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Analiza faktora profitabilnosti preduzeća u Republici Srpskoj

Analysis of profitability factors of companies in the Republic of Srpska

Rezime

Opšteprihvaćeni cilj poslovanja preduzeća u finansijama jeste dugoročno uvećanje vrijednosti akcija preduzeća. Zbog toga je maksimiziranje profita samo jedna komponenta toga cilja. U tom kontekstu, vrijednost vlasničke glavnice ne može se očuvati tako da prinos bude veći od stope inflacije, već da se nadoknadi oportunitetni trošak ulaganja vlasnika. U skladu s tim, fokus rada je na jednom od pokazatelja uspješnosti preduzeća s ciljem maksimiziranja profita za vlasnika – ROE (engl. Return on equity – ROE). U tom kontekstu, dekomponovani ROE jasno pokazuje menadžmentu preduzeća pet glavnih faktora profitabilnosti, a to su: uspješnost menadžmenta u upravljanju troškovima (ekonomičnost), uspješnost menadžmenta u upravljanju sredstvima (efikasnost), uspješnost menadžmenta u upravljanju kapitalom (pametno finansiranje), uspješnost menadžmenta u upravljanju dugovima i uspješnost menadžmenta u upravljanju porezima. U okviru istraživačkog dijela, posmatrali smo ROE kao pokazatelj faktora profitabilnosti preduzeća u Republici Srpskoj. Cilj istraživanja jeste izvršiti dekomponovanje ROE kod preduzeća u Republici Srpskoj na pet glavnih agregatnih dijelova. Glavno istraživačko pitanje glasi: da li je ROE pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj? U tom kontekstu, posmatrali smo ukupno 107 preduzeća u Republici Srpskoj za 2019. godinu i 2020. godinu. Nakon izvršene statističke obrade i analize dobijenih podataka, na osnovu pet glavnih faktora profitabilnosti kod preduzeća u Republici Srpskoj, kao rezultat istraživanja formirali smo ekonometrijski model. Kao zavisna varijabla u modelu definisan je ROE, dok su kao nezavisne varijable u modelu definisani: poresko opterećenje, faktor zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala. Tvrdnje, činjenice i rezultati prikazani u ovom radu biće od koristi kako studentima, tako i akademskim istraživačima, teoretičarima i svim investitorima i drugim učesnicima na finansijskom tržištu Republike Srpske.

Ključne riječi: ROE, profitabilnost, ekonomičnost, zaduženost i upravljanje porezima.

JEL classification: G31, G32.

Abstract

The generally accepted goal of a company's finances is to increase the value of the company's shares in the long run. Therefore, profit maximization is only one component of that goal. In this context, the value of equity cannot be preserved so that the yield is higher than the inflation rate but to compensate for the opportunity cost of the owner's investment. Accordingly, the focus of the work is on one of the indicators of company performance with the aim of maximizing profits for owners - ROE (Return on equity). In this context, the decomposed ROE clearly shows the company's management five main factors of profitability, namely: management performance in cost management (cost-effectiveness), management performance in asset management (efficiency), management performance in capital management (smart financing), management performance in debt management and management performance in tax management. Within the research part, we observed ROE as an indicator of profitability factors of companies in the Republic of Srpska. The aim of the research is to decompose ROE in companies in the Republic of Srpska into five main aggregate parts. The main research question is: is ROE an indicator of profitability factors for companies in the Republic of Srpska? In that context, we observed a total of 107 companies in the Republic of Srpska for 2019 and 2020. After the statistical processing and analysis of the obtained data, based on the five main profitability factors of companies in the Republic of Srpska, as a result of the research we formed an econometric model. ROE is defined as a dependent variable in the model, while the following are defined as independent variables in the model: tax burden, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier. The claims, facts and results presented in this paper will be useful to students as well as academic researchers, theorists and all investors and other participants in the financial market of the Republic of Srpska.

Keywords: ROE, profitability, cost-effectiveness, indebtedness and tax management

JEL Classification: G31, G32

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UVOD

Pokazatelj ROE (engl. return on equity – povrat na kapital) koristi se primarno za iskazivanje povrata na akcionarski kapital. Na primjer, ovaj pokazatelj vlasnicima banke pokazuje koliko je dobit menadžment banke ostvario po jednoj KM ili evru njihovog udjela u kapitalu banke. Kako bi realna vrijednost kapitala bila očuvana u uslovima inflacije, ROE bi trebalo da bude barem jednak stopi inflacije. S obzirom na to da se akcionarski kapital može izračunati uzimajući svu imovinu i oduzimajući sve obaveze, ROE se može smatrati i povratom imovine umanjenoj za obaveze.

Nerijetko se pravi greška poistovjećivanjem stopa prinosa na ukupni kapital sa stopom prinosa na sopstveni kapital. Naime, stopa prinosa na ukupan kapital jeste odnos neto dobitka uvećanog za troškove kamate i prosječne imovine. Povećanje obrtnih sredstava dovodi do povećanja ukupne imovine i smanjenja stope prinosa na ukupan kapital. Istovremeno, stopa prinosa na sopstveni kapital (engl. return on equity – ROE) jeste proizvod stepena zaduženosti, racija obrtne imovine, bruto profitne marže i tereta duga. Iz prethodnog se može uočiti da smanjenje racija obrtne imovine i bruto profitne marže direktno utiče na smanjenje prinosa na sopstveni kapital (Poljašević, 2011). U najkraćem, prinos na vlasnički kapital pokazuje koliko je profita moguće stvoriti datim resursima koje obezbjeđuju akcionari kompanije.

U radu je akcenat stavljen na analizu strukture profitabilnosti sa namjerom da se identifikuju ključni faktori vrijednosti, koji mogu da dovedu do stvaranja prinosa na kapital za vlasnike, povezivanje ključnih činilaca profitabilnosti sa konceptom održivog rasta i sagledavanje mogućih implikacija različitih strategija rasta na kretanje vrijednosti. Shodno tome, ovdje se postavlja sljedeći problem istraživanja: Da li je ROE pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj? Cilj istraživanja jeste izvršiti dekomponovanje ROE kod preduzeća u Republici Srpskoj na pet glavnih agregatnih dijelova, što predstavlja put ka rješavanju problema istraživanja koji smo definisali u ovom radu. Na osnovu svih činjenica koje su prikazane u okviru uvodnih razmatranja, postavljena je glavna hipoteza: ROE je pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj.

1. PRETHODNO ISTRAŽIVANJE

Pritisak u smislu insistiranja na rastu privrednog društva ogleda se na različite načine. Autori koji zagovaraju insistiranje na rastu naglašavaju da je u konkurentnom okruženju rast preduslov opstanka i prosperiteta privrednog društva (Malinić, 2016, str. 11). Investitori na tržištu kapitala gledaju blagonaklono na privredna društva koja investiraju u rast (Aryaningsih, Fathoni, Harini, 2018). Takođe, postoji snažna veza između visokog povrata na kapital i isplate dividende (Jati, 2020). Takvim kompanijama jednostavnije je da zadrže postojeće i privuku nove zaposlene. Privredna društva koja ostvaruju rast u javnosti se predstavljaju kao društveno odgovorne članice društva, iz čega crpe neke opipljive i neopipljive koristi (Purnamasari, 2015). S druge strane, spororastuće kompanije izložene su prilično velikim rizicima od preuzimanja. Tako, na primjer, u periodu od 25 godina, većina od 340 kompanija koje su nestale iz S&R indeksa bile su preuzete (Koller, Goedhart, Wessels, 2010, str. 81). Efikasno upravljanje rastom, kako bi se spriječio nepovoljan razvoj događaja, zahtijeva adekvatnu informacionu podlogu. Jedan od kritičnih uslova za uspješan rast jeste profitabilnost. Na profitabilnost utiče široka mreža učesnika na različitim eksternim tržištima, kao što su davaoci kapitala na finansijskom tržištu, kupci

i konkurenti na tržištu finalnih proizvoda, dobavljači na tržištu nabavnih faktora i sl.

Brojne empirijske studije o strukturi kapitala pokušavaju da odgovore na pitanje kako kompanije donose odluke o svojoj strukturi kapitala. Najvažnije otkriće ovih studija jeste niz determinanti faktora koji utiču na strukturu kapitala (Graham, Leary, 2011; Parsons, Titman, 2009). Ghani i Bukhari (2010) proučavali su podatke prikupljene od 20 pakistanskih privrednih društava iz energetskog sektora od 2004. do 2008. godine. Koristeći model višestruke linearne regresije došli su do zaključka kako na strukturu kapitala (omjer duga i imovine) utiču sljedeći faktori: materijalna imovina, veličina društva, rast i profitabilnost. Osim toga, pokazali su i kako postoji pozitivna povezanost između odnosa duga i imovine i materijalne imovine, veličine društva i rasta, dok s druge strane, između profitabilnosti i duga i imovine postoji negativna povezanost. Jõeveer (2006) koristio je podatke prikupljene od privrednih društava iz devet evropskih država koji obuhvataju period od 1995. godine do 2002. godine. Proučavao je važnost uticaja odrednica specifičnih za društva za pojedine države i specifičnih za makroekonomske faktore na odnos duga i imovine. Služio se analizom varijanse kako bi ustanovio važnost pojedinih odrednica, a zatim je koristio regresionu analizu kako bi uporedio uticaj faktora na odnos duga i imovine. U svom radu pokazao je kako su faktori specifični za državu uticali na odnos duga i imovine malih društava, dok su faktori specifični za društva uticali na odnos duga i imovine velikih društava. Nivorozhkin (2004) koristio je podatke o 667 bugarskih i 596 čeških privrednih društava od 1993. godine do 1997. godine. U istraživanju je koristio dinamički nelinearni model. Odnos ukupnog duga i zbira ukupnog duga i kapitala akcionara koristio je za zavisnu varijablu, dok je za nezavisne varijable koristio varijabilnost prihoda, profitabilnost, materijalnu imovinu, veličinu, obaveze prema dobavljačima, potražnju od kupaca i udaljenost. Odvojen je procjenjivao dinamički model za Bugarsku i Češku, te je došao do zaključka da se bugarska društva brže od čeških prilagođavaju željenom nivou strukture kapitala. Serghiescu i Văidean (2004), korišćenjem jednostavne i višestruke linearne regresije, pokazali su da koeficijenti profitabilnosti i likvidnosti negativno utiču na ukupni odnos duga posmatranih preduzeća. Sa druge strane, veličina kompanije i obrt imovine imaju pozitivnu korelaciju sa rezultatom.

Kao ključni činioci profitabilnosti navode se: atraktivnost zemlje za ulaganja (raspoloživost resursa, razvijenost finansijske i tehnološke infrastrukture, kvalitet institucionalnog i regulatornog okvira, otvorenost međunarodne trgovine i pristup tržištima), struktura industrije (intenzitet konkurencije, mogućnost ulaska novih proizvođača, morućnosti pojave supstituta, pregovaračka snaga kupaca i dobavljača) i karakteristike privrednog društva (kvalitet organizacione strukture, kvalitet proizvoda, odnos sa dobavljačima, distributerima i kupcima, raspoloživost znanja da održi postojeće i stekne nove konkurentske prednosti) (Goddard, Tavakoli, Wilson, 2009). Naravno, profitabilnost zavisi i od kvaliteta upravljanja, odnosno "... sposobnosti menadžmenta da promišljenim kombinovanjem nematerijalnih, materijalnih i finansijskih resursa stiče konkurentske prednosti i da na taj način, koristeći šanse i izbjegavajući prijetnje, stvori vrijednost za vlasnike" (Malinić, Milićević, Glišić, 2015). Profitabilnost je povezana sa rastom na više načina. Prvo, profitabilnost se u poslovnoj praksi najčešće koristi kao kriterijum za ocjenu uspješnosti privrednog društva i menadžmenta. Drugo, profitabilnost je determinanta sposobnosti kompanije da stvara prinose za vlasnike. Treće, profitabilnost je neposredno povezana sa stvaranjem mogućnosti za interno finansiranje, budući da visina i stepen zadržavanja dobitka u privrednom društvu određuju kapacitet zaduživanja i mogućnost održivog rasta. Četvrto, profitabilnost je bitna determinanta procesa mjerenja stvorene

INTRODUCTION

The ROE (return on equity) indicator is used primarily to express return on equity. For example, this indicator shows bank owners how much profit the bank's management made per one mark or euro of their share in the bank's capital. In order for the real value of capital to be preserved under inflationary conditions, the ROE should be at least equal to the inflation rate. Since share capital can be calculated by taking all assets and subtracting all liabilities, ROE can also be considered as a return on assets less liabilities.

It is not uncommon to make the mistake of equating the rate of return on total capital with the rate of return on equity. Namely, the rate of return on total capital is the ratio of net profit increased by interest costs and average assets. An increase in current assets leads to an increase in total assets and a decrease in the rate of return on total capital. At the same time, the rate of return on equity (ROE) is calculated by multiplying the degree of indebtedness, the ratio of current assets, gross profit margin and debt burden. From the above, it can be seen that the reduction of current assets ratio and gross profit margin directly affects the reduction of return on equity (Poljasevic, 2011). In short, the return on equity shows how much profit can be generated by a given resource provided by the company's shareholders.

The paper focuses on the analysis of the profitability structure with the intention of identifying key value factors that can lead to the creation of return on equity for owners, linking key profitability factors with the concept of sustainable growth and considering the possible implications of different growth strategies. Consequently, the following research problem arises here: is ROE an indicator of profitability factors for companies in the Republic of Srpska? The aim of the research is to decompose ROE in companies in the Republic of Srpska into five main aggregate parts, which is a way to solve the research problems that we have defined in this paper. Based on all the facts presented in the introductory considerations, the main hypothesis is set: ROE is an indicator of profitability factors for companies in the Republic of Srpska.

1. PRELIMINARY RESEARCH

The pressure in terms of insisting on the growth of the company is reflected in various ways. Authors who advocate insisting on growth emphasize that in a competitive environment, growth is a prerequisite for the survival and prosperity of a company (Malinić, 2016, 11). Capital market investors look favorably on companies that invest in growth (Aryaningsih, Fathoni, & Harini, 2018). Also, there is a strong link between high return on equity and dividend payments (Jati, 2020). It is easier for such companies to keep existing ones and attract new employees. Growing companies present themselves to the public as socially responsible members of society, from which they derive some tangible and intangible benefits (Purnamasari, 2015). On the other hand, slow-growing companies are exposed to fairly high takeover risks. Thus, for example, over a period of 25 years, most of the 340 companies that disappeared from the S&P index were taken over (Koller, Goedhart, & Wessels, 2010, 81). Effective growth management, in order to prevent unfavorable developments, requires an adequate information base. One of the critical conditions for successful growth is profitability. Profitability is affected by a wide network of participants in various external markets, such as capital providers in the financial market, buyers and competitors in the final products market, suppliers in

the supply market and the like.

Numerous empirical studies on capital structure try to answer the question of how companies make decisions about their capital structure. The most important finding of these studies is through determinants of factors influencing capital structure (Graham & Leary, 2011; Parsons & Titman, 2009). Ghani and Bukhari (2010) studied data collected from 20 Pakistani energy companies from 2004 to 2008. Using the multiple linear regression model, they came to the conclusion that the structure of capital (debt to asset ratio) is influenced by the following factors: tangible assets, company size, growth and profitability. In addition, they showed that there is a positive relationship between the debt and assets and tangible assets ratio, company size and growth, while on the other hand, there is a negative relationship between profitability and debt and assets. Jõeveer (2006) used data collected from companies from nine European countries covering the period from 1995 to 2002. He studied the importance of the impact of country-specific and macroeconomic-specific determinants on debt-to-asset ratios. He used analysis of variance to establish the importance of individual determinants, and then used regression analysis to compare the influence of factors on the debt-to-assets ratio. In his work, he showed how macroeconomic-specific factors influenced the debt-to-assets ratio of small companies, while company-specific factors affected the debt-to-assets ratio of large companies. Nivorozhkin (2004) used data on 667 Bulgarian and 596 Czech companies from 1993 to 1997. He used a dynamic nonlinear model in the research. He used the ratio of total debt to the sum of total debt and shareholders' capital as a dependent variable, while for independent variables he used income variability, profitability, tangible assets, size, trade payables, customer demand and distance. He separately assessed the dynamic model for Bulgaria and the Czech Republic, and came to the conclusion that Bulgarian companies are adapting faster than Czech companies to the desired level of capital structure. Serghiescu & Văidean (2004) using simple and multiple linear regressions, showed that the profitability and liquidity ratios negatively affect the overall debt ratio of the observed companies. On the other hand, the size of the company and the turnover of assets have a positive correlation with the result.

The key factors of profitability are: attractiveness of the country for investments (availability of resources, development of financial and technological infrastructure, quality of institutional and regulatory framework, openness of international trade and access to markets), structure of industry (intensity of competition, possibility of entry of new producers bargaining power of buyers and suppliers) and company characteristics (quality of organizational structure, product quality, relationship with suppliers, distributors and customers, availability of knowledge to maintain existing and gain new competitive advantages) (Goddard, Tavakoli, & Wilson, 2009). Of course, profitability also depends on the quality of management, ie "... the ability of management to thoughtfully combine intangible, material and financial resources to gain competitive advantages and thus, using opportunities and avoiding threats, create value for owners" (Malinić, Milićević, & Glišić, 2015) Profitability is associated with growth in several ways. First, profitability is most often used in business practice as a criterion for evaluating the success of a company and management. Second, profitability is a determinant of a company's ability to generate returns for owners. Third, profitability is directly related to the creation of opportunities for internal financing, since the amount and degree of retention of profits in a company determines the borrowing capacity and the possibility of sustainable growth. Fourth, profitability is an impor-

vrijednosti i važan kriterijum za odlučivanje o prihvatljivosti rasta. Analiza strukture profitabilnosti omogućava identifikovanje faktora stvaranja vrijednosti, što doprinosi povećanju efikasnosti upravljanja rastom. Vukičević zapaža da je „ROE najpouzdaniji pokazatelj profitabilnosti preduzeća jer obuhvata donesene poslovne i investicione odluke, kao i odluke o finansiranju i porezu“ (Vukičević, 2006). U praksi je moguće da kompanija ima visoku profitnu maržu, ali nizak koeficijent ROA, ukoliko upravljanje imovinom nije efikasno. Ovakvu situaciju može uzrokovati usporen obrt imovine, usporena naplata potraživanja ili višak ulaganja u osnovna sredstva (Radivojac, Krčmar, 2021). Komponovanje strukture kapitala praktično i teorijski je vrlo složen problem s obzirom na to da preduzeća posluju u uslovima rizika, kako poslovnog tako i finansijskog (Milanović, Andžić, Butulija, 2017). Harc (2019) provedenom empirijskom analizom na uzorku malih i srednjih preduzeća u Hrvatskoj u periodu od 2008. do 2017. pokazuje da profitabilnost, veličina poduzeća, materijalna imovina i poreska zaštita pozitivno utiču na strukturu kapitala poduzeća. Nadalje, analizom je potvrđeno da likvidnost i rast imaju negativan statistički značajan uticaj na strukturu kapitala preduzeća.

U ovom radu pažnja će biti usmjerena samo na stopu prinosa na kapital (engl. Return on Equity – ROE), kao najpotpuniju, najpopularniju i za rast najvažniju mjeru prinosa. Sveobuhvatnost ove mjere proizlazi iz činjenice da ona u sebi sadrži posljedice poslovnih, investicionih i odluka u vezi sa finansiranjem. Ipak, ovo ne znači da je stopa prinosa idealna mjera. Vrlo su zanimljivi odgovori na pitanja: Da li svako povećanje stope prinosa nedvosmisleno znači da je došlo do popravljivanja performansi privrednog društva? Da li je kompanija koja ima nešto veći prinos na kapital nesumnjivo bolja od druge kompanije? Da li je kompanija koja uvodi novi proizvod i u tekućoj godini zbog visokih početnih (start-up) troškova i, posljedično, niže stope prinosa u toj godini, lošija od uporedive kompanije koja ne uvodi novi proizvod? Da li je kompanija sa visokom stopom prinosa na kapital rizičnija u odnosu na drugu, koja ima nižu stopu prinosa? (Higgins, 2009, str. 55–59). Odgovori na prethodna pitanja nisu jednostavni i ne mogu se dobiti samo na osnovu informacija o visini stope prinosa na kapital. Kvalitetni odgovori zahtijevaju razumijevanje poslovanja kompanije, procjenu izloženosti poslovnim i finansijskim rizicima, procjenu poslovne fikasnosti i sl. U tom smislu, razlaganje stope prinosa na kapital omogućava internim i eksternim korisnicima finansijskih izvještaja da prepoznaju najvažnije rizike koji prate funkcionisanje privrednog društva i ključne faktore vrijednosti. Poznato je da finansijski leveridž može uticati pozitivno na prinos na kapital (ROE), kada je prinos na imovinu (ROA) veći od kamatne stope, ali taj uticaj može da bude i negativan, kada je kamatna stopa na pozajmljeni kapital veća od prinosa na imovinu (Malinić, Malinić, 2020). Generalno, kompanije sa većim finansijskim leveridžom su u većoj mjeri izložene rizicima od gubitaka. U uslovima pada aktivnosti kompanije, kada se prihodi smanjuju, rashodi kamata neće se mijenjati zbog njihovog fiksnog karaktera. To znači da, ukoliko je privredno društvo više zaduženo, ono će imati veće rashode kamata, a samim tim povećavaće se rizik od pojave gubitka.

Zahvaljujući visokoj analitičkoj vrijednosti, uprkos ograničenjima koja se mogu naslutiti iz prethodno navedenih pitanja, stopa prinosa ostaje važan indikator uspješnosti privrednog društva. S obzirom na to da je stopa prinosa na kapital jednaka stopi prinosa na ukupno investirani kapital (ili imovinu umanjenu za poslovne obaveze) u uslovima u kojima se privredno društvo u cjelini finansira iz sopstvenih izvora, onda je logično da razlika koja se pojavljuje između ovih stopa prinosa nastaje kao posljedica zaduživanja. Sa povećanjem duga povećava se i stepen zaduženosti, što ima multiplikujuće dejstvo na stopu prinosa. Problem je što povećanje zaduživanja povećava izloženost firme finansijskim rizicima. Pozitivni efekti finansijskog

leveridža, koji prate rast zaduživanja, traju sve do trenutka dok stopa troškova duga ne postane veća od prinosa na imovinu, kada nastupa negativno dejstvo finansijskog leveridža koje obara stopu prinosa na kapital. Opredjeljujući uticaj na stopu prinosa na vlasnički kapital treba da ima stopa prinosa na investirani kapital kao izraz poslovne efikasnosti privrednog društva i pravi izvor kreiranja vrijednosti. Stopa dobitka i obrt, kao ključne komponente prinosa na investirani kapital, ukazuju na mogućnost njenog povećanja. To je moguće učiniti povećanjem prihoda (povećanjem cijena, povećanjem obima ili smanjenjem cijena i adekvatnim povećanjem obima) pri čemu bi rast prihoda bio brži od rasta troškova, smanjenjem poslovnih rashoda i smanjenjem imovine koje nastaje kao posljedica efikasnijeg upravljanja (brži obrt pojedinih dijelova imovine). Pri svemu ovome ne treba zanemariti poreske efekte, koji, zbog razlika između računovodstvenog i oporezivog dobitka, odnosno između nominalne i efektivne poreske stope, mogu da budu značajni. Stopa prinosa na kapital predstavlja različite kombinacije prinosa na imovinu i finansijskog leveridža (niži prinos na kapital sa većim leveridžom, veća poslovna profitabilnost sa nižim finansijskim leveridžom itd.), pri čemu će stepen izloženosti poslovnim i finansijskim rizicima biti različit. Elementi stope prinosa na kapital mogu objasniti razlike između pojedinih industrija i između pojedinih kompanija. Determinante prinosa na kapital jednim dijelom čine vidljivim strategijske izbore menadžmenta privrednog društva. Ovi izbori uslovljeni su brojnim faktorima, kao što su vrsta djelatnosti, konkurentska pozicija, kvalitet proizvoda i usluga, struktura imovine, struktura troškova, struktura i cijena izvora finansiranja, sklonost prema preuzimanju rizika i sl. Tako, na primjer, kompanije iz energetskog sektora, zbog visokog učešća stalne imovine, neće moći da računaju na visoki obrt, već će prostor za povećanje prinosa na kapital prije tražiti u većim profitnim maržama. Obrnuta situacija će biti u maloprodajnim privrednim društvima, koja, zbog velike konkurencije, imaju niže marže, ali zato imaju veći obrt.

Analiza kretanja prinosa na kapital u više uzastopnih obračunskih perioda smanjuje rizike pogrešne procjene performansi privrednog društva.

Promjene u prinosu na kapital između perioda otkrivaju efekte promjena u ekonomskim uslovima (recesija i inflacija), promjena u industriji (promjene regulatornog okvira, nove tehnologije) i promjena u preduzeću (promjene u strategiji, promjene menadžmenta) (Wahlen, Baginski, Bradshaw, 2011, str. 305–306). Iz prethodnog proizlazi da povećanje profitabilnosti u suštinskom smislu doprinosi povećanju vlasničkih prinosa i stvara veće mogućnosti za rast. S druge strane, u analitičkom smislu, dekomponovana verzija stope prinosa na kapital otkriva izloženost preduzeća poslovnim i finansijskim rizicima, ukazujući istovremeno na slabe tačke i moguće pravce unapređenja profitabilnosti.

2. METODOLOGIJA ISTRAŽIVANJA

U cilju istraživanja ROE kao pokazatelja profitabilnosti preduzeća u Republici Srpskoj, pristupili smo metodološkom prikupljanju, obradi i analizi primarnih i sekundarnih podataka iz finansijskih izvještaja u posljednje dvije godine. Testiranjem je obuhvaćeno ukupno 107 preduzeća u periodu od 2019. godine do 2020. godine, čiji su finansijski izvještaji javno dostupni na Banjalučkoj berzi hartija od vrijednosti. U tom kontekstu, u posmatranom periodu za 107 preduzeća smo pregledali ukupno 214 finansijskih izvještaja.

U okviru empirijskog istraživanja, testiran je uzorak od 107 preduzeća u Republici Srpskoj, na osnovu čega smo izvršili dekomponovanje ROE na njegove najvažnije „agregatne“ dijelove, a to su: faktor poreskog opterećenja, faktor zaduženosti, stopa poslovnog dobitka,

tant determinant of the process of measuring value creation and an important criterion for deciding on the acceptability of growth. Analysis of the profitability structure enables the identification of factors of value creation, which contributes to increasing the efficiency of growth management. Vukicevic notes that “ROE is the most reliable indicator of company profitability because it includes business and investment decisions, as well as decisions on financing and taxes” (Vukicevic, 2006). In practice, it is possible for a company to have a high profit margin, but a low ROA ratio if asset management is not efficient. This situation can be caused by slow turnover of assets, slow collection of receivables or excess investment in fixed assets (Radivojac & Krčmar, 2021). Composing the capital structure is practically and theoretically a very complex problem, considering that companies operate in conditions of risk, both business and financial (Milanović, Andžić, & Butulija, 2017). Harc (2019) conducted an empirical analysis on a sample of small and medium enterprises in Croatia in the period from 2008 to 2017 which shows that profitability, company size, tangible assets and tax protection have a positive effect on the capital structure of companies. Furthermore, the analysis confirmed that liquidity and growth have a negative statistically significant impact on the capital structure of the company.

In this paper, attention will be focused only on the rate of return on equity (ROE), as the most complete, most popular and most important measure of return for growth. The comprehensiveness of this measure stems from the fact that it contains the consequences of business, investment and financing decisions. However, this does not mean that the rate of return is an ideal measure. The answers to the questions are very interesting: Does any increase in the rate of return unequivocally mean that the performance of the company has improved? Is a company that has a slightly higher return on equity undoubtedly better than another company? Is a company that introduces a new product in the current year due to high start-up costs and consequently lower rates of return in that year worse than a comparable company that does not introduce a new product? Is a company with a high rate of return on equity more risky than another that has a lower rate of return? (Higgins, 2009, 55-59). The answers to the previous questions are not simple and cannot be obtained only on the basis of information on the rate of return on equity. Quality answers require an understanding of the company's business, an assessment of exposure to business and financial risks, an assessment of business efficiency, etc. In this sense, the breakdown of the rate of return on equity allows internal and external users of financial statements to identify the most important risks that accompany the functioning of the company and key factors of value. It is known that financial leverage can have a positive effect on return on equity (ROE) when the return on assets (ROA) is higher than the interest rate, but this impact can also be negative when the interest rate on debt is higher than the return on assets (Malinić & Malinić, 2020). In general, companies with higher financial leverage are more exposed to risks of losses. In conditions of declining activity of the company, when revenues decrease, interest expenses will not change due to their fixed nature. This means that if a company is more indebted, it will have higher interest expenses, and thus the risk of loss will increase.

Thanks to its high analytical value, despite the limitations that can be inferred from the aforementioned issues, the rate of return remains an important indicator of a company's performance. Given that the rate of return on equity is equal to the rate of return on total invested capital (or assets less operating liabilities) in conditions in which the company as a whole is financed from its own sources, then it is

logical that the difference between these rates arises as a result of borrowing. As debt increases, so does the degree of indebtedness, which has a multiplier effect on the rate of return. The problem is that increasing indebtedness increases a firm's exposure to financial risks. The positive effects of financial leverage, which accompanies the growth of borrowing, last until the rate of debt costs becomes higher than the return on assets, when there is a negative effect of financial leverage that lowers the rate of return on equity. Determining influence on the rate of return on equity should have the rate of return on invested capital as an expression of business efficiency of the company and a real source of value creation. Profit rate and turnover, as key components of return on invested capital, indicate the possibility of its increase. This can be done by increasing revenues (increasing prices, increasing volume or reducing prices and adequately increasing volume) whereby revenue growth would be faster than cost growth, reducing operating expenses and reducing assets resulting from more efficient management (faster turnover of certain parts of assets). In all this, one should not neglect the tax effects which, due to the differences between accounting and taxable profit, ie between the nominal and effective tax rate, can be significant. The rate of return on equity represents different combinations of return on assets and financial leverage (lower return on equity with higher leverage, higher business profitability with lower financial leverage, etc.), with the degree of exposure to business and financial risks being different. Elements of the rate of return on equity can explain the differences between individual industries and between individual companies. The determinants of return on equity partly make visible the strategic choices of the company's management. These choices are conditioned by numerous factors, such as the type of activity, competitive position, quality of products and services, structure of assets, structure of costs, structure and price of sources of financing, propensity to take risks, etc. Thus, for example, companies from the energy sector, due to the high share of fixed assets, will not be able to count on high turnover, but will look for chances to increase their return on equity in higher profit margins. The opposite situation will be in retail companies, which due to high competition have lower margins but therefore have higher turnover.

Analysis of the movement of return on equity in several consecutive accounting periods reduces the risks of incorrect assessment of the company's performance.

Changes in return on equity between periods reveal the effects of changes in economic conditions (recession and inflation), changes in industry (changes in the regulatory framework, new technologies) and changes in the company (changes in strategy, changes in management) (Wahlen, Baginski, & Bradshaw, 2011, 305-306). It follows from the above that increasing profitability, in essence, contributes to increasing equity rates of return and creates greater opportunities for growth. On the other hand, in the analytical sense, the decomposed version of the rate of return on equity reveals the company's exposure to business and financial risks, while pointing out the weak points and possible directions of improving profitability.

2. RESEARCH METHODOLOGY

In order to research ROE as an indicator of company profitability in the Republic of Srpska, we have conducted the methodological collection, processing and analysis of primary and secondary data from financial statements in the last two years. The testing covered

koeficijent obrta ukupnih sredstava i multiplikator kapitala. Shodno tome, primjenom odgovarajućih statističkih metoda (regresije, korelacije, R^2 itd.) sagledali smo međuzavisnost zavisne varijable (finansijski pokazatelj ROE) i nezavisnih varijabli (faktor poreskog opterećenja, faktor zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala). Takođe, u procesu istraživanja i obrade dobijenih podataka, korišteni su modeli i metode deskriptivne statistike, kao što su: aritmetička sredina, ponderisana sredina, medijana, standardna devijacija itd. Nakon izvršene kompletne statističke obrade podataka za 107 posmatranih preduzeća u Republici Srpskoj, u procesu formiranja konačnog modela, korišten je ekonometrijski model – model višestruke linearne regresije.

U procesu istraživanja, a da bismo mogli upoređivati dobijene rezultate analize, koristili smo metode komparacije i klasifikacije, te

metode analize i sinteze. U konačnici, metodološki je neophodno izvršiti dekomponovanje ROE posmatranih preduzeća u periodu od 2019. godine do 2020. godine, kako bi se utvrdio uticaj faktora poreskog opterećenja, faktora zaduženosti, stope poslovnog dobitka, koeficijenta obrta ukupnih sredstava i multiplikatora kapitala (nezavisnih varijabli) na ROE (zavisna varijabla).

2.1. Komponente prinosa na sopstveni kapital

Stopa prinosa na sopstveni kapital – ROE (engl. Return on Equity), u naučnoj finansijskoj literaturi vrlo često se smatra najpodesnijim i najkonkretnijim pokazateljem uspješnosti poslovanja preduzeća na maksimiziranju profita za vlasnika. ROE se računa prema formuli koja je prikazana u sljedećem tabelarnom pregledu (tabela 1).

Tabela 1. ROE

Red. br.	Pozicija	OPIS
1.	Neto dobitak	Rentabilnost vlastitog kapitala
2.	Sopstveni kapital	
3.	ROE (1/2)	

Međutim, finansijski pokazatelj ROE može se posmatrati i kroz prizmu analitičkog okvira, te je potrebno izvršiti dekomponovanje

ROE. Dekomponovanje ROE prikazano je u sljedećem tabelarnom pregledu (Todorović, Ivanišević, 2018, str. 82) (tabela 2).

Tabela 2. Dekomponovanje ROE na tri faktora profitabilnosti

Red. br.	Pozicija	OPIS
1.	Neto dobitak	Profitabilnost
2.	Prihod od prodaje	
3.	Stopa neto dobitka (1/2)	
4.	Prihod od prodaje	Efikasnost
5.	Ukupna sredstva	
6.	Koef. obrta ukupnih sredstava (4/5)	
7.	Ukupna sredstva	Pametno finansiranje
8.	Kapital	
9.	Multiplikator kapitala (7/8)	
10.	ROE (3*6*9)	Rentabilnost vlastitog kapitala

Dekomponovanje ROE koje je prikazano u prethodnom dijelu teksta u finansijskoj literaturi pokazano je pod nazivom DuPont analiza, gdje je prvi put primijenjena prije oko stotinu godina (Todorović, Ivanišević, 2018, str. 82). Analitička forma ROE dobijena je množenjem i dijeljenjem formule za ROE istim brojem, najprije prihodima od prodaje, a potom i ukupnim sredstvima. Prema tome, dobili smo ROE koji predstavlja proizvod stope neto dobitka (neto profitne marže), koeficijenta obrta ukupnih sredstava i multiplikatora kapitala, koji predstavlja svojevrsni pokazatelj zaduženosti.¹ Analitička forma ROE jasno pokazuje menadžerima da su tri faktora profitabilnosti: uspješnost preduzeća u upravljanju troškovima (ekonomičnost), upravljanju sredstvima (efikasnost), ali i struktura kapitala. I dok je jasno da se na maksimiziranju ROE može raditi maksimiziranjem prva dva faktora profitabilnosti, to ne važi i za treći faktor profitabilnosti. U vezi sa prva dva faktora, iako to nije univerzalno pravilo, najčešće je veoma teško raditi na maksimiziranju oba faktora profitabilnosti (i efikasnost i ekonomičnost). Preduzeća koja posluju u granama sa intenzivnom konkurencijom uobičajeno nastoje da privuku i zadrže kupce nuđenjem što nižih cijena, a taj nedostatak na

strani marže pokušavaju da nadomjeste visokim obrtom. Na drugoj strani, proizvođači luksuznih proizvoda ili luksuzni hoteli niske obrte nadomešćuju visokim maržama. Međutim, u vezi sa trećim faktorom profitabilnosti, veća upotreba pozajmljenih izvora finansiranja i povećanje multiplikatora kapitala ima smisla jedino ukoliko preduzeće može da pozajmljene izvore „oplođuje“ po višoj stopi prinosa nego što je cijena koju plaća za korištenje tih izvora. To se u finansijskoj teoriji i praksi naziva pozitivnim efektom finansijskog leveridža. Međutim, u takvoj situaciji, usljed visoke zaduženosti, cijena pozajmljenih izvora može značajno da poraste, što ne samo da može preokrenuti efekte finansijskog leveridža iz pozitivnih u negativne već preduzeće zbog nemogućnosti servisiranja pozajmljenih izvora može uvesti proces nelikvidnosti, pa u krajnjem slučaju i stečaj. Prema tome, preduzeće ne može da maksimizira ROE kroz proces maksimizacije multiplikatora sopstvenog kapitala, odnosno zaduženosti, nego samo kroz proces „pametnog finansiranja“. Unapređenje profitabilnosti zahtijeva da se pojedini faktori profitabilnosti uporede sa istorijskim ostvarenjima i, još i prije, sa ostvarenjem grane, da bi se identifikovalo gdje postoji prostor za poboljšanje ROE.

¹ Što je veći multiplikator kapitala, veća je zaduženost preduzeća (i obrnuto).

a total of 107 companies in the period from 2019 to 2020, whose financial statements are publicly available on the Banja Luka Stock Exchange. In this context, in the observed period for 107 companies we reviewed a total of 214 financial statements.

Within the empirical research, a sample of 107 companies in The Republic of Srpska was tested, on the basis of which we decomposed ROE into its most important “aggregate” parts, namely: tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier. Accordingly, by applying appropriate statistical methods (regressions, correlations, R^2 etc.) we considered the interdependence of the dependent variable (financial indicator ROE) and independent variables (tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier). Also in the process of research and processing of the obtained data, models and methods of descriptive statistics were used, such as: arithmetic mean, weighted mean, median, standard deviation, etc. After the complete statistical data processing for 107

observed companies in the Republic of Srpska, in the process of forming the final model, an econometric model was used - a model of multiple linear regression.

In the research process, and in order to be able to compare the obtained results of the analysis, we used the methods of comparison and classification, then the methods of analysis and synthesis. Ultimately, it is methodologically necessary to decompose the ROE of the observed companies in the period from 2019 to 2020, in order to determine the impact of tax burden factors, indebtedness factors, operating profit rate, total assets turnover ratio and capital multipliers (independent variables) on ROE (dependent variable).

2.1. Components of Return on Equity

Return on Equity (ROE) is often considered in the scientific financial literature to be the most appropriate and concrete indicator of a company’s business success in maximizing profits. ROE is calculated according to the formula shown in the following table (Table 1).

Table 1 - ROE

No.	Element	DESCRIPTION
1.	Net profit	Return on equity
2.	Equity	
3.	ROE (1/2)	

However, the financial indicator of ROE can also be observed through the prism of the analytical framework, and it is necessary

to decompose ROE. ROE decomposition is shown in the following tabular overview (Todorović & Ivanišević, 2018, 82) (Table 2).

Table 2 - Decomposing ROE into three profitability factors

No.	Element	DESCRIPTION
1.	Net profit	Profitability
2.	Sales revenue	
3.	Net profit rate (1/2)	
4.	Sales revenue	Efficiency
5.	Total assets	
6.	Odds. turnover of total assets (4/5)	
7.	Total assets	Smart financing
8.	Capital	
9.	Capital multiplier (7/8)	
10.	ROE (3 * 6 * 9)	Return on equity

The decomposition of ROE presented in the previous part of the text is shown in the financial literature under the name DuPont analysis, where it was first applied about a hundred years ago (Todorović & Ivanišević, 2018, 82). The analytical form of ROE is obtained by multiplying and dividing the formula for ROE by the same number, first by sales revenue and then by total assets. Therefore, we obtained ROE, which is the product of the net profit rate (net profit margin), the total assets turnover ratio and the capital multiplier, which is a kind of indebtedness indicator.¹ The analytical form of ROE clearly shows managers that there are three profitability factors: the performance of the company in cost management (cost-effectiveness), asset management (efficiency), but also on the capital structure. And while it is clear that maximizing ROE can be done by maximizing the first two profitability factors, this does not apply to the third profitability factor. Regarding the first two factors, although this is not a universal rule, it is usually very difficult to work on maximizing both factors of profitability (both efficiency and cost-effectiveness).

Companies that operate in industries with intense competition usually try to attract and retain customers by offering the lowest possible prices, and they try to compensate for this shortcoming on the margin side with high turnover. On the other hand, manufacturers of luxury products or luxury hotels make up for low margins with high margins. However, with regard to the third profitability factor, greater use of debt and an increase in capital multipliers only makes sense if a firm can “fertilize” borrowed resources at a higher rate of return than the price it pays to use those resources. In financial theory and practice, this is called the positive effect of financial leverage. However, in such a situation due to high indebtedness, the price of debt can rise significantly, which can not only reverse the effects of financial leverage from positive to negative, but the company due to the inability to repay debt may introduce illiquidity, and ultimately bankruptcy. Therefore, a company cannot maximize ROE through the process of maximizing its own capital multiplier, ie indebtedness, but only through the process of “smart financing”.

¹ The higher the capital multiplier, the higher the indebtedness of the company (and vice versa).

ROE se može učiniti i još analitičnijim, odnosno može se izvršiti dekomponovanje ROE na više faktora profitabilnosti. Prema tome, dekomponovanje ROE na pet faktora profitabilnosti može se vidjeti

u sljedećem tabelarnom pregledu (Todorović, Ivanišević, 2018, str. 83) (tabela 3).

Tabela 3. Dekomponovanje ROE na pet faktora profitabilnosti

Red. br.	Pozicija	OPIS
1.	Neto dobitak	Upravljanje porezima
2.	Dobitak prije poreza	
3.	Poresko opterećenje (1/2)	
4.	Dobitak prije poreza	Upravljanje dugovima
5.	Poslovni dobitak	
6.	Faktor zaduženosti (4/5)	
7.	Poslovni dobitak	Upravljanje troškovima
8.	Prihod od prodaje	
9.	Stopa poslovnog dobitka (7/8)	
10.	Prihod od prodaje	Upravljanje sredstvima (efikasnost)
11.	Ukupna sredstva	
12.	Koef. obrta ukupnih sredstava (10/11)	
13.	Ukupna sredstva	Upravljanje kapitalom (pametno finansiranje)
14.	Kapital	
15.	Multiplikator kapitala (13/14)	
16.	ROE (3*6*9*12*15)	Rentabilnost vlastitog kapitala

Prethodna tabela jasno pokazuje da se finansijski pokazatelj ROE može dekomponovati na pet faktora profitabilnosti (pet agregatnih dijelova), a to su:

1. poresko opterećenje,
2. faktor zaduženosti,
3. stopa poslovnog dobitka
4. koef. obrta ukupnih sredstava i
5. multiplikator kapitala.

Do sada smo razmatrali ukupnu profitabilnost preduzeća, na koju, između ostalog, utiče i efikasnost preduzeća u upravljanju dugovima i porezima. Ako je cilj analize da se sagleda profitabilnost samo poslovne aktivnosti, onda je bolje da se efekti kamata i poreza isključe iz takve analize. To znači da kao „korist“ treba da se posmatra ne neto dobitak, već poslovni dobitak (EBIT), a kao „žrtva“ koja je trpljena za ostvarenje te koristi – ukupna sredstva preduzeća. Dijeljenjem poslovnog dobitka i ukupnih sredstava dobijamo stopu prinosa na ukupna sredstva (engl. Return on Assets – ROA). U zavisnosti od toga šta se analizom podataka želi postići, i drugi nivoi rezultata mogu se upotrijebiti kao „korist“ i upotrijebiti sa, na drugoj strani, podesnom definicijom žrtve, kako bismo dobili stopu prinosa (Todorović, Ivanišević, 2018, str. 83). Među takvim različitim stopama možemo da istaknemo još jednu, a to je stopa prinosa na investirani kapital (engl. Return on Invested Capital – ROIC)².

Svaka od prethodno opisanih stopa, kao i ROE, takođe, predstavlja sintetički pokazatelj profitabilnosti preduzeća koji se može dekomponovati bar u dvije parcijalne komponente, od kojih je jedna

koeficijent obrta, a druga odgovarajuća stopa dobitka (profitna marža) dobijena dijeljenjem odgovarajućeg nivoa rezultata i neto prihoda od prodaje.

3. REZULTATI

U svrhu analize ROE kao pokazatelja profitabilnosti preduzeća u Republici Srpskoj, a u okviru istraživačkog dijela ovog rada, primijenili smo teorijske postulate koji su prikazani u prethodnom dijelu teksta. Istraživanjem je obuhvaćeno ukupno 107 preduzeća u Republici Srpskoj, dok je period istraživanja od 1. 1. 2019. godine (2019. godina) do 31. 12. 2020. godine (2020. godina). Dakle, izvršili smo dekomonovanje finansijskog pokazatelja ROE na pet „agregatnih“ dijelova za 107 preduzeća u Republici Srpskoj u 2019. godini i 2020. godini, a to su:

1. faktor poreskog opterećenja (upravljanje porezima),
2. faktor zaduženosti (upravljanje dugom),
3. stopa poslovnog dobitka (upravljanje troškovima),
4. koeficijent obrta ukupnih sredstava (upravljanje imovinom) i
5. multiplikator kapitala (upravljanje kapitalom).

U skladu sa činjenicama koje su iznesene u prethodnom dijelu teksta, dekomponovanje finansijskog pokazatelja ROE izvršeno je na primjeru preduzeća Telekom Srpske a.d. Banja Luka (tabela 4).³

² U finansijskoj naučnoj literaturi često se naziva i stopa prinosa na angažovani kapital (engl. Return on Capital Employed – ROCE).

³ ROE se može izračunati i na jednostavniji način: neto dobitak / vlastiti kapital. Međutim, za potrebe ovog istraživanja mi smo izvršili dekomponovanje ROE.

Improving profitability requires that individual profitability factors be compared with historical performance and, even earlier, with the performance of the industry, in order to identify where there is room for improvement in ROE.

ROE can be made even more analytical, ie ROE can be decomposed into several profitability factors. Therefore, the decomposition of ROE into five profitability factors can be seen in the following tabular overview (Todorović & Ivanišević, 2018, 83) (Table 3).

Table 3 - Decomposing ROE into five profitability factors

No.	Element	DESCRIPTION
1.	Net profit	Tax management
2.	Profit before tax	
3.	Tax burden (1/2)	
4.	Profit before tax	Debt management
5.	Operating profit	
6.	Indebtedness factor (4/5)	
7.	Operating profit	Cost management
8.	Sales revenue	
9.	Operating profit rate (7/8)	
10.	Sales revenue	Asset management (efficiency)
11.	Total assets	
12.	Total assets turnover ratio (10/11)	
13.	Total assets	Capital management (smart financing)
14.	Capital	
15.	Capital multiplier (13/14)	
16.	ROE (3 * 6 * 9 * 12 * 15)	Return on equity

The previous table clearly shows that the financial indicator ROE can be decomposed into five profitability factors (five aggregate parts), which are:

1. Tax burden,
2. Indebtedness factor,
3. Operating profit rate
4. Total assets turnover ratio and
5. Capital multiplier.

So far, we have considered the overall profitability of the company, which is influenced, among other things, by the efficiency of the company in managing debts and taxes. If the goal is to analyze the profitability of only business activities, then it is better to exclude the effects of interest and taxes from such an analysis. This means that the “benefit” should be considered not as a net profit, but as an operating profit (EBIT), a “sacrifice” made for the realization of that benefit on the total assets of the company. The ratio of operating profit and total assets is the rate of return on total assets ROA (Return on Assets - ROA). Depending on what the data analysis is intended to achieve, other levels of results can also be used as a “benefit” and used with, on the other hand, an appropriate definition of sacrifice, in order to obtain a rate of return (Todorović & Ivanišević, 2018, 83). Among such different rates, we can point out another, and that is Return on Invested Capital-ROIC².

Each of the five described rates, as well as ROE, is also a synthetic indicator of the company's profitability that can be decomposed into

at least two partial components, one of which is the turnover ratio and the other the corresponding profit rate (profit margin) calculated as a ratio of the appropriate level of results and net sales revenue.

3. RESULTS

For the purpose of analyzing ROE as an indicator of company profitability in the Republic of Srpska, and within the research part of this paper, we applied the theoretical postulates presented in the previous part of the text. The research covered a total of 107 companies in the Republic of Srpska, while the research period is from January 1, 2019 (2019) to December 31, 2020 (2020). Therefore, we have decomposed the financial indicator ROE into five “aggregate” parts for 107 companies in the Republic of Srpska in 2019 and 2020, which are:

1. Tax burden factor (tax management),
2. Indebtedness factor (debt management),
3. Operating profit rate (cost management),
4. Total assets turnover ratio (asset management) and
5. Capital multiplier (capital management).

In accordance with the facts presented in the previous part of the text, the decomposition of the financial indicator ROE, on the example of the company Telekom Srpske a.d. Banja Luka (Table 4).³

² In the financial scientific literature, it is often called Return on Capital Employed-ROCE.

³ ROE can also be calculated in a simpler way: net profit/equity. However, for the purposes of this study, we performed ROE decomposition.

Tabela 4. Kalkulacija finansijskog pokazatelja ROE

Red. br.	O P I S	2019. godina	2020. godina
1.	Neto dobitak	64.379.521	61.025.706
2.	Dobitak prije oporezivanja	71.407.635	67.428.747
3.	Poresko opterećenje (1/2)	0,90	0,91
4.	Dobitak prije oporezivanja	71.407.635	67.428.747
5.	Poslovni dobitak	73.910.799	63.608.339
6.	Faktor zaduženosti (4/5)	0,97	1,06
7.	Poslovni dobitak	73.910.799	63.608.339
8.	Poslovni prihodi	418.411.938	418.747.593
9.	Stopa poslovnog dobitka (7/8)	0,18	0,15
10.	Poslovni prihodi	418.411.938	418.747.593
11.	Poslovna aktiva	1.239.979.450	1.246.980.502
12.	Koeficijent obrta ukupnih sredstava (10/11)	0,34	0,34
13.	Poslovna aktiva	1.239.979.450	1.246.980.502
14.	Vlastiti kapital	686.528.136	681.892.103
15.	Multiplikator kapitala (13/14)	1,81	1,83
16.	ROE (3*6*9*12*15)	9,38%	8,95%

Izvor: analiza podataka autora

Primjenom metodologije koja je prikazana u tabeli 4, izvršen je proračun finansijskog pokazatelja ROE za svih 107 preduzeća u Republici Srpskoj u 2019. godini i 2020. godini, a koja su predmet reprezentativnog uzorka.

Prema tome, rezultati istraživanja finansijskog pokazatelja ROE za svih 107 preduzeća u Republici Srpskoj u 2019. godini i 2020. godini prikazani su u sljedećoj tabeli (tabela 5).

Tabela 5. ROE

Red. br.	ROE	2020. godina		2019. godina	
		Broj preduzeća	Učešće	Broj preduzeća	Učešće
1.	do -6%	23	21%	10	9%
2.	od -6% do -4%	1	1%	4	4%
3.	od -4% do -2%	7	7%	7	7%
4.	od -2% do 0%	12	11%	12	11%
5.	od 0% do 2%	40	37%	43	40%
6.	od 2% do 4%	6	6%	7	7%
7.	od 4% do 6%	5	5%	9	8%
8.	preko 6%	13	12%	15	14%
9.	Ukupno	107	100%	107	100%

Izvor: analiza podataka autora

Uvidom u prethodnu tabelu može se konstatovati da su posmatrana preduzeća u Republici Srpskoj ostvarila nešto lošiji ROE u 2020. godini u odnosu na 2019. godinu. Rezultati istraživanja jasno pokazuju da je u 2019. godini od ukupno 107 posmatranih preduzeća u Republici Srpskoj pozitivan ROE ostvarilo 74 preduzeća ili 69%, dok je negativan ROE ostvarilo 33 preduzeća ili 31%. Međutim, ako se posmatra 2020. godina, od ukupno 107 posmatranih preduzeća, pozitivan ROE ostvarilo je 64 preduzeća ili 60%, dok je negativan ROE ostvarilo 43 preduzeća ili 40%. Glavni razlog nešto lošijeg

ROE u 2020. godini u odnosu na 2019. godinu kod preduzeća u Republici Srpskoj može se pripisati prihodovnoj strani (prodaji roba i/ili usluga), što može biti posljedica lošijeg poslovanja zbog efekata pandemije virusa korona. Ono što može biti zabrinjavajuće jeste rast procentualnog učešća preduzeća koja imaju ROE manji od -6% sa 9% (koliko je iznosilo u 2019. godini) na 21% (koliko iznosi u 2020. godini). Činjenice koje su prikazane u prethodnom dijelu teksta mogu se potkrijepiti i kroz deskriptivnu statističku analizu (tabela 6).

Table 4 - Calculation of financial indicator ROE

No.	DESCRIPTION	2019.	2020
1.	Net profit	64,379,521	61,025,706
2.	Profit before tax	71,407,635	67,428,747
3.	Tax burden (1/2)	0.90	0.91
4.	Profit before tax	71,407,635	67,428,747
5.	Operating profit	73,910,799	63,608,339
6.	Indebtedness factor (4/5)	0.97	1.06
7.	Operating profit	73,910,799	63,608,339
8.	Operating revenues	418,411,938	418,747,593
9.	Operating profit rate (7/8)	0.18	0.15
10.	Operating revenues	418,411,938	418,747,593
11.	Operating assets	1,239,979,450	1,246,980,502
12.	Total assets turnover ratio (10/11)	0.34	0.34
13.	Operating assets	1,239,979,450	1,246,980,502
14.	Equity	686,528,136	681,892,103
15.	Capital multiplier (13/14)	1.81	1.83
16.	ROE (3*6*9*12*15)	9.38%	8.95%

Source: Author's analysis of data

Applying the methodology shown in Table 4, the calculation of the financial indicator ROE for all 107 for companies in the Republic of Srpska in 2019 and 2020, which are the subject of a representative sample, was performed.

Therefore, the results of the survey of the financial indicator ROE for all 107 companies in the Republic of Srpska in 2019 and 2020 are shown in the following table (Table 5).

Table 5 - ROE

No.	ROE	2020		2019	
		No. of companies	Share	No. of companies	Share
1.	up to -6%	23	21%	10	9%
2.	from -6% to -4%	1	1%	4	4%
3.	from -4% to -2%	7	7%	7	7%
4.	from -2% to 0%	12	11%	12	11%
5.	from 0% to 2%	40	37%	43	40%
6.	from 2% to 4%	6	6%	7	7%
7.	from 4% to 6%	5	5%	9	8%
8.	over 6%	13	12%	15	14%
9.	In total	107	100%	107	100%

Source: Author's analysis of data

Inspecting the previous table, it can be stated that the observed companies in the Republic of Srpska achieved a slightly worse ROE in 2020 compared to 2019. The results of the research clearly show that in 2019, out of a total of 107 observed companies in the Republic of Srpska, 74 companies or 69% achieved a positive ROE, while 33 companies or 31% had a negative ROE. However, if we look at 2020, out of a total of 107 observed companies, 64 companies or 60% had a positive ROE, while 43 companies or 40% had a negative ROE. The main reason for the slightly worse

ROE in 2020 compared to 2019 for companies in The Republic of Srpska can be attributed to the revenue side (sales of goods and / or services), which may be due to weaker business activities due to the effects of the Corona virus pandemic. What may be worrying is the increase in the percentage share of companies with ROE less than -6%, from 9% (as it was in 2019) to 21% (as it is in 2020). The facts presented in the previous part of the text can also be supported by descriptive statistical analysis (Table 6).

Tabela 6. Deskriptivna statistika

Red. br.	O P I S	ROE		Poresko opterećenje		Faktor zaduženosti		Stopa poslovnog dobitka		Koef. obrta ukupnih sredstava		Multiplikator kapitala	
		2020. godina	2019. godina	2020. godina	2019. godina	2020. godina	2019. godina	2020. godina	2019. godina	2020. godina	2019. godina	2020. godina	2019. godina
1.	Aritmetička sredina	-2,00%	-1,65%	0,93	0,92	1,55	0,91	-0,06	-0,02	0,54	0,60	2,01	2,19
2.	Ponderisana sredina ⁴	0,19%	0,81%	0,87	0,85	0,99	0,13	-0,07	-0,06	0,21	0,24	1,46	1,44
3.	Standardna devijacija	13,20%	23,12%	0,20	0,21	7,04	2,07	0,39	0,26	0,57	0,64	2,90	4,51
4.	Minimum	-73,92%	-199,32%	0,04	0,10	-11,29	-4,91	-3,55	-1,35	0,00	0,01	1,00	1,00
5.	Maksimum	36,36%	40,80%	1,63	1,51	58,10	15,96	0,66	0,70	2,75	2,75	6,48	14,37
6.	Medijana	0,12%	0,30%	1,00	1,00	0,91	0,77	0,00	0,02	0,37	0,40	1,29	1,29
7.	Q1	-2,48%	-0,73%	0,90	0,89	0,26	0,17	-0,11	-0,03	0,18	0,17	1,08	1,08
8.	Q3	1,30%	3,11%	1,00	1,00	1,09	1,06	0,03	0,07	0,67	0,70	1,84	1,83

Izvor: analiza podataka autora

Uvidom u prethodnu tabelu konstatuje se da je prosječni ROE (aritmetička sredina) u 2020. godini lošiji za 0,35% u odnosu na 2019. godinu. Ako se ROE posmatra kroz pet agregatnih dijelova, najznačajniji uticaj na promjene ROE imala je stopa rasta poslovnog dobitka, koja je u 2019. godini i 2020. godini, kod posmatranih preduzeća u Republici Srpskoj, u prosjeku bila negativna. Stopa rasta poslovnog dobitka posmatranih preduzeća u Republici Srpskoj se u prosjeku (aritmetička sredina) smanjila sa -2,39% u 2019. godini na -5,90% u 2020. godini. Pored toga, uticaj na promjene ROE imao je faktor zaduženosti koji je u prosjeku porastao sa 0,91 u 2019. godini na 1,55 u 2020. godini. Takođe, značajan uticaj na promjene finansijskog pokazatelja ROE imala je efikasnost upravljanja imovinom preduzeća, jer se koeficijent obrta ukupne imovine posmatranih preduzeća u prosjeku (aritmetička sredina) smanjio sa 0,60 u 2019. godini na 0,54 u 2020. godini. Smanjenje koeficijenta obrta ukupne imovine jasno pokazuje da je u prosjeku potrebno više od 67 dana da se obrne ukupna imovina posmatranih preduzeća u Republici Srpskoj (da pređu „put“: novac–roba–novac) u 2020. godini u odnosu na 2019. godinu. Pored toga, važno je zapaziti da

je medijana u 2019. godini iznosila 0,20%, dok je u 2020. godini medijana iznosila 0,12%. Promjene finansijskog pokazatelja ROE u 2020. godini u odnosu na 2019. godinu najvećim dijelom mogu se pripisati prihodovnoj strani posmatranih preduzeća u Republici Srpskoj, koje su posljedica lošijeg poslovanja zbog negativnih ekonomskih efekata pandemije virusa korona.

4. DISKUSIJA

Da bismo ispitali zavisnost finansijskog pokazatelja ROE, posmatraćemo kretanje ROE i kretanje pet agregatnih dijelova (faktor poreskog opterećenja, faktor zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala) u 2019. godini i 2020. godini. Vezu između kretanja finansijskog pokazatelja ROE i kretanja pet agregatnih dijelova koji determinišu ROE ispitali smo preko koeficijenta korelacije (tabela 7).

Tabela 7. Koeficijent korelacije

Godina	Poresko opterećenje	Faktor zaduženosti	Stopa posl. dobitka	Koef. obrta ukupnih sredstava	Multiplikator kapitala
2020.	-0,15777	-0,11046	0,14771	-0,12033	0,11375
2019.	-0,08798	-0,75132	0,25445	0,04569	0,11499

Izvor: analiza podataka autora

Koeficijent korelacije koji je prikazan u prethodnoj tabeli pokazuje da kod finansijskog pokazatelja ROE sa jedne strane i faktora poreskog opterećenja, faktora zaduženosti, stope poslovnog dobitka i multiplikatora kapitala, sa druge strane, nije došlo do promjena smjera kretanja posmatranih varijabli u 2019. godini u odnosu na 2020. godinu. Do promjena smjera kretanja došlo je kod kretanja finansijskog pokazatelja ROE i koeficijenta obrta ukupnih sredstava,

jer je koeficijent korelacije u 2019. godini bio pozitivan i iznosio je 0,04, dok je u 2020. godini bio negativan i iznosio je -0,12.

Da bismo pokazali koliki je procenat varijabiliteta finansijskog pokazatelja ROE objašnjen varijabilitetom pet agregatnih dijelova (faktor poreskog opterećenja, faktor zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala), potrebno je da definišemo koeficijent determinacije R^2 (tabela 8).⁵

⁴ Kao ponder je korišten vlastiti kapital.

⁵ Koeficijent determinacije R^2 pokazuje koliki je procenat varijabiliteta zavisne promjenljive objašnjen varijabilitetom nezavisnih promjenljivih.

Table 6 - Descriptive statistics

No.	DESCRIPTION	ROE		Tax burden		Indebtedness factor		Operating profit rate		Total assets turnover ratio		Capital multiplier	
		2020	2019	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
1.	Arithmetic mean	-2.00%	-1.65%	0.93	0.92	1.55	0.91	-0.06	-0.02	0.54	0.60	2.01	2.19
2.	Weighted mean ⁴	0.19%	0.81%	0.87	0.85	0.99	0.13	-0.07	-0.06	0.21	0.24	1.46	1.44
3.	Standard deviation	13.20%	23.12%	0.20	0.21	7.04	2.07	0.39	0.26	0.57	0.64	2.90	4.51
4.	Minimum	-73.92%	-199.32%	0.04	0.10	-11.29	-4.91	-3.55	-1.35	0.00	0.01	1.00	1.00
5.	Maximum	36.36%	40.80%	1.63	1.51	58.10	15.96	0.66	0.70	2.75	2.75	6.48	14.37
6.	Median	0.12%	0.30%	1.00	1.00	0.91	0.77	0.00	0.02	0.37	0.40	1.29	1.29
7.	Q1	-2.48%	-0.73%	0.90	0.89	0.26	0.17	-0.11	-0.03	0.18	0.17	1.08	1.08
8.	Q3	1.30%	3.11%	1.00	1.00	1.09	1.06	0.03	0.07	0.67	0.70	1.84	1.83

Source: Author's analysis of data

Inspecting the previous table, it is concluded that the average ROE (arithmetic mean) in 2020 is worse by 0.35% compared to 2019. If the ROE is observed through five aggregate parts, the most significant impact on ROE changes had the operating profit rate, which in 2019 and 2020, on the observed companies in the Republic of Srpska, was on average negative. The growth rate of operating profit of the observed companies in the Republic of Srpska decreased on average (arithmetic mean) from -2.39% in 2019 to -5.90% in 2020. In addition, the impact on ROE changes had a indebtedness factor that increased on average from 0.91 in 2019 to 1.55 in 2020. Also, the performance in asset management had a significant impact on the changes in the financial indicator ROE, because the turnover ratio of the total assets of the observed companies decreased on average (arithmetic mean) from 0.60 in 2019 to 0.54 in 2020. The decrease in the total assets turnover ratio clearly shows that on average it takes more than 67 days to turnover the total assets of the observed companies in the Republic of Srpska (to cross the "path": money-goods-money) in 2020 compared to 2019. In addition moreover, it is important to note that the median in 2019

was 0.20%, while in 2020 the median was 0.12%. Changes in the financial indicator ROE in 2020 compared to 2019 can be mostly attributed to the revenue side of the observed companies in the Republic of Srpska, which are a consequence of weaker business activities due to the negative economic effects of the Corona virus pandemic.

4. DISCUSSION

To examine the dependence of the financial ROE indicator, we will observe the movement of ROE and the movement of five aggregate parts (tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier) in 2019 and 2020. The relationship between the movement of the financial indicator ROE and the movement of the five aggregate parts that determine ROE was examined through the correlation coefficient (Table 7).

Table 7 - Correlation coefficient

Year	Tax burden	Indebtedness factor	Operating profit rate	Total assets turnover ratio	Capital multiplier
2020	-0,15777	-0,11046	0,14771	-0,12033	0,11375
2019	-0,08798	-0,75132	0,25445	0,04569	0,11499

Source: Author's analysis of data

The correlation coefficient shown in the previous table shows that the financial indicator ROE on the one hand and the tax burden factor, indebtedness factor, operating profit rate and capital multiplier on the other hand, did not change the direction of the observed variables in 2019 compared to 2020. Changes in the direction of movement occurred with the movement of the financial indicator ROE and the total assets turnover ratio, because the correlation

coefficient in 2019 was positive and amounted to 0.04, while in 2020 it was negative and amounted to -0.12.

To show what percentage of variability of the financial indicator ROE is explained by the variability of five aggregate parts (tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier) it is necessary to define the coefficient of determination R^2 (Table 8).⁵

⁴ Equity was used as a weight.

⁵ The coefficient of determination R^2 shows what percentage of the variability of the dependent variable is explained by the variability of the independent variables

Tabela 8. Koeficijent determinacije

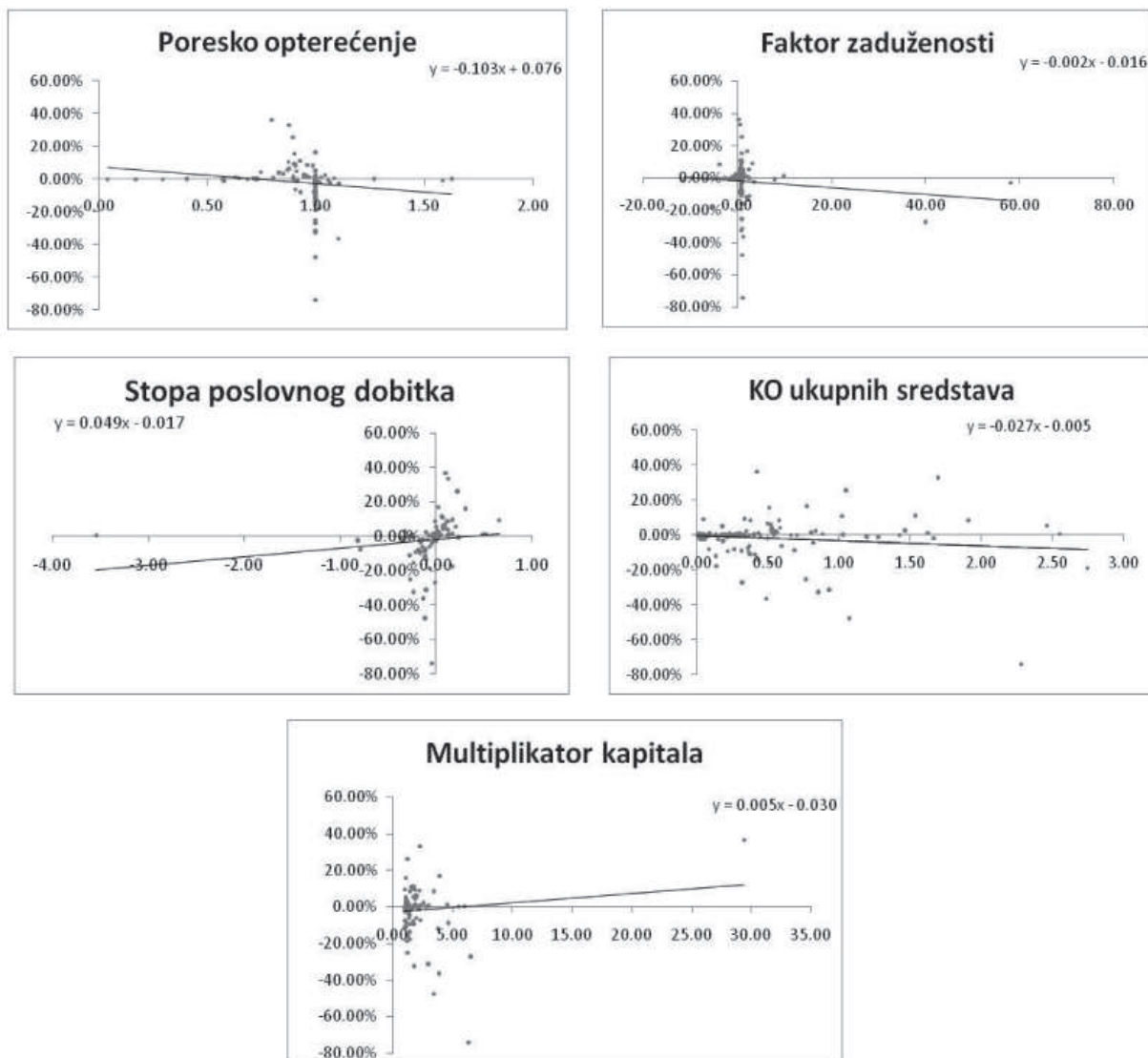
Godina	Poresko opterećenje	Faktor zaduženosti	Stopa poslovnog dobitka	Koef. obrta ukupnih sredstava	Multiplikator kapitala
2020.	2,49%	1,22%	2,18%	1,45%	1,29%
2019.	0,77%	56,45%	6,47%	0,21%	1,32%

Izvor: analiza podataka autora

Prema podacima iz prethodne tabele, konstatuje se da je procenat varijabiliteta finansijskog pokazatelja ROE u 2019. godini najviše objašnjen faktorom zaduženosti i stopom rasta poslovnog dobitka. Dakle, procenat varijabiliteta finansijskog pokazatelja ROE je sa 56,45% objašnjen varijabilitetom faktora zaduženosti u 2019. godini. Sa druge strane, ako se posmatraju promjene koeficijenta determinacije u 2020. godini u odnosu na 2019. godinu, najveće promjene zabilježene su kod faktora zaduženosti, stope rasta poslovnog dobitka i koeficijenta obrta ukupnih sredstava.

Na osnovu svih činjenica koje su prikazane u prethodnom dijelu teksta, a na osnovu reprezentativnog uzorka od 107 preduzeća, konstatuje se da finansijski pokazatelj ROE najviše zavisi od faktora poreskog opterećenja, faktora zaduženosti, stope poslovnog dobitka, koeficijenta obrta ukupnih sredstava i multiplikatora kapitala. U tom kontekstu, finansijski pokazatelj ROE ćemo posmatrati kao zavisnu varijablu, dok ćemo kao nezavisne varijable koristiti faktor poreskog opterećenja, faktor zaduženosti, stopu poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala (ilustracija 1).

Ilustracija 1. Regresione linije



Izvor: analiza podataka autora

Prethodna slika ukazuje na to da je pozitivan nagib regresione linije kod posmatranih preduzeća u 2020. godini zabilježen kod nezavisne varijable stopa poslovnog dobitka i nezavisne varijable multiplikator kapitala, što pokazuje da će svako povećanje poslovnog dobitka i multiplikatora kapitala za posljedicu imati povećavanje ROE (i obrnuto). Negativan nagib regresione linije kod posmatranih

preduzeća u 2020. godini zabilježen je kod nezavisne varijable poresko opterećenje, nezavisne varijable faktor zaduženosti i nezavisne varijable koeficijent obrta ukupnih sredstava, što pokazuje da će svako povećanje poreskog opterećenja, faktora zaduženosti i koeficijenta obrta ukupnih sredstava za posljedicu imati smanjenje ROE (i obrnuto).

Table 8 - Coefficient of determination

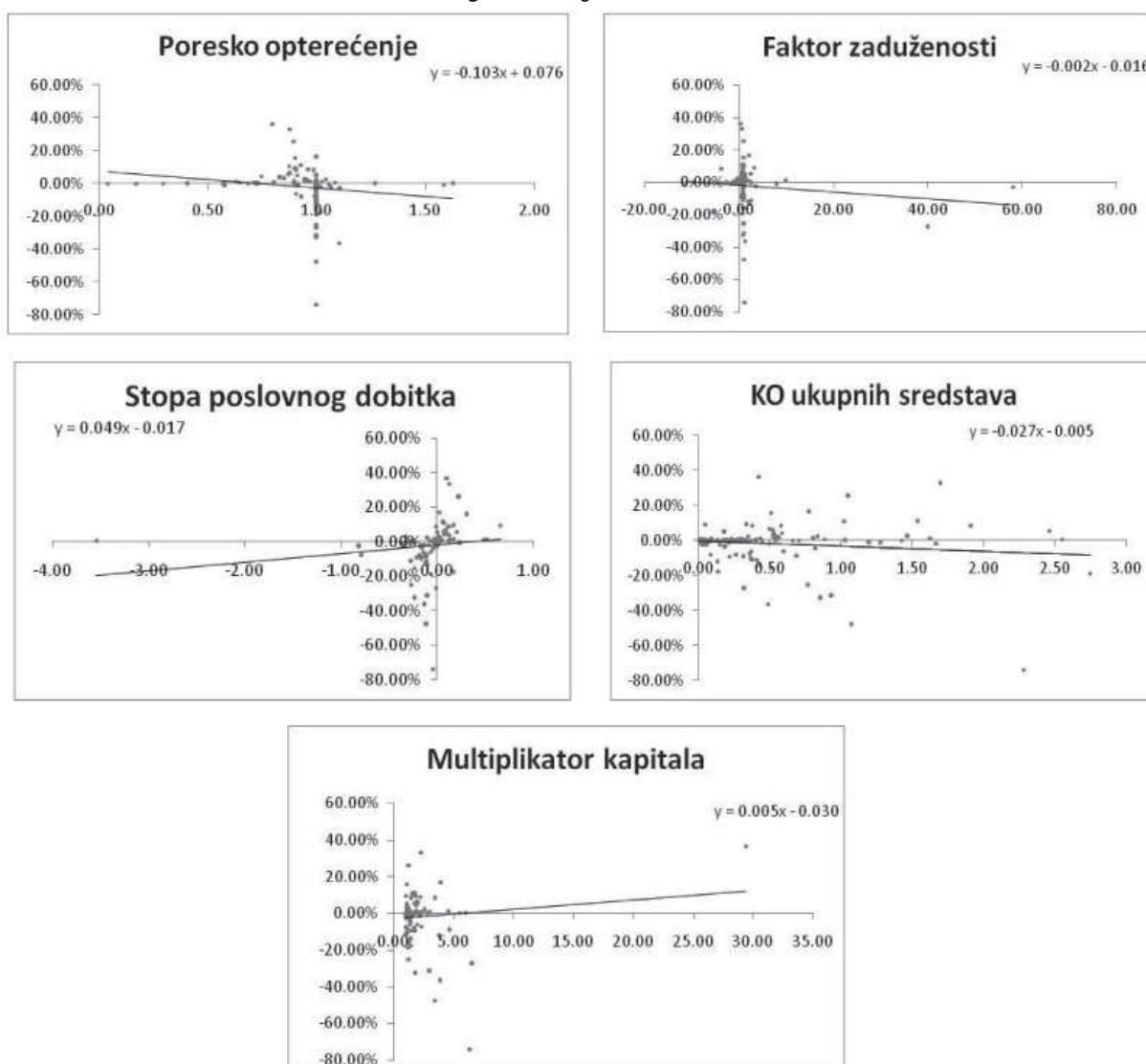
Year	Tax burden	Indebtedness factor	Operating profit rate	Total assets turn-over ratio	Capital multiplier
2020	2,49%	1,22%	2,18%	1,45%	1,29%
2019	0,77%	56,45%	6,47%	0,21%	1,32%

Source: Author's analysis of data

According to the data from the previous table, it is concluded that the percentage of variability of the financial indicator ROE in 2019 is mostly explained by the indebtedness factor and the growth rate of operating profit. Thus, the percentage of variability of the financial indicator ROE with 56.45% is explained by the variability of the indebtedness factor in 2019. On the other hand, if we look at the changes in the coefficient of determination in 2020 compared to 2019, the largest changes were recorded in the factors of indebtedness, growth rate of operating profit and total assets turnover ratio.

Based on all the facts presented in the previous part of the text, and based on a representative sample of 107 companies, it is concluded that the financial indicator ROE mostly depends on tax burden factors, indebtedness factors, operating profit rate, total assets turnover ratio and capital multipliers. In this context, we will consider the financial indicator ROE as a dependent variable, while we will use the tax burden factor, the indebtedness factor, the operating profit rate, the total assets turnover ratio and the capital multiplier as independent variables (Figure 1).

Figure 1 - Regression lines



Source: Author's analysis of data

The previous figure indicates that a positive slope of the regression line in the observed companies in 2020 was recorded for the independent variable, operating profit rate and independent variable, capital multiplier, which shows that any increase in operating profit and capital multiplier will result in increased ROE (and vice versa). Negative slope of the regression line in the observed companies

in 2020 was recorded for the independent variable, tax burden, independent variables, indebtedness factor, and independent variable, total assets turnover ratio, which shows that any increase in tax burden, indebtedness factor and total assets turnover ratio, will result in a reduction in ROE (and vice versa).

Takođe, zavisnost ROE možemo posmatrati i sa aspekta višestrukog linearnog regresionog modela. U posmatranom ekonometrijskom modelu definisana je jedna zavisna varijabla – ROE, i pet nezavisnih varijabli, a to su: faktor poreskog opterećenja, faktor zaduženosti,

stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikatora kapitala. Prema tome, obrada statističkih podataka za ekonometrijski model prikazana je u sljedećoj tabeli (tabela 9).

Tabela 9. Statistički podaci

Regression Statistics	
Multiple R	0.290245201
R Square	0.084242277
Adjusted R Square	0.038907736
Standard Error	0.129989339
Observations	107

Izvor: analiza podataka autora

U cilju formiranja ekonometrijskog modela, pored statističkih podataka koji su prikazani u prethodnoj tabeli, izvršena je obrada podataka koji su prikazani u narednoj tabeli (tabela 10).

Tabela 10. Statistički podaci

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	0.067764924	0.0633698	1.069356748	0.287457979	-0.057943714	0.193473561	-0.057943714	0.193473561
X Variable 1	-0.076448651	0.064059436	-1.193401876	0.235507736	-0.203525341	0.050628038	-0.203525341	0.050628038
X Variable 2	-0.002214784	0.00181113	-1.222874129	0.224223007	-0.00580758	0.001378011	-0.00580758	0.001378011
X Variable 3	0.05178418	0.032566781	1.59009206	0.114939464	-0.012819553	0.116387914	-0.012819553	0.116387914
X Variable 4	-0.035681678	0.022268373	-1.602347811	0.112201742	-0.079856139	0.008492783	-0.079856139	0.008492783
X Variable 5	0.004643875	0.004415463	1.051729953	0.295433288	-0.004115216	0.013402965	-0.004115216	0.013402965

Izvor: analiza podataka autora

Nakon izvršene kompletne statističke obrade podataka 107 posmatranih preduzeća u Republici Srpskoj, koji su prikazani u prethodnom

dijelu teksta, formiran je ekonometrijski model – višestruki linearni regresioni model. Matematički obrazac ekonometrijskog modela je:

$$Y_{ROE} = 0,067 - 0,076X_1 - 0,002X_2 + 0,052X_3 - 0,034X_4 + 0,004X_5$$

gdje je: Y_{ROE} – ROE, X_1 – faktor poreskog opterećenja, X_2 – faktor zaduženosti, X_3 – stopa poslovnog dobitka, X_4 – koeficijent obrta ukupnih sredstava i X_5 – multiplikator kapitala.

pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj.

Postavljeni ekonometrijski model pokazuje da:

- pri faktoru poreskog opterećenja od 0,90;
- pri faktoru zaduženosti od 1,00;
- pri stopi poslovnog dobitka od 30%;
- pri koeficijentu obrta ukupnih sredstava od 0,50; i
- pri multiplikatoru kapitala od 2,00;

finansijski pokazatelj ROE preduzeća će iznositi 0,37%. Primjenom iste metodologije predstavljenog ekonometrijskog modela, može se izračunati ROE za bilo koje preduzeće u Republici Srpskoj i okruženju.

Prethodni ekonometrijski model jasno pokazuje zavisnost finansijskog pokazatelja ROE od pet faktora profitabilnosti, a to su: faktor poreskog opterećenja (uspješnost menadžmenta u upravljanju porezima), faktor zaduženosti (uspješnost menadžmenta u upravljanju dugovima), stopa poslovnog dobitka (uspješnost menadžmenta u upravljanju troškovima – ekonomičnost), koeficijent obrta ukupne imovine (uspješnost menadžmenta u upravljanju sredstvima – efikasnost) i multiplikator kapitala (uspješnost menadžmenta u upravljanju kapitalom – pametno finansiranje). Prema tome, na osnovu svih činjenica, dokaza i podataka koji su prikazani u okviru ovog rada, dokazali smo istinitost postavljene hipoteze, odnosno da je ROE

ZAKLJUČAK

U okviru našeg istraživanja koje je prikazano u ovom radu bavili smo se stopom prinosa na sopstveni kapital (engl. Return on Equity – ROE), kao pokazateljem faktora profitabilnosti preduzeća u Republici Srpskoj. Shodno tome, u ovom radu pažnja je usmjerena samo na stopu prinosa na kapital, kao najpotpuniju, najpopularniju i za rast najvažniju mjeru prinosa. Sveobuhvatnost ove mjere proizlazi iz činjenice da ona u sebi sadrži posljedice poslovnih, investicionih i odluka u vezi sa finansiranjem.

U okviru našeg istraživanja postavljeno je istraživačko pitanje koje glasi: Da li je ROE pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj? Cilj istraživanja bio je da se izvrši dekomponovanje ROE kod preduzeća u Republici Srpskoj na pet glavnih agregatnih dijelova, što je predstavljalo put ka rješavanju samog problema istraživanja. U skladu sa metodološkom koncepcijom, postavljena je glavna hipoteza, kao svojevrstni odgovor na problem našeg istraživanja, koja glasi: ROE je odrednica profitabilnosti kod preduzeća.

U okviru teorijskog dijela istraživanja izvršili smo pregled domaće i strane literature, čime smo utvrdili rezultate skorašnjih istraživanja u ovoj oblasti, što smo prikazali u dijelu koji se odnosi na prethodna istraživanja. Takođe, pristupili smo metodološkom prikupljanju,

Also, the dependence of ROE can be observed from the aspect of multiple linear regression model. In the observed econometric model, one dependent variable is defined - ROE and five independent variables, namely: tax burden factor, indebtedness factor, operating

profit rate, total assets turnover ratio and capital multiplier. Therefore, the processing of statistical data for the econometric model is shown in the following table (Table 9).

Table 9 - Statistical data

Regression Statistics	
Multiple R	0.290245201
R Square	0.084242277
Adjusted R Square	0.038907736
Standard Error	0.129989339
Observations	107

Source: Author's analysis of data

In order to form an econometric model, in addition to the statistical data shown in the previous table, the data shown in the following table were processed (Table 10).

Table 10 - Statistical data

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	0.067764924	0.0633698	1.069356748	0.287457979	-0.057943714	0.193473561	-0.057943714	0.193473561
X Variable 1	-0.076448651	0.064059436	-1.193401876	0.235507736	-0.203525341	0.050628038	-0.203525341	0.050628038
X Variable 2	-0.002214784	0.00181113	-1.222874129	0.224223007	-0.00580758	0.001378011	-0.00580758	0.001378011
X Variable 3	0.05178418	0.032566781	1.59009206	0.114939464	-0.012819553	0.116387914	-0.012819553	0.116387914
X Variable 4	-0.035681678	0.022268373	-1.602347811	0.112201742	-0.079856139	0.008492783	-0.079856139	0.008492783
X Variable 5	0.004643875	0.004415463	1.051729953	0.295433288	-0.004115216	0.013402965	-0.004115216	0.013402965

Source: Author's analysis of data

After the complete statistical processing of data of 107 observed companies in the Republic of Srpska, which are presented in the previous part of the text, an econometric model was formed - a

multiple linear regression model. The mathematical formula of the econometric model is:

$$Y_{ROE} = 0,067 - 0,076X_1 - 0,002X_2 + 0,052X_3 - 0,034X_4 + 0,004X_5$$

Where: Y_{ROE} – ROE, X_1 – tax burden factor, X_2 – indebtedness factor, X_3 – operating profit rate, X_4 – total assets turnover ratio and X_5 – capital multiplier.

The set econometric model shows that:

- at a tax burden factor of 0.90,
- at a debt factor of 1.00,
- at an operating profit rate of 30%,
- at a total assets turnover ratio of 0.50 and
- with a capital multiplier of 2.00,

the financial indicator of the company's ROE will be 0.37%. Applying the same methodology of the presented econometric model, ROE can be calculated for any company in the Republic of Srpska and the surrounding area.

The previous econometric model clearly shows the dependence of the financial indicator ROE on five factors of profitability, namely: tax burden factor (management performance in tax management), indebtedness factor (management performance in debt management), operating profit rate (management performance in cost management - cost-effectiveness), total assets turnover ratio (management performance in asset management-efficiency) and capital multiplier (management performance in capital management - smart financing). Therefore, based on all the facts, evidence and data presented in this paper, we have proved the truth of the hy-

pothesis, ie ROE is an indicator of profitability factors for companies in the Republic of Srpska.

CONCLUSION

Within our research presented in this paper, we dealt with the rate of return on equity (ROE), as an indicator of profitability factors for companies in the Republic of Srpska. Accordingly, in this paper, attention is focused exclusively on the rate of return on equity as the most complete, most popular and most important measure of return for growth. The comprehensiveness of this measure stems from the fact that it contains the consequences of business, investment and financing decisions.

In our research, a research question was asked: is ROE an indicator of profitability factors for companies in the Republic of Srpska? The aim of the research is to decompose ROE in companies in the Republic of Srpska into five main aggregate parts, which is a way to solve the research problem itself. In accordance with the methodological concept, the main hypothesis was set, as a kind of answer to the problem of our research: ROE is a determinant of profitability in companies.

Within the theoretical part of the research, we reviewed domestic and foreign literature, which led to the results of recent research in this area, which we presented in the part related to preliminary

obradi i analizi primarnih i sekundarnih podataka iz finansijskih izvještaja u posljednje dvije godine. Testiranjem je obuhvaćeno ukupno 107 preduzeća u periodu od 2019. do 2020. godine, čiji su finansijski izvještaji javno dostupni na Banjaalučkoj berzi hartija od vrijednosti. U tom kontekstu, u posmatranom periodu smo pregledali ukupno 214 finansijskih izvještaja. U okviru empirijskog istraživanja testiran je uzorak od 107 preduzeća u Republici Srpskoj, na osnovu čega smo izvršili dekomponovanje ROE na njegove najvažnije „agregatne“ dijelove, a to su: faktor poreskog opterećenja, faktor zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala.

Analizom dobijenih rezultata može se zaključiti da su posmatrana preduzeća u Republici Srpskoj ostvarila nešto lošiji ROE u 2020. godini u odnosu na 2019. godinu. Rezultati istraživanja jasno pokazuju da je u 2019. godini od ukupno 107 posmatranih preduzeća u Republici Srpskoj pozitivan ROE ostvarilo 74 preduzeća ili 69%, dok je negativan ROE ostvarilo 33 preduzeća ili 31%. Međutim, ako se posmatra 2020. godina, od ukupno 107 posmatranih preduzeća pozitivan ROE je ostvarilo 64 preduzeća ili 60%, dok je negativan ROE ostvarilo 43 preduzeća ili 40%. Glavni razlog nešto lošijeg ROE u 2020. godini u odnosu na 2019. godinu kod preduzeća u Republici Srpskoj može se pripisati prihodovnoj strani (prodaji roba i/ili usluga), što može biti posljedica lošijeg poslovanja zbog efekata pandemije virusa korona. Ono što može biti zabrinjavajuće jeste rast procentualnog učešća preduzeća koja imaju ROE manji od -6% sa 9% (koliko je iznosilo u 2019. godini) na 21% (koliko iznosi u 2020. godini). Takođe, može se zaključiti da je prosječni ROE u 2020. godini lošiji za 0,35% u odnosu na 2019. godinu. Ako se ROE posmatra kroz pet agregatnih dijelova, najznačajniji uticaj na promjene ROE imala je stopa rasta poslovnog dobitka, koja je u 2019. godini i 2020. godini, kod posmatranih preduzeća u Republici Srpskoj, u prosjeku bila negativna. Stopa rasta poslovnog dobitka posmatranih preduzeća u Republici Srpskoj se u prosjeku smanjila sa -2,39% u 2019. godini na -5,90% u 2020. godini. Pored toga, uticaj na promjene ROE imao je faktor zaduženosti, koji je u prosjeku porastao sa 0,91 u 2019. godini na 1,55 u 2020. godini. Takođe, značajan uticaj na promjene finansijskog pokazatelja ROE imala je efikasnost upravljanja imovinom preduzeća, jer se koeficijent obrta ukupne imovine posmatranih preduzeća u prosjeku smanjio sa 0,60 u 2019. godini na 0,54 u 2020. godini. Smanjenje koeficijenta obrta ukupne imovine pokazuje da je u prosjeku potrebno više od 67 dana da se obrne ukupna imovina posmatranih preduzeća u Republici Srpskoj (da pređu „put“: novac–roba–novac) u 2020. godini u odnosu na 2019. godinu. Pored toga, važno je zapaziti da je medijana u 2019. godini iznosila 0,20%, dok je u 2020. godini medijana iznosila 0,12%. Promjene finansijskog pokazatelja ROE u 2020. godini u odnosu na 2019. godinu najvećim dijelom mogu se pripisati prihodovnoj strani posmatranih preduzeća u Republici Srpskoj, koje su posljedica lošijeg poslovanja zbog negativnih ekonomskih efekata pandemije virusa korona. Procenat varijabiliteta finansijskog pokazatelja ROE u 2019. godini najviše je objašnjen faktorom zaduženosti i stopom rasta poslovnog dobitka. Dakle, procenat varijabiliteta finansijskog pokazatelja ROE je sa 56,45% objašnjen varijabilitetom faktora zaduženosti u 2019. godini.

Na osnovu svih činjenica koje su prikazane u prethodnom dijelu teksta, a na osnovu reprezentativnog uzorka od 107 preduzeća, nameće se zaključak da finansijski pokazatelj ROE najviše zavisi od: faktora poreskog opterećenja, faktora zaduženosti, stope poslovnog dobitka, koeficijenta obrta ukupnih sredstava i multiplikatora kapitala. Prema tome, posmatrali smo zavisnost ROE sa aspekta višestrukog linearnog regresionog modela. U posmatranom ekonomskom modelu definisali smo jednu zavisnu varijablu – ROE, i pet nezavisnih varijabli, a to su: faktor poreskog opterećenja, faktor

zaduženosti, stopa poslovnog dobitka, koeficijent obrta ukupnih sredstava i multiplikator kapitala.

Ekonomometrijski model pokazao je zavisnost finansijskog pokazatelja ROE od pet faktora profitabilnosti, a to su: faktor poreskog opterećenja (uspješnost menadžmenta u upravljanju porezima), faktor zaduženosti (uspješnost menadžmenta u upravljanju dugovima), stopa poslovnog dobitka (uspješnost menadžmenta u upravljanju troškovima – ekonomičnost), koeficijent obrta ukupne imovine (uspješnost menadžmenta u upravljanju sredstvima – efikasnost) i multiplikator kapitala (uspješnost menadžmenta u upravljanju kapitalom – pametno finansiranje). Prema tome, na osnovu svih činjenica, dokaza i podataka koji su prikazani u okviru ovog rada, dokazali smo istinitost postavljene hipoteze, odnosno da je ROE pokazatelj faktora profitabilnosti kod preduzeća u Republici Srpskoj.

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research. We have also conducted the methodological collection, processing and analysis of primary and secondary data from financial statements in the last two years. The testing covered a total of 107 companies in the period from 2019 to 2020, whose financial statements are publicly available on the Banja Luka Stock Exchange. In this context, in the observed period we reviewed a total of 214 financial statements. As part of the empirical research, a sample of 107 companies in The Republic of Srpska was tested, based on which we decomposed ROE into its most important “aggregate” parts, namely: tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier.

By analyzing the obtained results, it can be concluded that the observed companies in the Republic of Srpska had a slightly worse ROE in 2020 compared to 2019. The results of the research clearly show that in 2019, out of a total of 107 observed companies in the Republic of Srpska, 74 companies or 69% achieved a positive ROE, while 33 companies or 31% had a negative ROE. However, if we look at 2020, out of a total of 107 observed companies, 64 companies or 60% had a positive ROE, while 43 companies or 40% had a negative ROE. The main reason for the slightly worse ROE in 2020 compared to 2019 for companies in The Republic of Srpska can be attributed to the revenue side (sales of goods and/or services), which may be due to weaker business activities due to the effects of the Corona virus pandemic. What may be worrying is the increase in the percentage share of companies with ROE of less than -6%, from 9% (as it was in 2019) to 21% (as it is in 2020). Also, it can be concluded that the average ROE in 2020 is worse by 0.35% compared to 2019.

If the ROE is observed through five aggregate parts, the most significant impact on ROE changes had the operating profit rate, which in 2019 and 2020, on the observed companies in the Republic of Srpska, was on average negative. The growth rate of operating profit of the observed companies in the Republic of Srpska decreased on average (arithmetic mean) from -2.39% in 2019 to -5.90% in 2020. In addition, the impact on ROE changes had a indebtedness factor that increased on average from 0.91 in 2019 to 1.55 in 2020. Also, the performance in asset management had a significant impact on the changes in the financial indicator ROE, because the turnover ratio of the total assets of the observed companies decreased on average (arithmetic mean) from 0.60 in 2019 to 0.54 in 2020. The decrease in the total assets turnover ratio clearly shows that on average it takes more than 67 days to turnover the total assets of the observed companies in the Republic of Srpska (to cross the “path”: money-goods-money) in 2020 compared to 2019. In addition moreover, it is important to note that the median in 2019 was 0.20%, while in 2020 the median was 0.12%. Changes in the financial indicator ROE in 2020 compared to 2019 can be mostly attributed to the revenue side of the observed companies in the Republic of Srpska, which are a consequence of weaker business activities due to the negative economic effects of the Corona virus pandemic. The percentage of variability of the financial indicator ROE in 2019 is mostly explained by the indebtedness factor and the operating profit rate. Thus, the percentage of variability of the financial indicator ROE is explained with 56.45% by the variability of the indebtedness factor in 2019.

Based on all the facts presented in the previous part of the text, and based on a representative sample of 107 companies, it is concluded that the financial indicator ROE mostly depends on: tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier. Therefore, we observed

the ROE dependence from the aspect of a multiple linear regression model. In the observed econometric model, we defined one dependent variable - ROE and five independent variables, namely: tax burden factor, indebtedness factor, operating profit rate, total assets turnover ratio and capital multiplier.

The econometric model showed the dependence of the financial indicator ROE on five factors of profitability, namely: tax burden factor (management performance in tax management), indebtedness factor (management performance in debt management), operating profit rate (management performance in cost management - cost-effectiveness), total assets turnover ratio (management performance in asset management-efficiency) and capital multiplier (management performance in capital management - smart financing). Therefore, based on all the facts, evidence and data presented in this paper, we have proved the truth of the hypothesis, ie ROE is an indicator of profitability factors for companies in the Republic of Srpska.

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