli, modeli kvaliteta obračuna, probit i logit modeli, modeli vještačke inteligencije, digitalne analize i mnogi drugi.

Za potrebe ovog rada, a u skladu s preferencijama mnogih relevantnih autora, odlučili smo se za primjenu diskrecionog obračunskog modela. Razlog je u tome što su se ovi modeli u praksi pokazali kao najpouzdaniji i najpouzdaniji kada je riječ o detekciji zastupljenosti kreativnog računovodstva (upravljanja zaradama – earnings management) u finansijskim izvještajima. Među istraživačima pristalicama diskrecionih obračunskih modela najpopularniji su Jonesov model kao osnova budućih modela, te modifikovani Jonesovi modeli (Dechow, 1995; Kasznik, 1999), koji su primjenjivani širom svijeta i pokazali se najpouzdanijim (Matis D., Beatrice V. A., Negrea, L. i Sucala, L. (2010); Bartov, E., Gul, A. F. i Tsui, J. S. L. (2001) i mnogi drugi).

Kada je riječ o interpretaciji rezultata dobijenih Jonesovim diskrecionim obračunskim modelom, posmatra se dobijena vrijednost diskrecionog obračuna (Discretionary accruals). Ta vrijednost može biti pozitivna, negativna ili jednaka nuli. Ukoliko je vrijednost diskrecionog obračuna nekog privrednog društva jednaka nuli, to znači da u finansijskim izvještajima tog društva nije zastupljeno kreativno računovodstvo u vidu upravljanja zaradom (earnings management). Ako rezultat diskrecionog obračuna pokaže pozitivan predznak, to bi bio indikator da je menadžment koristio neku od tehnika kreativnog računovodstva kako bi finansijski rezultat datog privrednog društva prikazao većim nego što on realno jeste. Suprotno, ako vrijednost diskrecionog obračuna ima negativan predznak, to nam pokazuje da je menadžment preduzeća takođe koristio tehnike kreativnog računovodstva, ali s ciljem da finansijski rezultat prikaže nižim (lošijim) nego što jeste. Dakle, u slučaju i pozitivnog i negativnog predznaka vrijednosti diskrecionog obračuna, radi se o pokazatelju zastupljenosti kreativne računovodstvene prakse, ali s različitim ciljevima i motivima.

Jonesov model razvijen je 1991. godine na Univerzitetu u Čikagu. Ovaj model nadograđuje i proširuje prethodne radove i istraživanja koja su sproveli Healy (1985), DeAngelo (1986), McNichols i Wilson (1988). Sve ove studije ubrajaju se u diskrecione obračunske modele i istražuju postojanje upravljanja zaradom u finansijskim izvještajima izvještajnih entiteta. Jonesovu studiju i istraživanje finansijski je tada podržao Institut profesionalnih računovođa Univerziteta Čikago, te Univerzitet Mičigen, kao i revizorska kuća Arthur Andersen & Co. Jonesov model bio je temelj na osnovu koga su kasnije mnogi autori izvodili i konstruisali druge razne modele diskrecionog obračuna s nadom da će napraviti iskorak te poboljšati i unaprijediti postojeće modele.

U nastavku rada, fokus je na metodološkom pristupu istraživanju u kojem je ilustrovana konstrukcija diskrecionog obračunskog modela za Republiku Srpsku, a potom je dati model testiran te su u empirijskom dijelu predstavljeni dobijeni rezultati istraživanja. Posljednji dio rada posvećen je diskusiji i interpretaciji dobijenih rezultata te zaključnim razmatranjima.

1. METODOLOGIJA ISTRAŽIVANJA

Za potrebe kreiranja diskrecionog obračunskog modela za detekciju prisutnosti kreativnog računovodstva u finansijskim izvještajima privrednih društava u Republici Srpskoj primijenjena je višestruka (multipla) linearna regresija, pretežno korištenjem podataka poprečnog presjeka (Cross-sectional data). Za višestruki linearni regresioni model odlučili smo se iz razloga što su se ovi modeli u praksi pokazali daleko uspješnijim pri objašnjavanju međuzavisnosti pojava u realnosti. Višestruki linearni regresioni model često se koristi u statističkim analizama i ekonometriji kada jedna promjenjiva (zavisna varijabla) zavisi od većeg broja objašnjavajućih promjenjivih (nezavisnih varijabli). Oslanjajući se na prethodne studije i istraživanja mnogih relevantnih autora (Healy, 1985; DeAngelo, 1986; McNichols i Wilson, 1988; Jones, 1991; Dechow, 1995; i Kasznik, 1999) odlučili smo da baza za naš diskrecioni model bude modifikacija Jonesovog modela, na kojoj je takođe radio i Dechow (1995), a nedugo potom i Kasznik (1999), a oba se baziraju na originalnom Jonesovom modelu.

Diskrecioni obračunski model za Republiku Srpsku dodatno je modifikovan na način da su se postojećim modelima pridobile tri nove komponente (nezavisne varijable) za koje se smatra da će doprinijeti tačnosti i poboljšanju postojećih modela. Riječ je o:

- dvjema kvantitativnim nezavisnim varijablama:
 - prinos na imovinu,
 - pokazatelj zaduženosti privrednog društva;
- jednoj nezavisnoj promjenljivoj kvalitativnog karaktera:
 - postojanje/nepostojanje interne revizije i kontrole ili odbora za reviziju u privrednom društvu. Ova kvalitativna varijabla može da poprmi dvije vrijednosti: sa 1 (jedan) označena je prisutnost interne revizije, kontrole ili odbora za reviziju u privrednom društvu za koju se pretpostavlja da ima uticaj na zavisnu varijablu (upravljanje zaradom), dok je sa 0 (nula) označena odsutnost interne revizije i kontrole ili odbora za reviziju u izvještajnom entitetu.

Zašto su se na postojeće modele dodale još prethodne tri nezavisne promjenjive? Neka ranija istraživanja (Burgstahler i Dichev, 1997; McNichols, 2000; Rahman i Ali, 2006; Salleh i Hassan, 2008. i mnoga druga) pokazala su postojanje korelacije između kretanja prinosa na imovinu (ROA) i upravljanja zaradom (earnings management). Što je bio veći ovaj rasio, veća je bila prisutnost kreativnog računovodstva kroz postupke upravljanja zaradom, što je svakako uticalo na kvalitet finansijskog izvještavanja.

Kada je riječ o pokazateljima zaduženosti, relevantni autori su pronašli da je u nekim slučajevima promjena računovodstvenih politika kao instrument upravljanja zaradama izvršena s ciljem da se utiče ne samo na visinu dobiti već i da se olakša sticanje kapitala (Škarić Jovanović, 2007). Riječju, izvještajni entiteti su često motivisani da koriste kreativno računovodstvo ukoliko imaju visoku stopu zaduženosti. Istraživanja su pokazala da korelacija između koeficijenta zaduženosti i upravljanja zaradama može imati pozitivan, odnosno

INTRODUCTION

The flexibility of IFRS/IAS and the possibility to choose between certain accounting policies and estimates have created room for possible accounting manipulations and influence on the preparation of financial statements.

In other words, earning management is most often obtained by using the discretion of management in the selection and application of various accounting methods and estimates. Thanks to this freedom of choice, the management is in some way enabled to manage the financial result up or down depending on the interest. If we take this into account, then the question justifiably arises as to whether the financial statements are a reliable information basis for making business decisions.

When it comes to models for detecting the presence of creative (manipulative) accounting in financial statements, many authors agree that there is no ideal model. Various models for detecting creative financial reporting can be found in the literature, and among the most notable are certainly discretionary-accruals models, accounting quality models, probit and logit models, artificial intelligence models, digital analysis and many others.

For the purposes of this paper, and in accordance with the preferences of many relevant authors, we decided to apply a discretionary-accruals model. The reason is that in practice, these models have proven to be the most appropriate and reliable when it comes to detecting the presence of creative accounting (earnings management) in financial statements. Among the proponents of discretionary-accruals models, the most popular are the Jones Model as the basis for future models, and the modified Jones models (Dechow, 1995, Kasznik, 1999) that have been applied worldwide and proved to be the most reliable (Matis D., Beatrice VA, Negrea, L. and Sucala, L. (2010); Bartov, E., Gul, AF and Tsui, JSL (2001) and many others).

When it comes to the interpretation of the results obtained by Jones discretionary-accruals model, the obtained value of the discretionary component (Discretionary accruals) is observed. This value can be positive, negative, or zero. If the value of the discretionary accruals of a company is equal to zero, it means that the financial statements of that company do not include creative accounting in the form of earnings management. If the result of discretionary accruals shows a positive sign, it would be an indicator that the management used some of the techniques of creative accounting to present the financial result of a given company higher than it really is. Conversely, if the value of the discretionary accruals has a negative sign, it shows us that the company's management also used creative accounting techniques, but with the aim of presenting the financial result lower (worse) than it is. Thus, in the case of both positive and negative signs of the value of discretionary accruals, it is an indicator of the representation of creative accounting practice, but with different goals and motives.

Jones Model was developed in 1991 at the University of Chicago. This model builds on and expands previous research and work conducted by Healy (1985), DeAngelo (1986), McNichols, and Wilson (1988). All of these studies are included in discretionary accounting models and investigate the existence of earnings management in the financial statements of reporting entities. Jones' study and research was then financially supported by the Institute of Professional Accountants of the University of Chicago and the University of Michigan, as well as the auditing firm Arthur Andersen & Co. Jones Model was the foundation on which many authors later derived and constructed other various models of discretionary

accruals with the hope of making a breakthrough and improving and enhancing existing models.

In the following, the focus is on the methodological approach of the research in which the construction of the discretionary-accruals model for Republic of Srpska is illustrated, and then the given model is tested and the obtained research results are presented in the empirical part. The last part of the paper is dedicated to the discussion and interpretation of the obtained results and concluding remarks.

1. RESEARCH METHODOLOGY

For the purpose of creating a discretionary-accruals model for detecting the presence of creative accounting in the financial statements of companies in the Republic of Srpska, multiple linear regression was applied, using mainly Cross-sectional data. We opted for the multiple linear regression model because these models have proven to be far more successful in practice in explaining the interdependence of phenomena in reality. A multiple linear regression model is often used in statistical analysis and econometrics when one variable (dependent variable) depends on a number of explanatory variables (independent variables). Relying on previous studies and research by many relevant authors (Healy, 1985, DeAngelo, 1986, McNichols and Wilson, 1988, Jones, 1991, Dechow, 1995 and Kasznik, 1999) we decided that the basis for our discretionary model would be a modification of Jones Model, which was also worked on by Dechow (1995) and shortly afterwards by Kasznik (1999), both of which are based on the original Jones Model.

The discretionary-accruals model for the Republic of Srpska has been further modified by adding three new components (independent variables) to existing models that are considered to contribute to the accuracy and improvement of existing models. These are:

- two quantitative independent variables:
 - Return on Assets,
 - indicator of indebtedness of the company;
- one independent variable of qualitative character:
 - the existence/non-existence of an internal audit and control or audit committee in the company. This qualitative variable can take on two values: sa1 (one) indicates the presence of an internal audit, control or audit committee in a company that is assumed to have an impact on the dependent variable (earnings management), while 0 (zero) indicates the absence of internal audit and control or an audit committee in the reporting entity.

Why the previous three independent variables were added to the existing models?

Namely, some earlier research (Burgstahler and Dichev, 1997, McNichols, 2000, Rahman & Ali, 2006, Salleh & Hassan, 2008 and many others) showed the existence of a correlation between the movement of Return on Assets (ROA) and earnings management. The higher this ratio, the greater the presence of creative accounting through earnings management procedures, which certainly affected the quality of financial reporting.

When it comes to indebtedness indicators, the relevant authors found that in some cases the change in accounting policies as an instrument of earnings management was made in order to influence not only the amount of earnings but also to facilitate the acquisition of capital (Skarić Jovanovic, 2007). In short, reporting

negativan predznak (Peasnell, Pope i Joung, 2005; Carey i Simnett, 2006; Choi, 2010. i mnogi drugi). Isto tako, nalazi do kojih je došao Ohlson 1980. godine pokazuju da veći finansijski leveridž implicira i veći rizik od bankrotstva te shodno tome i veći rizik od sudskih sporova (Ohlson, 1980).

Kada je riječ o internoj kontroli i reviziji, istraživanje najvećeg svjetskog udruženja forenzičkih računovođa ACFE (Association of

Certified Fraud Examiners) pokazalo je da su izvještajni entiteti koji nemaju uspostavljenu internu kontrolu i ne vrše internu reviziju podložniji manipulaciji finansijskim izvještajima i upravljanju zaradom.

Dodavanjem gorenavedenih nezavisnih varijabli, modifikovani model diskrecionog obračuna za Republiku Srpsku koji smo testirali na finansijskim izvještajima 400 privrednih društava za četvorogodišnji period (2016–2019) dobio je oblik u vidu relacije:

$$\varepsilon_t = \frac{TACC_t}{A_{t-1}} - \left(\frac{1}{A_{t-1}} + \alpha_1 \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \alpha_2 \frac{PPE_t}{A_{t-1}} + \alpha_3 \frac{\Delta CFO_t}{A_{t-1}} + \alpha_4 ROA_t + \alpha_5 LEV_t + \alpha_6 IR_t \right)$$

gdje je:

- ε_t (**rezidual variable, random error**) = **DACC_t (Discretionary accruals)** = rezidual ili slučajna greška (upravljanje dobitkom – earnings management) odnosno diskrecioni obračun (apsolutna vrijednost diskrecionog obračuna predstavlja mjeru kreativnog računovodstva u vidu upravljanja zaradom);
- **TACC_t (Total accruals)** = ukupan obračun u tekućoj godini **t**;
- **A_{t-1} (Total assets in year t-1)** = ukupna aktiva (sredstva) u prethodnoj godini **t-1 (AOP 066)**;
- **ΔREV_t (Revenues in year less revenues in year t-1)** = promjena u prihodima od prodaje u tekućoj godini **t** umanjena za prihode prethodne **t-1 (AOP 201)**;
- **ΔREC_t (Receivables in year less net receivables in year t-1)** = neto potraživanja od prodaje u tekućoj godini **t** umanjena za neto potraživanja prethodne **t-1 (AOP 040)**;
- **PPE_t (Gross property, plant and equipment in year t)** = bruto vrijednost nekretnina, postrojenja i opreme u godini **t (AOP 008)**;

- **ΔCFO_t (Change in operating cash flow)** = promjena u neto novčanom toku iz poslovne aktivnosti u tekućoj godini **t** u odnosu na prethodnu **t-1 (AOP 511 ili AOP 512)**;
- **ROA_t (Return on assets in current year t)** = povrat na imovinu u tekućoj godini **t** koji se računa kada neto dobit (**AOP 400**) podijelimo sa ukupnom aktivom (imovinom) – **AOP 066**;
- **LEV_t (Leverage in current year t)** = pokazatelj zaduženosti u tekućoj godini **t** koji se računa kada ukupne obaveze (**AOP 135**) podijelimo sa ukupnom aktivom (imovinom) – **AOP 066**;
- **IR_t (Internal auditing)** = postojanje/nepostojanje interne revizije/kontrole ili odbora za reviziju u preduzeću (kvalitativna varijabla);
- $\alpha_0, \alpha_1, \alpha_2, \dots, \alpha_6$ = procijenjeni parametri (regresioni koeficijenti).

Pokrećući višestruku linearnu regresionu analizu, dobijene su i vrijednosti regresionih (procijenjenih) parametara ($\alpha_0, \alpha_1, \alpha_2, \dots, \alpha_6$) koje su uvrštene u prethodnu relaciju, čime je model dobio svoj konačan oblik:

$$\varepsilon_t = \frac{TACC_t}{A_{t-1}} - \left(\frac{919,031}{A_{t-1}} + 0,044 * \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + (-0,019) * \frac{PPE_t}{A_{t-1}} + (-0,189) \frac{\Delta CFO_t}{A_{t-1}} + 0,044 * ROA_t + (-0,037) LEV_t + 0,006 IR_t \right)$$

Ovaj model primijenjen je (testiran) na uzorku odabranih izvještajnih entiteta u Republici Srpskoj s ciljem da otkrije zastupljenost kreativnog računovodstva (odnosno upravljanja zaradom) u finansijskim izvještajima privrednih društava. Dobijene rezultate ilustrujemo u nastavku rada.

2. EMPIRIJSKI REZULTATI

Za potrebe testiranja prethodno konstruisanog modela diskrecionog obračuna, korišten je mješoviti uzorak od 400 izvještajnih entiteta za četvorogodišnji period 2016–2019. (ukupno 1.600 finansijskih izvještaja). Kada je riječ o osnovim parametrima selektovanog uzorka, u nastavku je dat kratak tabelarni i grafički pregled frekvencije privrednih društava prema veličini, području djelatnosti i teritorijalnoj zastupljenosti.

Tabela 1. Frekvencija preduzeća prema veličini

		Veličina izvještajnih entiteta			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malo	125	31,3	31,3	31,3
	Mikro	5	1,3	1,3	32,5
	Srednje	86	21,5	21,5	54,0
	Veliko	184	46,0	46,0	100,0
	Ukupno	400	100,0	100,0	

entities are often motivated to use creative accounting if they have a high indebtedness rate. Research has shown that the correlation between the debt ratio and earnings management can have a positive or negative sign (Peasnell, Pope & Joung, 2005, Carey & Simnett, 2006, Choi, 2010 and many others). Likewise, the findings obtained by Ohlson in 1980 show that greater financial leverage implies a greater risk of bankruptcy and, consequently, a greater risk of litigation (Ohlson, 1980).

When it comes to internal control and audit, research by the world's largest association of forensic accountants ACFE (Association of

Certified Fraud Examiners) showed that reporting entities that do not have established internal control and do not perform internal audit are more susceptible to financial report manipulation and earnings management.

By adding the above-mentioned independent variables, the modified discretionary-accruals model for the Republic of Srpska, which we tested on the financial statements of 400 companies for the four-year period (2016-2019), took the form of the relation:

$$\varepsilon_t = \frac{TACC_t}{A_{t-1}} - \left(\frac{1}{A_{t-1}} + \alpha_1 \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + \alpha_2 \frac{PPE_t}{A_{t-1}} + \alpha_3 \frac{\Delta CFO_t}{A_{t-1}} + \alpha_4 ROA_t + \alpha_5 LEV_t + \alpha_6 IR_t \right)$$

where:

- ε_t (**rezidual variable, random error**) = **DACC_t (Discretionary accruals)** = residual or random error (earnings management) or discretionary accruals (absolute value of discretionary accruals is a measure of creative accounting in the form of earnings management)
- **TACC_t (Total accruals)** = total accruals in the current year t
- **A_{t-1} (Total assets in year t-1)** = total assets in the previous year t-1 (AOP 066)
- **ΔREV_t (Revenues in year less revenues in year t-1)** = change in sales revenues in the current year t minus revenues of the previous t-1 (AOP 201)
- **ΔREV_t (Receivables in year less net receivables in year t-1)** = net sales receivables in the current year t less net receivables of previous t-1 (AOP 040)
- **PPE_t (Gross property, plant and equipment in year t)** = gross value of property, plant and equipment in year (AOP 008)

- **ΔCFO_t (Change in operating cash flow)** = change in net cash flow from operating activities in the current year t compared to the previous t-1 (AOP 511 ili AOP 512)
- **ROA_t (Return on assets in current year t)** = return on assets in current year t calculated when net profit (AOP 400) is divided by total assets (AOP 400) – AOP 066)
- **LEV_t (Leverage in current year t)** = indebtedness indicator in the current year t calculated when total liabilities (AOP 135) are divided by total assets – AOP 066)
- **IR_t (Internal auditing)** = existence / non-existence of internal audit/control or audit committee in the company (qualitative variable)
- $\alpha_0, \alpha_1, \alpha_2... \alpha_6$ = estimated parameters (regression coefficients)

Initiating multiple linear regression analysis, the values of regression (estimated) parameters were obtained ($\alpha_0, \alpha_1, \alpha_2... \alpha_6$) and included in the previous relation, which gave the model its final shape:

$$\varepsilon_t = \frac{TACC_t}{A_{t-1}} - \left(\frac{919,031}{A_{t-1}} + 0,044 * \frac{(\Delta REV_t - \Delta REC_t)}{A_{t-1}} + (-0,019) * \frac{PPE_t}{A_{t-1}} + (-0,189) \frac{\Delta CFO_t}{A_{t-1}} + 0,044 * ROA_t + (-0,037) LEV_t + 0,006 IR_t \right)$$

This model was applied (tested) on a sample of selected reporting entities in the Republic of Srpska with the aim of revealing the presence of creative accounting (ie earnings management) in the financial statements of companies. The obtained results are illustrated in the continuation of the paper.

2. EMPIRICAL RESULTS

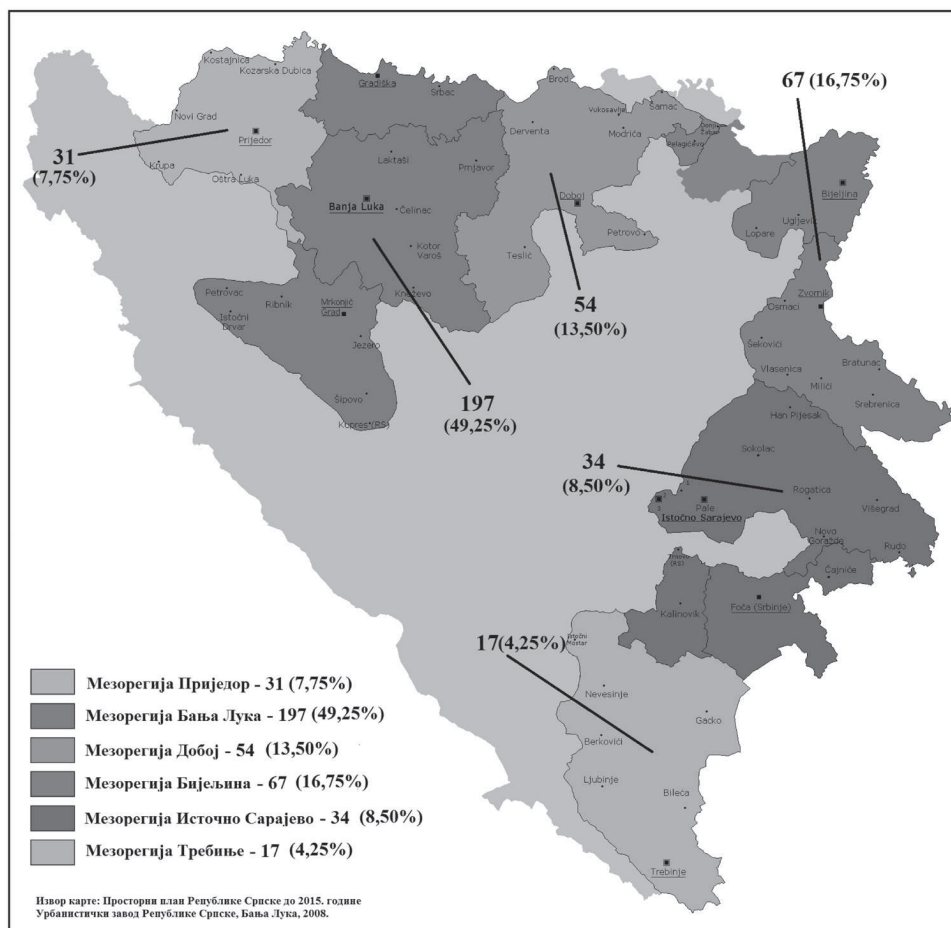
For the purpose of testing the previously constructed discretionary-accruals model, a mixed sample of 400 reporting entities for the four-year period 2016-2019 (a total of 1,600 financial statements) was used. When it comes to the basic parameters of the selected sample, the following is a brief tabular and graphical overview of the frequency of companies by size, area of activity and territorial representation.

Table 1: Frequency of companies by size

Size of reporting entities					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small	125	31.3	31.3	31.3
	Micro	5	1.3	1.3	32.5
	Medium	86	21.5	21.5	54.0
	Large	184	46.0	46.0	100.0
	Total	400	100.0	100.0	

Tabela 2. Frekvencija preduzeća prema području djelatnosti

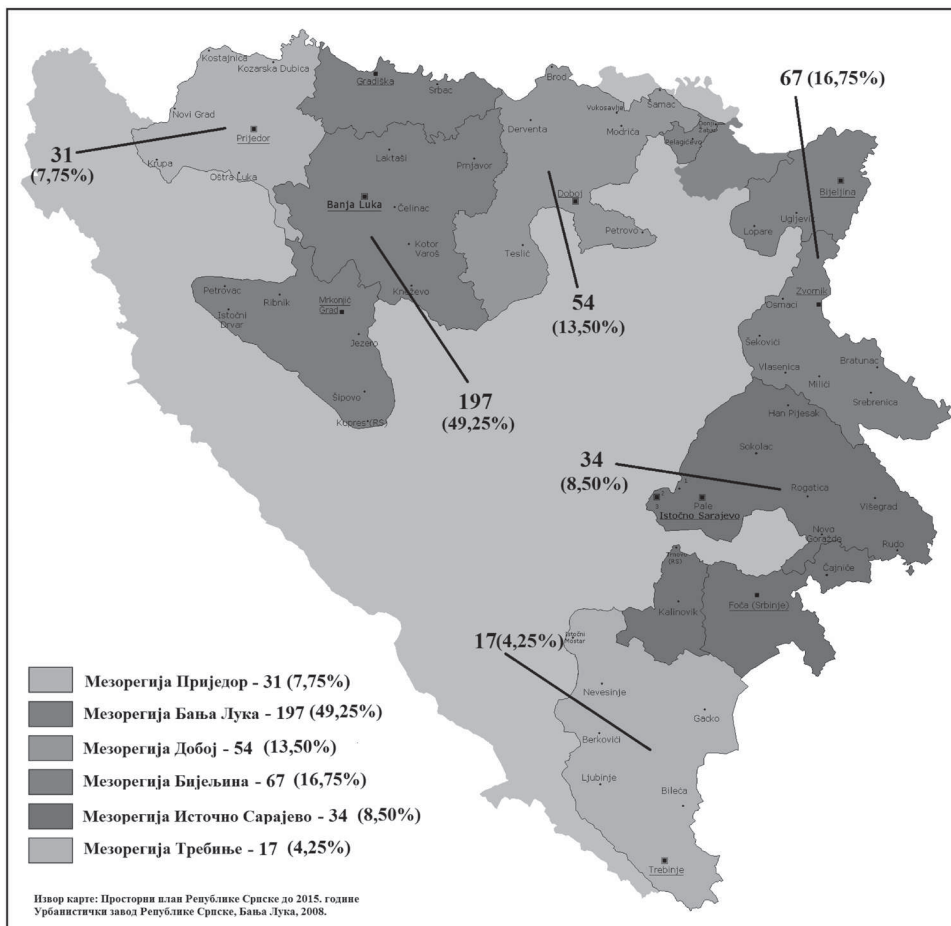
Područje djelatnosti		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poljoprivreda, šumarstvo i ribolov	12	3,0	3,0	3,00
	Vađenje ruda i kamena	17	4,25	4,25	7,25
	Prerađivačka industrija	108	27,00	27,00	34,25
	Proizvodnja i snabdijevanje el. energijom, gasom, parom i klimatizacija	14	3,50	3,50	37,75
	Snabdijevanje vodom; kanalizacija, upravlj. otpadom i djel. sanacije životne sredine	39	9,75	9,75	47,50
	Građevinarstvo	39	9,75	9,75	57,25
	Trgovina na veliko i trgovina na malo; popravka motornih vozila i motocikala	86	21,50	21,50	78,75
	Saobraćaj i skladištenje	29	7,25	7,25	86,00
	Djel. pružanja smještaja, pripreme i posluž. hrane; hotelijerstvo i ugostiteljstvo	8	2,00	2,00	88,00
	Informacije i komunikacije	7	1,75	1,75	89,75
	Poslovanje nekretninama	13	3,25	3,25	93,00
	Stručne, naučne i tehničke djelatnosti	12	3,00	3,00	96,00
	Administrativne i pomoćne uslužne djelatnosti	2	0,50	0,50	96,50
	Javna uprava i odbrana; obavezno socijalno osiguranje	5	1,25	1,25	97,75
	Obrazovanje	6	1,50	1,50	99,25
Ostale uslužne djelatnosti	3	0,75	0,75	100,0	
UKUPNO		400	100,0	100,0	



Grafikon 1. Zastupljenost privrednih društava u uzorku po mezoregijama

Table 2: Frequency of enterprises by sector

	Sector	Fre- quency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture, forestry and fishing	12	3.0	3.0	3.00
	Mining and quarrying	17	4.25	4.25	7.25
	Manufacturing	108	27.00	27.00	34.25
	Electricity, gas, steam and air-conditioning supply	14	3.50	3.50	37.75
	Water supply; sewerage, waste management and remediation activities	39	9.75	9.75	47.50
	Construction	39	9.75	9.75	57.25
	Wholesale and retail trade; repair of motor vehicles and motor-cycles	86	21.50	21.50	78.75
	Transportation and storage	29	7.25	7.25	86.00
	Accommodation and food service activities	8	2.00	2.00	88.00
	Information and communication	7	1.75	1.75	89.75
	Real estate activities	13	3.25	3.25	93.00
	Professional, scientific and technical activities	12	3.00	3.00	96.00
	Administrative and support service activities	2	0.50	0.50	96.50
	Public administration and defense; compulsory social insurance	5	1.25	1.25	97.75
	Education	6	1.50	1.50	99.25
Other service activities	3	0.75	0.75	100.0	
TOTAL		400	100.0	100.0	



Graph 1: Representation of companies in the sample by mesoregions

Na osnovu prethodno ilustrovanih podataka može se konstatovati da najveće učešće u uzorku imaju preduzeća koja su kategorisana kao velika (46,0%). Mala privredna društva zastupljena su u uzorku sa 31,3%, dok su preduzeća kategorisana kao srednja učestvovala u visini od 21,5%. Takođe, na osnovu prezentovanih podataka možemo primijetiti da su u uzorku najviše zastupljena privredna društva koja se bave prerađivačkom industrijom (27%) i nešto manje trgovinom na veliko i malo (21,50%).

Kada je riječ o teritorijalnoj pripadnosti privrednih društava koja čine uzorak, odnosno njihovom sjedištu poslovanja, selektovani uzorak posmatran je po regijama odnosno mezoregijama Republike Srpske. Na osnovu prethodnog grafičkog prikaza evidentno je da je u uzorku zastupljeno najviše izvještajnih entiteta iz mezoregije Banja Luka (49,25%), potom mezoregije Bijeljina (16,75%), Doboju (13,50%), Istočno Sarajevo (8,50%) i Prijedor (7,75%). U uzorku je najmanje privrednih društava iz mezoregije Trebinje (4,25%).

Za testiranje tvrdnje o manipulaciji finansijskim izvještajima koristili smo jednosmjerni T-test. Ovim testom poredimo aritmetičku sredinu uzorka sa očekivanim prosjekom iste varijable u čitavoj populaciji (srednja vrijednost diskrecionog obračuna je nula). Prema našem modelu, ukoliko se vrijednost diskrecionog obračuna (DACC) statistički vidno razlikuje od nule, smatra se da je u finansijskim izvještajima zastupljeno kreativno računovodstvo i da postoji sumnja u manipulaciju finansijskim rezultatima. Da bismo ispitali kod kojih privrednih društava iz selektovanog uzorka DACC statistički znatno odstupa od nule, za svako preduzeće iz uzorka smo pojedinačno uradili T-test. Poređenjem prosječne vrijednosti diskrecionog obračuna svakog privrednog društva ponaosob sa očekivanom vrijednošću istog parametra (nula) utvrdili smo da je kod 46 privrednih društava (11,5%) iz uzorka ovo odstupanje statistički značajno:

Tabela 3. Rezultati T-testa za vrijednost diskrecionog obračuna (DACC)

		Ukupno
Statistički značajna razlika	Broj	46
	% od preduzeća sa stat. značajnom razlikom	100,0
	% od ukupnog	11,5
Statistički beznačajna razlika	Broj	354
	% od preduzeća sa stat. beznačajnom razlikom	100,0
	% od ukupnog	88,5
Ukupno	Broj	400
	% od ukupnog	100,0
	% od ukupnog	100,0

Što se tiče deskriptivne statistike za DACC prema regionalnoj pripadnosti preduzeća, najveća prosječna vrijednost DACC-a u posmatranom četvorogodišnjem periodu zabilježena je kod privrednih

društava sa sjedištem u regionima Istočnog Sarajeva (0.0158) i Doboja (-0.0093):

Tabela 4. Deskriptivna statistika za DACC prema regionalnoj lokaciji preduzeća

Varijabla	Region	N	Mean	Median	SD	Min	Max
DACC	Banja Luka	788	0.0060	0.0053	0.1621	-1.3288	1.2875
	Bijeljina	268	0.0005	0.0052	0.1351	-0.7580	0.6547
	Doboj	216	-0.0093	0.0045	0.2260	-2.8064	0.4797
	Prijedor	124	0.0014	-0.0004	0.1183	-0.4920	0.6582
	I. Sarajevo	136	0.0158	0.0058	0.1535	-0.6047	0.6152

Na osnovu rezultata T-testa diskrecionih obračuna privrednih društava prema pojedinim područjima djelatnosti, kako je prikazano u narednoj tabeli, možemo zaključiti da se najveća odstupanja DACC

uočavaju kod preduzeća koja se bave informisanjem (0.0608), zdravstvom (-0.0531) i naukom (0.0486).

Tabela 5. Rezultati T-testa za diskrecioni obračun prema područjima djelatnosti

Područje djelatnosti	N	Prosječna vrijednost	Std. devijacija	Std. greška
Poljoprivreda, šumarstvo i ribolov	48	.0003	.1126	.0162
Vađenje rude i kamena	68	.0002	.1611	.0195
Prerađivačka industrija	432	.0006	.1724	.0082
Proizvodnja i snabdijevanje el. energijom, gasom, parom i klimatizacija	56	-.0069	.1342	.0179
Snabdijevanje vodom; kanalizacija, upravljanje otpadom i djelim. sanacije životne sredine	156	-.0022	.1005	.0080
Građevinarstvo	156	-.0176	.1918	.0153
Trgovina na veliko i trgovina na malo; popravka motornih vozila i motocikala	344	.0158	.1184	.0063
Saobraćaj i skladištenje	116	-.0079	.1349	.0125

Based on the previously illustrated data, it can be stated that the largest share in the sample have companies that are categorized as large (46.0%). Small companies were represented in the sample with 31.3%, while companies categorized as medium participated in the amount of 21.5%. Also, based on the presented data, we can notice that the most represented in the sample are companies engaged in manufacturing (27%) and somewhat less in wholesale and retail trade (21.50%).

When it comes to the territorial affiliation of the companies that make up the sample, ie their business headquarters, the selected sample was observed by regions or mesoregions of the Republic of Srpska. Based on the previous graphic presentation, it is evident that the sample represents the most reporting entities from the mesoregion Banja Luka (49.25%), followed by the mesoregions Bijeljina (16.75%), Doboj (13.50%), East Sarajevo (8.50%) and

Prijedor (7.75%). The smallest number of companies in the sample is in the mesoregion of Trebinje (4.25%).

We used a one-way T-test to test the financial statement manipulation hypothesis. This test compares the arithmetic mean of the sample with the expected average of the same variable in the whole population (the mean value of the discretionary accruals is zero). According to our model, if the value of the discretionary accruals (DACC) is statistically significantly different from zero, it is considered that creative accounting is represented in the financial statements and that there is a suspicion of manipulation of financial results. In order to examine in which companies from the selected sample the DACC deviates statistically significantly from zero, we performed a T-test individually for each company in the sample. By comparing the average value of the discretionary accruals of each company separately with the expected value of the same parameter (zero), we found that in 46 companies (11.5%) from the sample this deviation is statistically significant:

Table 3: T test results for the value of Discretionary Accruals (DACC)

		Total
Statistically significant difference	Number	46
	% of companies with stat. significant difference	100.0
	% of total	11.5
Statistically insignificant difference	Number	354
	% of companies with stat. insignificant difference	100.0
	% of total	88.5
Total	Number	400
	% of total	100.0
	% of total	100.0

Regarding the descriptive statistics for DACC according to the regional affiliation of the company, the highest average value of

DACC in the observed four-year period was recorded for companies based in the regions of East Sarajevo (0.0158) and Doboj (-0.0093):

Table 4: Descriptive statistics for DACC by regional location of companies

Variable	Region	N	Mean	Median	SD	Min	Max
DACC	Banja Luka	788	0.0060	0.0053	0.1621	-1.3288	1.2875
	Bijeljina	268	0.0005	0.0052	0.1351	-0.7580	0.6547
	Doboj	216	-0.0093	0.0045	0.2260	-2.8064	0.4797
	Prijedor	124	0.0014	-0.0004	0.1183	-0.4920	0.6582
	I. Sarajevo	136	0.0158	0.0058	0.1535	-0.6047	0.6152

Based on the results of the T-test of discretionary accruals of companies by sectors, as shown in the following table, we can conclude that the largest deviations of the DACC are observed in

companies dealing with information (0.0608), health (-0.0531) and science (0.0486).

Table 5: T-test results for discretionary accruals by sectors

Sector	N	Average value	Std. deviation	Std. error
Agriculture, forestry and fishing	48	.0003	.1126	.0162
Mining and quarrying	68	.0002	.1611	.0195
Manufacturing	432	.0006	.1724	.0082
Electricity, gas, steam and air-conditioning supply	56	-.0069	.1342	.0179
Water supply; sewerage, waste management and remediation activities	156	-.0022	.1005	.0080
Construction	156	-.0176	.1918	.0153
Wholesale and retail trade; repair of motor vehicles and motorcycles	344	.0158	.1184	.0063
Transportation and storage	116	-.0079	.1349	.0125
Accommodation and food service activities	32	.0101	.0695	.0122

Djel. pružanja smještaja, pripreme i posluž. hrane; hotelijerstvo i ugostiteljstvo	32	.0101	.0695	.0122
Informacije i komunikacije	28	.0608	.3681	.0695
Poslovanje nekretninama	52	.0066	.1138	.0158
Stručne, naučne i tehničke djelatnosti	48	.0486	.2945	.0425
Administrativne i pomoćne uslužne djelatnosti	8	.0342	.0821	.0411
Javna uprava i odbrana; obavezno socijalno osiguranje	20	-.0531	.1880	.0420
Obrazovanje	24	-.0327	.2588	.0528
Ostale uslužne djelatnosti	12	.0382	.1650	.0476

3. REZULTATI I DISKUSIJA

Na osnovu prethodno ilustrovanih rezultata sprovedenog kvantitativnog empirijskog istraživanja, evidentno je da su najveće učešće u istraživanju uzela privredna društva koja su kategorisana kao velika (46%), koja se bave pretežno prerađivačkom djelatnosti (27%) i trgovinom na veliko i malo (21,50%). U uzorku je bilo najviše zastupljeno privrednih društava iz banjalučke regije (49,25%).

Do empirijskih podataka u vezi s nezavisnom varijablom (kreativno računovodstvo) došlo se izračunavanjem DACC-a (diskrecionog obračuna) kao mjere zastupljenosti upravljanja dobitkom u finansijskim izvještajima privrednih društava. Radi se o pokazatelju koji se izračunava na osnovu modela diskrecionog obračuna koji je konstruisan u radu.

Rezultati T-testa diskrecionih obračuna prema pojedinim područjima djelatnosti pokazuju da su najveća odstupanja kod privrednih društava koja se bave informisanjem (0.0608), zdravstvom (-0.0531) i naukom (0.0486). S obzirom na to da u slučaju privrednih društava koja se bave informisanjem i naukom DACC ima pozitivan predznak, to ukazuje na moguće manipulacije finansijskim rezultatom naviše kod ovih izvještajnih entiteta. S druge strane, kod privrednih društava koja se bave zdravstvom, negativan predznak DACC ukazuje na moguće manipulacije finansijskim rezultatom naniže.

Prema regionalnoj pripadnosti preduzeća, najveća prosječna vrijednost DACC-a u posmatranom četvorogodišnjem periodu zabilježena je kod privrednih društava sa sjedištem u regionima Istočnog Sarajeva (0.0158), gdje vrijednost DACC ukazuje na moguće manipulacije finansijskim rezultatom naviše, i Doboja (-0.0093), gdje negativan predznak DACC može biti indikator da pojedini izvještajni entiteti ovog regiona upravljaju dobitkom naniže.

Srednja vrijednost diskrecionih obračuna (DACC) iznosi 0.003, odnosno 0,3% prosječne vrijednosti ukupne aktive. Ovaj podatak pokazao nam je prosječnu veličinu upravljanja dobitkom privrednih društava u odnosu na vrijednost aktive. S obzirom na to da DACC ima pozitivan predznak, to je indikator da u privrednim društvima Republike Srpske postoji praksa manipulisanja finansijskim rezultatom naviše. Rezultati su pokazali da kod ukupno 46 privrednih društava (za nivo značajnosti od 0.05, odnosno $p < 0.05$) prosječna vrijednost diskrecionog obračuna (DACC) statistički znatno odstupa od nule ($p < 0.05$), što ukazuje na moguću manipulaciju finansijskim izvještajima kod ovih izvještajnih entiteta.

Dobijeni rezultati trebalo bi da privuku pažnju regulatornih i kontrolnih organa te da budu dobar razlog njihove dodatne edukacije o ovoj problematici kako bi se upoznali sa pojavnim oblicima kreativnog računovodstva i kako bi mogli da daju svoj maksimum u njegovom suzbijanju i sprečavanju. Jer, ukoliko je pažljivo kontrolisano, kreativno računovodstvo je relativno bezopasno oružje. Međutim, u rukama nesavjesnih i „ambicioznih“ menadžera može biti veoma opasan instrument finansijskih prevara.

ZAKLJUČAK

Da bi se došlo do indikatora kreativnog računovodstva, bilo je neophodno konstruisati model koji bi poslužio za detekciju zastupljenosti kreativnog računovodstva u analiziranim finansijskim izvještajima. Proučavajući relevantnu literaturu i nalaze ranijih istraživanja, sagledani su različiti tipovi modela i na kraju je odlučeno da se za potrebe ovog rada primijeni višestruka linearna regresija i razvije diskrecioni obračunski model koji je u praksi pokazao prediktivnu moć. Razvijanjem modifikovanog modela diskrecionih obračuna identifikovane su statistički značajne varijable, adekvatne poslovnom okruženju privrednih društava u Republici Srpskoj, koje su ključne kod detekcije kreativnog računovodstva (odnosno upravljanja zaradama) u finansijskim izvještajima.

Na uzorku od 400 izvještajnih entiteta za period 2016–2019. (1.600 finansijskih izvještaja), rezultati su pokazali da prosječna vrijednost DACC statistički značajno odstupa od nule kod 11,5% izvještajnih entiteta (46 privrednih društava), što je indikator mogućih računovodstvenih manipulacija, odnosno zastupljenosti upravljanja zaradama.

Idealan model detekcije zastupljenosti kreativnog računovodstva u finansijskim izvještajima ne postoji. Diskrecioni obračunski model za detekciju kreativnog računovodstva koji je konstruisan u radu može da posluži kao polazna osnova budućih istraživanja usmjerenih na unapređenje i poboljšanje postojećeg modela ili kao inspiracija i ideja budućim generacijama koje će razviti sopstveni, sasvim drugačiji model veće pouzdanosti i preciznosti.

Modifikovani model diskrecionih obračuna može da bude od koristi investitorima, povjeriocima, revizorima i svim drugim zainteresovanim korisnicima kod provjere da li finansijski izvještaji u sebi sadrže kreativno računovodstvo (upravljanje dobitkom), i ako je odgovor potvrđan, treba dalje da istraže na koje je bilansne pozicije primjena kreativnih računovodstvenih postupaka najviše uticala.

IZVORI

1. Ali, S. M., Salleh, N. M., Hassan, M. S. (2008). Ownership structure and earnings management in Malaysian listed companies: the size effect. *Asian Journal of Business and Accounting*, 1 (2), 89–116.
2. Arnedo, L., Lizarraga, F., Sanchez, S. (2008). Discretionary accruals and auditor behavior in code-law contexts: An application to failing Spanish firms. *European Accounting Review*, 17(4), 641–666
3. Bartov, E., Gul, A. F., Tsui, J. S. L. (2001). Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics*, 30 (3), 421–452.

Information and communication	28	.0608	.3681	.0695
Real estate activities	52	.0066	.1138	.0158
Professional, scientific and technical activities	48	.0486	.2945	.0425
Administrative and support service activities	8	.0342	.0821	.0411
Public administration and defense; compulsory social insurance	20	-.0531	.1880	.0420
Education	24	-.0327	.2588	.0528
Other service activities	12	.0382	.1650	.0476

3. RESULTS AND DISCUSSION

Based on the previously illustrated results of the conducted quantitative empirical research, it is evident that the largest participation in the research was taken by companies categorized as large (46%), which are mainly engaged in manufacturing (27%) and wholesale and retail trade (21, 50%). The largest number of companies in the sample was from the Banja Luka region (49.25%).

Empirical data related to the independent variable (creative accounting) were obtained by calculating the DACC (discretionary accruals) as a measure of the representation of earnings management in the financial statements of companies. It is an indicator that is calculated on the basis of the discretionary-accruals model constructed in the paper.

The results of the T-test of discretionary accruals by sectors show that the largest deviations are in companies engaged in information (0.0608), health (-0.0531) and science (0.0486). Given that in the case of companies engaged in information and science, the DACC has a positive sign, this indicates possible manipulation of the financial result upwards in these reporting entities. On the other hand, in healthcare companies, the negative sign of DACC indicates possible manipulation of the financial result downwards.

According to the regional affiliation of the company, the highest average value of DACC in the observed four-year period was recorded in companies based in the regions of East Sarajevo (0.0158) where the value of DACC indicates possible manipulation of the financial result upwards and Doboje (-0.0093) where a negative sign of DACC can be an indicator that some of reporting entities in this region are managing the financial result downwards.

The mean value of discretionary accruals (DACC) is 0.003, or 0.3% of the average value of total assets. The mean value of discretionary accruals (DACC) is 0.003, or 0.3% of the average value of total assets. This data showed us the average size of corporate earnings management in relation to the value of assets. Given that the DACC has a positive sign, it is an indicator that in the companies of the Republic of Srpska there is a practice of manipulating the financial result upwards. The results showed that in a total of 46 companies (for the significance level of 0.05, ie $p < 0.05$) the average value of discretionary accruals (DACC) deviates statistically significantly from zero ($p < 0.05$) which indicates possible manipulation of financial statements in these reporting entities.

The obtained results should attract the attention of regulatory and control bodies and be a good reason for their additional education on this issue in order to get acquainted with the emerging forms of creative accounting, and to be able to give their maximum in its suppression and prevention. Because, if carefully controlled, creative accounting is a relatively harmless weapon. However, in the hands of unscrupulous and "ambitious" managers can be a very dangerous instrument of financial fraud.

CONCLUSION

In order to obtain indicators of creative accounting, it was necessary to construct a model that would serve to detect the presence of creative accounting in the analyzed financial statements. Studying the relevant literature and the findings of previous research, different types of models were considered and finally it was decided to apply multiple linear regression for the purposes of this paper and develop a discretionary-accruals model that has shown predictive power in practice. By developing a modified model of discretionary accruals, statistically significant variables were identified, adequate to the business environment of companies in the Republic of Srpska, which are key in the detection of creative accounting (ie earnings management) in financial statements.

In a sample of 400 reporting entities for the period 2016-2019 (1,600 financial statements), the results showed that the average value of DACC deviates statistically significantly from zero in 11.5% of reported entities (46 companies), which is an indicator of possible accounting manipulations, that is, the representation of earnings management.

There is no ideal model for detecting the representation of creative accounting in financial statements. The discretionary-accruals model for creative accounting detection constructed in the paper can serve as a starting point for future research aimed at improving the existing model or as inspiration and ideas for future generations who will develop their own, completely different model of greater reliability and precision.

The modified discretionary-accruals model can be useful to investors, creditors, auditors and all other interested users in checking whether the financial statements contain creative accounting (earnings management), and if the answer is yes, they should further investigate on which balance sheet items the application of creative accounting procedures had the greatest impact.

SOURCES

1. Ali, S.M., Salleh, N.M., & Hassan, M.S. (2008). Ownership structure and earnings management in Malaysian listed companies: the size effect. *Asian Journal of Business and Accounting*, 1 (2), 89–116.
2. Arnedo, L., Lizarraga F. & Sanchez S. (2008). Discretionary accruals and auditor behavior in code-law contexts: An application to failing Spanish firms. *European Accounting Review*, 17(4), 641–666
3. Bartov, E., Gul, A.F., i Tsui, J.S.L. (2001). Discretionary-accruals models and audit qualifications. *Journal of Accounting and Economics*, 30 (3), 421-452.
4. Burgstahler, D. & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24: 99-126.

4. Burgstahler, D., Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24: 99–126.
5. Carey, P., Simnett, R. (2006). Audit partner tenure and audit quality. *The Accounting Review*, 81 (3), 653–676.
6. Chang, R. D., Shen, W. H. A., Fang, C. J. (2008). Discretionary Loan Loss Provisions and Earnings Management for The Banking Industry. *International Business & Economics Research Journal*, 7(3), 9–20.
7. Choi, J. H., Kim, C. F., Kim, J. B., Zang, Y. (2010). Do abnormally high audit fees impair audit quality. *Auditing: A Journal of Practice and Theory*, 29 (1), 73–97.
8. DeAngelo, L. E. (1986). Accounting numbers as market valuation substitutes: a study of management buyouts of public stockholders. *Accounting Review*, 61 (3), 400–420.
9. Dechow, P. M., Sloan, R. G., Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70 (2), 193–225.
10. Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7 (1–3), 85–107.
11. Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29 (2), 193–228.
12. Kasznik, R. (1999). On the Association Between Voluntary Disclosure and Earnings Management. *Journal of Accounting Research*, 37(1), 57–81.
13. Matis, D., Beatrice, V. A., Negrea, L., Sucala, L. (2010). Jones, Dechow and Kasznik models significance in the Romanian economic environment. *Annales Universitatis Apulensis Series Oeconomica*, 12 (1), 253–266.
14. McNichols, M. (2000). Research design issues in earnings management studies. *Journal of Accounting and Public Policy*, 19, 313–345.
15. McNichols, M., Wilson, G. P. (1988). Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research*, 26 (3), 1–31.
16. Ohlson, J. A. (1980). Financial Ration and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research*, 18 (1), 109–131.
17. Peasnell, K. V., Pope, P. F., Young, S. (2005). Board monitoring and earnings management: do outside directors influence abnormal accruals?. *Journal of Business, Finance and Accounting*, 32 (7–8), 1311–1346.
18. Rahman, A. R., Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, 21 (7), 783–804.
19. Škarić Jovanović, K. (2007). *Kreativno računovodstvo – motivi, instrumenti i posledice*, Zbornik radova XI kongresa Saveza računovođa i revizora Republike Srpske, 51–70

5. Carey, P. & Simnett, R. (2006). Audit partner tenure and audit quality. *The Accounting Review*, 81 (3), 653-676.
6. Chang, R. D., Shen, W. H. A. & Fang, C. J. (2008). Discretionary Loan Loss Provisions and Earnings Management for The Banking Industry. *International Business & Economics Research Journal*, 7(3), 9-20.
7. Choi, J.H., Kim, C.F., Kim, J. B., & Zang, Y. (2010). Do abnormally high audit fees impair audit quality. *Auditing: A Journal of Practice and Theory*, 29 (1), 73-97.
8. DeAngelo, L.E. (1986). Accounting numbers as market valuation substitutes: a study of management buyouts of public stockholders. *Accounting Review*, 61 (3), 400-420.
9. Dechow, P.M., Sloan, R.G. i Sweeney, A.P. (1995). Detecting earnings management. *The Accounting Review*, 70 (2), 193-225.
10. Healy, P.M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7 (1-3), 85-107.
11. Jones, J.J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29 (2), 193-228.
12. Kasznik, R. (1999). On the Association Between Voluntary Disclosure and Earnings Management. *Journal of Accounting Research*, 37(1), 57–81.
13. Matis, D., Beatrice, V.A., Negrea, L., i Sucala, L. (2010). Jones, Dechow and Kasznik models significance in the Romanian economic environment. *Annales Universitatis Apulensis Series Oeconomica*, 12 (1), 253-266.
14. McNichols, M. (2000). Research design issues in earnings management studies. *Journal of Accounting and Public Policy*, 19, 313-345.
15. McNichols, M., & Wilson, G.P. (1988). Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research*, 26 (3), 1-31.
16. Ohlson, J.A. (1980). Financial Ration and the Probabilistic Prediction of Bankruptcy. *Journal of accounting Research*, 18 (1), 109-131
17. Peasnell, K.V., Pope, P.F., Young, S. (2005). Board monitoring and earnings management: do outside directors influence abnormal accruals?. *Journal of Business, Finance and Accounting*, 32 (7-8), 1311-1346.
18. Rahman, A.R., & Ali, F. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, 21 (7), 783-804.
19. Škarić Jovanović, K. (2007). *Kreativno računovodstvo – motivi, instrumenti i posledice*, Zbornik radova XI kongresa Saveza računovođa i revizora Republike Srpske, 51–70

