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DUGOROČNE EFEKTIVNE STOPE POREZA NA DOBITAK U BANKAMA: SLUČAJ REPUBLIKE SRBIJE

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Rezime

Efektivna poreska stopa (EPS) je jedna od najčešće korišćenih mera opterećenja porezom na dobitak. Iako se uobičajeno računa na godišnjem nivou, u poslednjoj deceniji koncept dugoročnih EPS postaje popularan. Ciljevi rada jesu poređenje godišnjih i dugoročnih EPS u bankama u Srbiji i poređenje uticaja determinanti EPS u kratkom i dugom roku. Rezultati istraživanja pokazuju da su godišnje i dugoročne EPS u bankama u Srbiji relativno niske. Iako propisana stopa poreza na dobitak iznosi 15%, najveći broj opservacija ima EPS niže od 5%. Značajan procenat opservacija ima godišnje EPS od 0%. Istraživanje je pokazalo da veće banke imaju statistički značajno više godišnje EPS. Međutim, u slučaju dugoročnih EPS, taj nalaz nije statistički značajan. Rezultati istraživanja mogu biti korisni menadžmentu banaka prilikom planiranja poreza na dobitak i poređenja poreskog opterećenja sa prosekom delatnosti, i nacionalnim poreskim vlastima prilikom reformisanja sistema oporezivanja banaka.

Ključne reči: efektivna poreska stopa, porez na dobitak, banke, oporezivanje banaka, Srbija

JEL: G21, H20, E63

LONG-RUN EFFECTIVE CORPORATE INCOME TAX RATES IN BANKS: A CASE OF THE REPUBLIC OF SERBIA

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Summary

The effective tax rate (ETR) is one of the most widely used measures of corporate income tax burdens. Although it is usually calculated at the annual level, the concept of long-run ETRs became popular in the last decade. The objectives of the paper are the comparison of annual and long-run ETRs in banks in Serbia and comparison of the impact of ETR determinants in the short and long run. Research results show that annual and long-run ETRs in banks in Serbia are relatively low. Although the statutory corporate income tax rate is 15%, most observations have ETRs lower than 5%. A considerable portion of the observations have annual ETRs of 0%. Research showed that larger banks have statistically significant higher annual ETRs. However, in the case of long-run ETRs, this finding is not statistically significant. Research results can be of interest for bank management when planning corporate income tax and comparing their tax burden with the industry average, and to national tax authorities when reforming the bank taxation system.

Keywords: effective tax rate, corporate income tax, banks, bank taxation, Serbia

JEL: G21, H20, E63

Uvod

Prve dve decenije 21. veka su veoma izazovne za bankarski sektor. Primarno, ovi izazovi se odnose na digitalizaciju bankarskog poslovanja i primenu koncepata Internet i mobilnog bankarstva (Savić i Pešterac, 2019). Međutim, nakon globalne finansijske krize, oporezivanje banaka takođe postaje važno pitanje, s obzirom na to da su brojne banke u svetu spašene novcem poreskih obveznika.

Shackelford i Shevlin (2001) smatraju da su banke izuzetno pogodne za poreska istraživanja, usled visoke regulative nametnute bankama i detaljnih obelodanjivanja koja vrše. S druge strane, Goodspeed (2017) smatra da je oporezivanje banaka važno, ali nedovoljno istraženo pitanje. Nekoliko prethodnih istraživanja o bankama u Srbiji (na primer, Knežević i Dobromirov, 2016; Marjanović i saradnici, 2018) nije čak ni uključivalo porez na dobitak u analizu, već je profitabilnost banaka merilo dobitkom pre oporezivanja.

Motivacija za sprovođenje istraživanja je pronađena u radu Dyrenga i saradnika (2008), koji su prvi primenili koncept dugoročnih efektivnih poreskih stopa (EPS). Oni su našli značajne razlike u dugoročnim EPS po delatnostima. Takođe, oni nalaze da su finansijske institucije među delatnostima sa niskom dugoročnom EPS. Dodatno, banke u Srbiji su prošle kroz turbulentan period sa čestim gubicima. U takvim uslovima, aproksimacija dugoročnog opterećenja porezom na dobitak može biti korisna.

Predmet istraživanja u ovom radu jeste porez na dobitak u bankama u Srbiji. Nakon restrukturiranja početkom 21. veka, bankarski sektor Srbije je moderan, stabilan i relativno otporan na krizne uslove (Domanović i saradnici, 2018). Prvi cilj rada je analiza i poređenje kratkoročnog i dugoročnog opterećenja porezom na dobitak banaka u Srbiji. Drugi cilj se odnosi na ispitivanje potencijalne različitosti uticaja determinanti EPS u kratkom i dugom roku.

Rad doprinosi prethodnim istraživanjima o značaju dugoročnih EPS i posebno promovise njihovu primenu u bankarskom sektoru. Prethodna istraživanja dugoročnih EPS se primarno odnose na kompanije iz realnog

sektora. Prema saznanjima autora, ovo je prvo istraživanje dugoročnih EPS u bankama u Srbiji.

Rezultati istraživanja mogu biti od koristi mnogim interesnim grupama. Menadžment banaka može imati koristi od poznavanja dinamike EPS u dugom roku, poređenja godišnjih i dugoročnih EPS sa prosekom bankarskog sektora i poznavanja determinanti EPS. Posebne koristi mogu imati nacionalne poreske vlasti, prilikom odlučivanja o načinu oporezivanja bankarskog sektora. Nakon globalne finansijske krize 2008. godine, poreske vlasti mnogih država su posebnu pažnju posvetile analizi poreskog opterećenja bankarskog sektora.

Izuzev uvoda i zaključka, rad je sačinjen iz tri dela. U prvom delu je detaljno objašnjen istraživački problem, dekomponovan u dve podceline: merenje EPS i EPS u bankama. U drugom delu je prikazana metodologija istraživanja. Rezultati istraživanja su prikazani u trećem delu rada.

1. Istraživački problem

1.1. Merenje efektivne stope poreza na dobitak

Zbog jednostavnosti izračunavanja i jasnog značenja, EPS je verovatno najšire korišćena mera opterećenja porezom na dobitak. Za razliku od propisane stope poreza na dobitak, koja predstavlja grubu meru poreskog opterećenja, EPS u obzir uzima propisanu stopu, efekte poreskih oslobođenja, podsticaja i kredita i efekte brojnih mehanizama izbegavanja poreza. Hanlon i Heitzman (2010) pružaju detaljan pregled najčešće korišćenih EPS.

EPS se obično izračunava na godišnjem nivou, kao odnos godišnjeg opterećenja porezom na dobitak i godišnjeg računovodstvenog rezultata. U brojiocu se najčešće koriste ukupan rashod za porez na dobitak, tekući rashod za porez na dobitak ili odliv za porez na dobitak. U imeniocu se najčešće koristi dobitak pre oporezivanja. Kombinacijom brojioca i imenioca je moguće formirati neke od najčešće korišćenih EPS:

- računovodstvena EPS (ukupan rashod za porez na dobitak / dobitak pre oporezivanja);
- tekuća EPS (tekući rashod za porez na dobitak / dobitak pre oporezivanja) i
- gotovinska EPS (odliv za porez na dobitak /

Introduction

The first two decades of the 21st century have been highly challenging for the banking sector. These challenges primarily refer to the digitalization of banking operations and implementation of Internet and mobile banking concepts (Savić and Pešterac, 2019). However, after the global financial crisis, the taxation of banks has also become an important issue, since a number of banks have been bailed out with taxpayers' money.

Shackelford and Shevlin (2001) argue that banks are very suitable for tax research due to high regulations imposed on them and the detailed disclosures they conduct. On the other hand, Goodspeed (2017) argues that the taxation of banks is an important issue that is not studied enough. Some previous research on banks in Serbia (for example, Knežević and Dobromirov, 2016; Marjanović et al., 2018) did not even include corporate income tax in the analysis, but measured bank profitability with income before taxation.

The motivation for running the research has been found in the paper of Dyreng et al. (2008) as they first implemented the concept of long-run effective tax rates (ETRs). They find considerable cross-industry differences in long-run ETRs. Furtherly, they find that financial institutions are among the industries with low long-run ETRs. In addition, banks in Serbia have experienced a turbulent period with major losses. In such conditions, the approximation of long-run corporate income tax burden can be useful.

The research subject of this paper is corporate income tax in banks in Serbia. After its restructuring at the beginning of the 21st century, the banking system of Serbia is now modern, stable and relatively robust to crisis conditions (Domanović et al., 2018). The first objective of the paper is to analyze and compare short-run and long-run corporate income tax burdens of banks in Serbia. The second objective concerns the research on potentially different impacts of ETR determinants in the short and long run.

The paper contributes to previous research on the importance of long-run ETRs and, in particular, promotes their implementation in the banking sector. Prior research on the

importance of long-run ETRs primarily regarded real-sector companies. To the author's knowledge, this is the first research on long-run ETRs in banks in Serbia.

These research results can be of interest to many interest groups. Bank management can benefit from knowing ETR dynamics in the long run, comparison of annual and long-run ETRs with the banking sector average, and knowing ETR determinants. National tax authorities can specially benefit when deciding on the modality of banking sector taxation. After the global financial crisis in 2008, tax authorities in many countries paid special attention to the analysis of the banking sector tax burden.

Aside from the introduction and conclusion, this paper consists of three parts. The first part features a detailed explanation of the research subject, divided in two subparts: measuring ETRs and ETRs in banks. The second presents the research methodology. Research results are given in third part of the paper.

1. Research Subject

1.1. Measuring the Effective Corporate Income Tax Rate

Due to its calculation simplicity and clear meaning, the ETR is probably the most widely used measure of corporate income tax burden. Unlike statutory corporate income tax rate as a rough tax burden measure, the ETR considers the statutory rate, the effects of tax exemptions, incentives and loans, as well as the effects of many tax avoidance mechanisms. Hanlon and Heitzman (2010) provide a detailed review of most widely used ETRs.

The ETR is usually calculated at the annual level, as an annual corporate income tax burden divided by the annual accounting result. The numerator is most commonly the total corporate income tax expense, current corporate income tax expense or corporate income tax expense paid. The denominator is usually the income before taxation. By combining the numerator and denominator, it is possible to define some of the most widely used ETRs:

- accounting ETR (total corporate income tax expense/income before taxation);
- current ETR (current corporate income tax expense/income before taxation) and

dobitak pre oporezivanja).

Dyrengr i saradnici (2008) smatraju da je pogodnije analizirati dugoročne EPS (na primer, petogodišnje ili desetogodišnje) umesto godišnjih EPS. Jedan od argumenata se odnosi na visoke varijacije godišnjih EPS po godinama. Oni smatraju da dugoročne EPS mogu ublažiti takve varijacije.

Dugoročna EPS dobija se iz odnosa zbira opterećenja porezom na dobitak i zbira rezultata pre oporezivanja tokom posmatranog perioda. Dyrengr i saradnici (2008) smatraju da je ovakav način obračuna dugoročne EPS pogodniji od korišćenja prosečne vrednosti godišnje EPS, jer umanjuje uticaj ekstremnih vrednosti godišnjih EPS.

U bankarskom sektoru Srbije postoji dobar primer koji potvrđuje prethodne argumente. U Tabeli 1 su prezentovani relevantni podaci za jednu banku (nad kojom je 2018. pokrenut stečaj). Podaci potvrđuju visoke varijacije godišnjih tekućih EPS tokom petogodišnjeg perioda i značajne razlike između dugoročne tekuće EPS i prosečne godišnje tekuće EPS.

Godišnje EPS nemaju ekonomsko značenje u situaciji kada kompanija ostvaruje gubitak pre oporezivanja. Takve opservacije se u istraživanjima obično eliminišu. Henry i Sansing (2018) zaključuju da dugoročne EPS mogu ublažiti, mada ne u potpunosti eliminisati, ovaj problem. Dugoročne EPS će imati veću upotrebljivost od godišnjih EPS ukoliko je procenat eliminisanih opservacija

Uprkos pojedinim prednostima, godišnje i dugoročne EPS imaju određene nedostatke (Hanlon i Heitzman, 2010). Verovatno najvažniji nedostatak EPS se odnosi na činjenicu da one uključuju efekte neusaglašenog izbegavanja poreza (kojim se smanjuje oporezivi dobitak, dok računovodstveni dobitak pre oporezivanja ostaje nepromenjen), zanemarujući efekte usaglašenog izbegavanja poreza (kojim se istovremeno smanjuju oporezivi dobitak i računovodstveni dobitak pre oporezivanja). Ovaj problem je ublažen korišćenjem EBIT (dobitak pre kamate i oporezivanja), EBITDA (dobitak pre kamate, oporezivanja i amortizacije) ili neto novčanog toka iz poslovne aktivnosti umesto dobitka pre oporezivanja u imeniocu.

Dodatno, važan nedostatak EPS se odnosi na činjenicu da EPS (posebno kada je niža od propisane stope poreza na dobitak) ne razlikuje efekte državnih podsticaja i povoljnog poreskog tretmana određenih aktivnosti u kojima banka svakako učestvuje, s jedne strane, i tendencioznih aktivnosti izbegavanja poreza, s druge strane.

1.2. Efektivne stope poreza na dobitak u bankama

Važnost EPS u bankama se može posmatrati sa dva konkurentna gledišta. S jedne strane, porez na dobitak predstavlja rashod banke praćen stvarnim odlivom resursa u korist države.

Tako, visoko opterećenje porezom na dobitak može umanjiti profitabilnost banke (Dietrich i Wanzienried, 2014). Za banku je, stoga, jako važno da adekvatno planira poreske obaveze u cilju minimiziranja rashoda za porez na dobitak i maksimiziranja profitabilnosti.

S druge strane, poresko opterećenje banaka može biti irelevantno za njihovu profitabilnost, s obzirom na to da banke mogu poresko opterećenje prebaciti na klijente (Albetrazzi i Gambacorta, 2010). Neki od uobičajenih načina prebacivanja poreskog opterećenja na klijente uključuju više kamatne

Tabela 1: Tekuće EPS za jednu banku iz Srbije

Godina	Tekući rashod za porez na dobitak (u 000 RSD)	Rezultat pre oporezivanja (u 000 RSD)	Godišnja tekuća EPS
2011.	11.905	212.128	5,612%
2012.	1.286	19.622	6,554%
2013.	3.358	26.535	12,655%
2014.	270	385	70,130%
2015.	3.033	2.706	112,084%
Prosečna godišnja tekuća EPS = 41,407%			
Dugoročna tekuća EPS = 7,595%			

Izvor: autor, prema podacima Agencije za privredne registre (www.apr.gov.rs)

prilikom obračuna dugoročnih EPS manji od procenta eliminisanih opservacija prilikom obračuna godišnjih EPS.

- cash ETR (corporate income tax paid/income before taxation).

Dyreng et al. (2008) argue that it is more convenient to analyze long-run ETRs (for example, five-year or ten-year) instead of annual ETRs. One of the arguments regards high year-to-year variations of annual ETRs. They argue that long-run ETRs can mitigate such variations.

Long-run ETR is calculated as a sum of corporate income tax expense divided by the sum of results before taxation during the observed period. Dyreng et al. (2008) argue that this way of long-run ETR calculation is more convenient than using the average value of annual ETRs, since long-run ETR reduces the impact of extreme values of annual ETRs.

There is a good example in banking sector of Serbia that confirms the previous arguments. Table 1 shows the relevant data for one bank (that went bankrupt in 2018). These data confirm high variations of annual current ETRs during a five-year period and the important differences between long-run current ETR and average annual current ETR.

Annual ETRs do not have economic meaning in a situation when a company records loss before taxation. Such observations are usually eliminated in research. Henry and Sansing (2018) conclude that long-run ETRs can mitigate, though not fully eliminate, this problem. Long-run ETRs have greater usability than annual ETRs, if the portion of eliminated observations when calculating long-run ETRs is lower than the portion of eliminated observations when calculating annual ETRs.

Despite certain advantages, annual and long-run ETRs suffer from certain weaknesses (Hanlon and Heitzman, 2010). Probably the most important weakness of ETRs is the fact that they capture the effects of non-conforming tax avoidance (that reduces taxable income, while the accounting income before taxation remains constant), ignoring the effects of conforming tax avoidance (that reduces both the taxable income

and the accounting income before taxation). This problem is mitigated using EBIT (income before interest and taxation), EBITDA (income before interest, taxation, depreciation and amortization) or net cash flow from operating activities, instead of income before taxation as the denominator.

Furthermore, an important weakness of ETRs concerns the fact that ETRs (particularly when they are lower than Vstatutory corporate income tax rate) do not distinguish between government incentives and the favorable tax treatment of certain activities that a bank engages in regardless, on the one hand, and tendentious tax avoidance activities, on the other hand.

1.2. Effective Corporate Income Tax Rates in Banks

The importance of ETRs in banks can be discussed from two competing views. On the one hand, corporate income tax represents a bank’s expense with an actual outflow of funds in favor of government. Thus, high a corporate income tax burden may depreciate a bank’s profitability (Dietrich and Wanzenried, 2014). Therefore, it is important for the banks to properly plan tax liabilities in order to minimize corporate income tax expenses and maximize profitability.

On the other hand, the tax burden of banks may be irrelevant for their profitability,

Table 1: Current ETRs for one bank from Serbia

Year	Current corporate income tax expense (in 000 RSD)	Result before taxation (in 000 RSD)	Annual current ETR
2011	11,905	212,128	5.612%
2012	1,286	19,622	6.554%
2013	3,358	26,535	12.655%
2014	270	385	70.130%
2015	3,033	2,706	112.084%
Average annual current ETR = 41.407%			
Long-run current ETR = 7.595%			

Source: author, according to the Business Registers Agency (www.apr.gov.rs)

considering that the banks can transfer tax burdens onto their clients (Albetrazzi and Gambacorta, 2010). Some of the usual ways of transferring tax burdens to clients include

stope na kredite, niže kamatne stope na depozite i više cene neutralnih bankarskih poslova.

Međutim, u uslovima konkurencije, gde banke teže da privuku klijente niskim cenama bankarskih usluga, prebacivanje poreskog opterećenja na klijente može biti otežano. Naprotiv, minimiziranje opterećenja porezom na dobitak postaje važan faktor konkurentnosti banaka.

Sistem oporezivanja banaka je do sada kritikovan sa više aspekata. Demirguc-Kunt i Huizinga (2001) smatraju da se problem nalazi u činjenici da bankarskim sistemom dominiraju multinacionalne bankarske grupe, dok se oporezivanje dobitka vrši na nivou svake države pojedinačno. To otvara prostor za izbegavanje poreskih obaveza multinacionalnih banaka kroz organizovanje intragrupnih transakcija i veštačko usmeravanje dobitka iz država sa višim poreskim opterećenjem u države sa nižim poreskim opterećenjem.

Roe i Troge (2018) zaključuju da bi reforma sistema poreza na dobitak banaka doprinela stabilnosti bankarskog sektora. Ovakva reforma bi primarno trebala ublažiti problem asimetričnog poreskog tretmana sopstvenih i pozajmljenih izvora finansiranja.

Prethodni nalazi o EPS banaka se značajno razlikuju u zavisnosti od države u kojoj je istraživanje sprovedeno. To je prilično razumljivo, imajući u vidu značajne razlike između nacionalnih sistema poreza na dobitak. S tim u vezi, Ricotti i saradnici (2016) nalaze da se EPS banaka u pet razvijenih država Evropske Unije značajno razlikuju, uprkos činjenici da su sve države članice Evrozone i da učestvuju u Jedinstvenom mehanizmu supervizije.

Gawehn i Muller (2019) nalaze da banke u Sjedinjenim Američkim Državama imaju značajno više EPS u odnosu na ostale kompanije. S druge strane, Meeks i Meeks (2014) primećuju da se opterećenje porezom na dobitak banaka u Ujedinjenom Kraljevstvu značajno smanjilo tokom druge decenije 21. veka.

Oporezivanje banaka posebno je aktuelno pitanje nakon globalne finansijske krize iz 2008. godine, s obzirom na to da je oporavak brojnih velikih finansijskih institucija zahtevao državnu pomoć i novac poreskih obveznika (Stojković i Luković, 2019). S tim u vezi, Weigand (2015) nalazi da su se EPS američkih i evropskih banaka

smanjile nakon krize, mada američke banke imaju više EPS u odnosu na evropske banke.

Banke u Srbiji imaju jako niske godišnje EPS - značajno niže u odnosu na propisanu stopu poreza na dobitak, koja iznosi 15%. Vržina (2018) koristi četiri vrste godišnjih EPS u periodu između 2013. i 2017. godine i nalazi da se medijana svake EPS nalazi ispod 2,5%. Ukoliko se ovi rezultati uporede sa opterećenjem porezom na dobitak kompanija iz realnog sektora, kotiranih na Beogradskoj berzi (Vržina, 2018a), može se primetiti da je poresko opterećenje banaka značajno niže.

Poput kompanija iz realnog sektora, banke u Srbiji imaju brojne opcije za umanjenje EPS. Takođe, globalna finansijska kriza i poremećaji na bankarskom tržištu su rezultovali u gubicima banaka tokom prethodnih godina. Ti gubici mogu biti preneti na račun budućih oporezivih dobitaka kako bi se umanjile buduće obaveze za porez na dobitak. Vržina (2018) primećuje da se oporezivanje dobitka banaka u Srbiji razlikuje od oporezivanja dobitka kompanija iz realnog sektora po pitanju propisa o utanjenoj kapitalizaciji, otpisa potraživanja po osnovu odobrenih kredita i poreskog tretmana vanbilansnih pozicija.

Kako bi obezbedile sredstva za rešavanje budućih bankarskih kriza i oporavak finansijskih institucija, brojne države su bankama nametnule dodatno poresko opterećenje nakon globalne finansijske krize. Neke države su nametnule bankama da plaćaju porez na dobitak po višim propisanim stopama u odnosu na kompanije iz realnog sektora. Druga opcija se odnosi na uvođenje posebnog poreza na banke, koji bi se obračunavao primenom propisane stope na određenu agregiranu vrednost (na primer, iznos kredita, depozita, obaveza, sopstvenog kapitala ili dobitka).

2. Metodologija istraživanja

Istraživanje u ovom radu obuhvata petogodišnji period, od 2014. do 2018. godine. Duži period (na primer, desetogodišnji) nije korišćen, jer bi to dovelo do mešanja perioda u kojem je propisana stopa poreza na dobitak bila 10% (do 01. januara 2013) i perioda u kojem je propisana stopa 15% (od 01. januara 2013). Obuhvaćene su poslovne banke koje su u Srbiji

higher interest rates on loans, lower interest rates on deposits and higher costs of neutral banking operations.

However, in competitive conditions, where banks tend to attract clients with low costs of banking services, transferring tax burdens to clients might be harder. On the contrary, the minimization of corporate income tax burdens becomes an important factor of the banks' competitiveness.

The system of bank taxation has been criticized due to various points. Demirguc-Kunt and Huizinga (2001) argue that the problem lies in the fact that banking systems are dominated by multinational banking groups, while the taxation of income is conducted at the level of each separate country. This results in opportunities to avoid tax liabilities of multinational banks through arranging intragroup transactions that artificially shift income from countries with higher a tax burden to countries with a lower tax burden.

Roe and Troge (2018) conclude that a reform of the corporate income tax system of banks would contribute to the banking sector's stability. Such a reform should primarily mitigate the problem of asymmetric tax treatment between equity and borrowed sources of funding.

Prior findings on banks' ETRs considerably differ depending on the country in which the research was conducted. This is quite understandable, bearing in mind important cross-national differences in corporate income tax systems. In this regard, Ricotti et al. (2016) find that the ETRs of banks in five developed countries of the European Union are significantly different, despite the fact that the studied countries are members of the Eurozone and participants in the Single Supervisory Mechanism.

Gawehn and Muller (2019) find that banks in United States of America have significantly higher ETRs compared to other companies. On the other hand, Meeks and Meeks (2014) notice that the corporate income tax burden of banks in the United Kingdom considerably decreased during the second decade of the 21st century.

In particular, the taxation of banks has been a current issue ever since the global financial crisis in 2008, seeing as how the recovery of many big financial institutions required state aid and

the taxpayers' money (Stojković and Luković, 2019). In this regard, Weigand (2015) finds that ETRs of American and European banks decreased after the crisis, though American banks have higher ETRs than European banks.

Banks in Serbia have very low annual ETRs – considerably lower than the statutory corporate income tax rate of 15%. Vržina (2018) uses four types of annual ETRs in the period between 2013 and 2017 and finds that the median of each ETR is lower than 2.5%. If these results are compared with the corporate income tax burden of companies from the real sector, quoted at the Belgrade Stock Exchange (Vržina, 2018a), it can be noted that the tax burden of banks is considerably lower.

Similarly to the companies from the real sector, banks in Serbia have many options to reduce ETRs. In addition, the global financial crisis and banking market deviations have resulted in losses for banks during the previous years. Such losses can be carried forward at the expense of future taxable incomes in order to reduce future corporate income tax liabilities. Vržina (2018) notes that the taxation of the banks' income in Serbia differs from the income taxation of real sector companies in terms of weaker capitalization, write-offs of loan receivables and the tax treatment of off-balance positions.

In order to accumulate funds for solving future banking crises and enabling the recovery of financial institutions, many countries imposed an additional tax burden on banks after the global financial crisis. Some of the countries imposed on their banks the payment of corporate income tax at higher statutory rate than companies from the real sector. The second option concerns the introduction of a special tax on banks, calculated after applying the statutory rate on a certain aggregate value (for example, value of loans, deposits, liabilities, owners' equity or income).

2. Research Methodology

Research in this paper spans a five-year period, from 2014 to 2018. A longer period (for example, ten years) was not used since it would have resulted in the overlay of the period when the statutory corporate income tax rate was 10% (until 1 January 2013) and the period when the

bile aktivne na kraju svake posmatrane godine. Identifikovano je 25 takvih banaka i one su predstavljene u Tabeli 2.

banaka. S tim u vezi, ispitana je veza između veličine, zaduženosti i profitabilnosti banke, s jedne strane, i EPS banke, s druge strane.

Tabela 2: Spisak uzorkovanih banaka

R.b.	Naziv banke	R.b.	Naziv banke
1.	Addiko Bank	14.	MTS banka
2.	AIK banka	15.	NLB banka
3.	API Bank	16.	Opportunity banka
4.	Banca Intesa	17.	OTP banka Srbija
5.	Banka Poštanska štedionica	18.	ProCredit Bank
6.	Credit Agricole banka Srbija	19.	Raiffeisen banka
7.	Direktna banka	20.	Sberbank Srbija
8.	Expobank	21.	Societe Generale banka Srbija
9.	Erste Bank	22.	Srpska banka
10.	Eurobank	23.	Telenor banka
11.	Halkbank	24.	Unicredit Bank Srbija
12.	JUBMES banka	25.	Vojvođanska banka
13.	Komercijalna banka		

Izvor: autor

Godišnje opterećenje porezom na dobitak banaka je mereno tekućom EPS i gotovinskom EPS. Računovodstvena EPS nije korišćena, s obzirom na to da sadrži odloženi rashod za porez na dobitak kao bezgotovinsku poziciju bilansa uspeha. Dodatno, Vučković-Milutinović i Lukić (2013) nalaze da učešće odloženog poreza na dobitak u bankama u Srbiji

Veličina, zaduženost i profitabilnost su neke od tradicionalnih determinanti EPS (Fernandez-Rodriguez i Martinez-Arias, 2014). U tu svrhu, u radu su sprovedeni t-testovi za nezavisne uzorke. Slična metodologija je korišćena u nekim prethodnim istraživanjima (Dyreng i saradnici, 2008; Vržina, 2018). Definicije korišćenih varijabli su date u Tabeli 3.

Tabela 3: Definicije varijabli

Varijabla	Formula
Godišnja tekuća EPS	$(\text{Tekući rashod za porez na dobitak} / \text{Dobitak pre oporezivanja}) \times 100$
Godišnja gotovinska EPS	$(\text{Odliv za porez na dobitak} / \text{Dobitak pre oporezivanja}) \times 100$
Dugoročna tekuća EPS	$(\text{Zbir tekućeg rashoda za porez na dobitak} / \text{Zbir rezultata pre oporezivanja}) \times 100$
Dugoročna gotovinska EPS	$(\text{Zbir odliva za porez na dobitak} / \text{Zbir rezultata pre oporezivanja}) \times 100$
Veličina banke	Prirodni logaritam ukupne imovine (u 000 RSD)
Zaduženost banke	$(\text{Ukupne obaveze} / \text{Ukupna imovina}) \times 100$
Profitabilnost banke	$(\text{Dobitak pre oporezivanja} / \text{Ukupna imovina}) \times 100$

Izvor: autor

obično nije materijalno značajno. Dugoročno opterećenje porezom na dobitak banaka je mereno dugoročnom (petogodišnjom) tekućom EPS i dugoročnom gotovinskom EPS.

U radu je ispitano da li razlike u godišnjim i dugoročnim EPS banaka mogu biti objašnjenje razlikama u određenim karakteristikama

Obuhvatajući 25 banaka kroz petogodišnji period, uzorak je inicijalno sačinjen od 125 opservacija prilikom analize godišnjih EPS i 25 opservacija prilikom analize dugoročnih EPS. Usled nejasnog ekonomskog značenja, opservacije sa negativnim rezultatom pre oporezivanja su eliminisane. Stoga, konačan

Table 2: List of sampled banks

No.	Bank name	No.	Bank name
1.	Addiko Bank	14.	MTS Bank
2.	AIK Bank	15.	NLB Bank
3.	API Bank	16.	Opportunity Bank
4.	Banca Intesa	17.	OTP Banka Serbia
5.	Postal Savings Bank	18.	ProCredit Bank
6.	Credit Agricole Bank Serbia	19.	Raiffeisen Bank
7.	Direktna Banka	20.	Sberbank Serbia
8.	Expobank	21.	Societe Generale Bank Serbia
9.	Erste Bank	22.	Srpska Banka
10.	Eurobank	23.	Telenor Bank
11.	Halkbank	24.	Unicredit Bank Serbia
12.	JUBMES Banka	25.	Vojvođanska Banka
13.	Komercijalna Banka		

Source: author

statutory rate was 15% (as of 1 January 2013). The research includes commercial banks that were active in Serbia at the end of each observed year. There are 25 such banks identified and they are presented in Table 2.

The annual corporate income tax burden of banks was measured with the current ETR and cash ETR. The accounting ETR was not used since it contains the deferred corporate income tax expense as a non-cash income statement position. Furthermore, Vučković-Milutinović and Lukić (2013) find that a share of deferred

features. In this regard, the link between bank size, leverage and profitability was examined, on the one hand, while the ETRs of banks were observed, on the other hand. Size, leverage and profitability are some of the traditional determinants of ETRs (Fernandez-Rodriguez and Martinez-Arias, 2014). For this purpose, t-tests of independent samples were conducted for this paper. Similar methodology was employed in some prior research (Dyrenge et al., 2008; Vržina, 2018). Definitions of employed variables are given in Table 3.

Table 3. Definitions of variables

Variable	Formula
Annual current ETR	(Current corporate income tax expense / Income before taxation) x 100
Annual cash ETR	(Corporate income tax paid / Income before taxation) x 100
Long-run current ETR	(Sum of current corporate income tax expense / Sum of result before taxation) x 100
Long-run cash ETR	(Sum of corporate income tax paid / Sum of result before taxation) x 100
Bank size	Natural logarithm of total assets (in 000 RSD)
Bank leverage	(Total liabilities / Total assets) x 100
Bank profitability	(Income before taxation / Total assets) x 100

Source: author

corporate income tax in banks in Serbia is usually not materially significant. The long-run corporate income tax burden of banks is measured with long-run (five-year) current ETR and long-run cash ETR.

The paper examined whether the differences in the annual and long-run ETRs of banks can be explained with differences in certain bank

Observing 25 banks during a five-year period, the sample initially consisted of 125 observations when analyzing annual ETRs and 25 observations when analyzing long-run ETRs. Due to unclear economic effect, observations with negative result before taxation were eliminated. Therefore, the final sample consists of 91 observations with annual ETRs and 16

uzorak je sačinjen od 91 opservacije sa godišnjim EPS i 16 opservacija sa dugoročnim EPS.

Koristeći 91 od 125 opservacija sa godišnjim EPS, iskorišćenost inicijalnog uzorka je na nivou od 72,80%. S druge strane, taj procenat za dugoročne EPS je 64% (16 od 25 banaka). To znači da je uvođenje dugoročnih EPS od male važnosti za ublažavanje problema negativnih opservacija prilikom analize opterećenja porezom na dobitak banaka u Srbiji.

Niska iskorišćenost inicijalnog uzorka u dugom roku je, primarno, posledica značajnih gubitaka banaka u 2014. i 2015. godini. Naime, kada bi se dugoročne EPS računale za četvorogodišnji period (2015-2018. godina), tada bi 19 banaka imalo pozitivan dugoročni rezultat pre oporezivanja, pa bi procenat iskorišćenosti uzorka bio 76%. Kada bi se dugoročne EPS računale za trogodišnji period (2016-2018. godina), procenat iskorišćenosti uzorka bi bio 80% (20 od 25 banaka). Drugim rečima, ukoliko se zadrži trend rastuće profitabilnosti bankarskog sektora Srbije, upotrebljivost dugoročnih EPS će u narednim godinama biti veća.

U ovom radu su korišćeni revidirani finansijski podaci iz pojedinačnih finansijskih izveštaja banaka. Ovi podaci su dostupni na Internet prezentaciji Agencije za privredne registre Republike Srbije (www.apr.gov.rs).

3. Rezultati istraživanja

Rezultati istraživanja obuhvataju deskriptivnu statistiku, analizu distribucije korišćenih EPS i rezultate t-testova za nezavisne uzorke. U Tabeli 4 su predstavljeni rezultati deskriptivne statistike.

Podaci iz tabele pokazuju da su godišnje EPS u bankama u Srbiji na relativno niskom nivou, tj. da su značajno niže od propisane stope poreza na dobitak od 15%. Ovakvi rezultati su saglasni sa rezultatom sličnog prethodnog istraživanja (Vržina, 2018), mada su godišnje EPS u ovom radu još niže. Godišnja tekuća EPS ima manju aritmetičku sredinu, ali veću medijanu u odnosu na godišnju gotovinsku EPS.

Dugoročne EPS u bankama u Srbiji se, u proseku, takođe nalaze značajno ispod propisane stope poreza na dobitak. Aritmetička sredina i medijana dugoročnih EPS su veće u odnosu na godišnje EPS, što je razumljivo imajući u vidu da dugoročni dobitak pre oporezivanja uključuje određene godišnje gubitke pre oporezivanja. Takođe, dugoročne EPS imaju niže maksimalne vrednosti i niže standardne devijacije u odnosu na kratkoročne EPS, što potvrđuje da korišćenje dugoročnih EPS može ublažiti visoke varijacije godišnjih EPS po godinama.

Analiza distribucije EPS pokazuje da se godišnje i dugoročne EPS najčešće nalaze u intervalu između 0% i 5%. Grafik 1 prikazuje distribuciju opservacija prema visini godišnjih EPS.

U uzorku se nalaze 84 opservacije (92,31% uzorka) sa godišnjom tekućom EPS nižom od propisane stope poreza na dobitak, odnosno 80 opservacija (87,91% uzorka) sa godišnjom gotovinskom EPS nižom od 15%. Ovakvi nalazi potvrđuju visoku asimetričnost raspodele opservacija.

Čak 58 opservacija (63,74% uzorka) je imalo godišnju tekuću EPS manju od 5%, dok je 60 opservacija (65,93% uzorka) imalo godišnju

Tabela 4: Deskriptivna statistika

Element	Godišnja tekuća EPS	Godišnja gotovinska EPS	Dugoročna tekuća EPS	Dugoročna gotovinska EPS
Broj opservacija	91	91	16	16
Aritmetička sredina	4,647%	4,848%	5,371%	5,074%
Minimum	0,000%	0,000%	0,000%	0,000%
Medijana	0,583%	0,000%	5,100%	3,541%
Maksimum	36,241%	37,377%	15,343%	18,663%
Standardna devijacija	6,503%	7,995%	5,142%	5,403%
Kurtosis	4,769	4,761	-0,424	1,481
Skewness	1,786	2,137	5,142	5,403

Izvor: kalkulacija autora

observations with long-run ETRs.

Using 91 of 125 observations with annual ETRs, the usability of the initial sample is at the level of 72.80%. On the other hand, this percentage for long-run ETRs is 64% (16 of 25 banks). This indicates that the implementation of long-run ETRs is of little importance for the mitigation of the negative observation problems when analyzing the corporate income tax burden of banks in Serbia.

The low usability of the initial sample in the long run is, primarily, a result of major losses of banks in 2014 and 2015. Namely, if long-run ETRs were calculated for a four-year period (2015-2018), 19 banks would have a positive long-run result before taxation, and their percentage of sample usability would be 76%. If long-run ETRs were calculated for a three-year period (2016-2018), the percentage of sample usability would be 80% (20 out of 25 banks). In other words, if a trend of increasing profitability remains in the banking sector of Serbia, the usability of long-run ETRs will be higher in the coming years.

This paper uses audited financial data retrieved from statutory financial reports of banks. These data are accessible at the Internet presentation of the Business Registers Agency of the Republic of Serbia (www.apr.gov.rs).

3. Research Results

Research results include descriptive statistics, distribution analysis of employed ETRs and results of independent sample t-tests. The results of descriptive statistics are

presented in Table 4.

Data from the table show that annual ETRs in banks in Serbia are at a relatively low level, i.e. that they are considerably lower than the statutory corporate income tax rate of 15%. Such results are consistent with results of similar prior research (Vržina, 2018), though annual ETRs in this paper are even lower. Annual current ETR has a lower arithmetic mean, but higher median than annual cash ETR.

Long-run ETRs in banks in Serbia are, on the average, also considerably below the statutory corporate income tax rate. The arithmetic mean and median of long-run ETRs are higher than in the case of annual ETRs, which is understandable bearing in mind that long-run result before taxation includes certain losses before taxation. In addition, long-run ETRs have lower maximum values and lower standard deviations than long-run ETRs, confirming that using long-run ETRs can mitigate high year-to-year variations of annual ETRs.

The distribution analysis of ETRs shows that annual and long-run ETRs are most frequently in an interval between 0% and 5%. Figure 1 shows the distribution of observations according to the value of annual ETRs.

In the sample, there are 84 observations (92.31% of the sample) with annual current ETR lower than the statutory corporate income tax rate and 80 observations (87.91% of the sample) with annual cash ETR lower than 15%. Such findings confirm a high asymmetry of distribution of observations.

As many as 58 observations (63.74% of the sample) had annual current ETR lower than 5%,

Table 4: Descriptive statistics

Element	Annual current ETR	Annual cash ETR	Long-run current ETR	Long-run cash ETR
Observations	91	91	16	16
Arithmetic mean	4.647%	4.848%	5.371%	5.074%
Minimum	0.000%	0.000%	0.000%	0.000%
Median	0.583%	0.000%	5.100%	3.541%
Maximum	36.241%	37.377%	15.343%	18.663%
Standard deviation	6.503%	7.995%	5.142%	5.403%
Kurtosis	4.769	4.761	-0.424	1.481
Skewness	1.786	2.137	5.142	5.403

Source: author's calculation

Grafik 1: Raspodela opservacija prema visini godišnjih EPS

Izvor: kalkulacija autora

gotovinsku EPS manju od 5%. Pri tome, 32 opservacije (35,16% uzorka) su imale godišnju tekuću EPS od 0%, dok je 49 opservacija (53,85% uzorka) imalo godišnju gotovinsku EPS od 0%.

Godišnje gotovinske EPS karakteriše veća raspršenost u odnosu na godišnje tekuće EPS.

Visoke vrednosti godišnjih EPS (veće od 20%) se primarno odnose na gotovinske EPS - u uzorku se nalazi samo jedna opservacija sa godišnjom tekućom EPS većom od 20%, u poređenju sa pet opservacija sa godišnjim gotovinskim EPS većim od 20%.

Profitabilnost banaka je značajno porasla tokom posmatranog perioda. U 2018. godini je samo jedna uzorkovana banka ostvarila gubitak pre oporezivanja, za razliku od 2014. godine kada je jedanaest banaka zabeležilo negativan rezultat pre oporezivanja. Ovaj nalaz potvrđuje stav o formiranju modernog i stabilnog bankarskog sistema u Srbiji (Domanović i saradnici, 2018).

Devet banaka je ostvarilo dobitak pre oporezivanja u svakoj od pet posmatranih godina. Od tih banaka, šest banaka je imalo godišnju tekuću EPS nižu od 15% u svakoj godini, dok su četiri banke imale godišnju gotovinsku EPS nižu od 15% u svakoj godini. S druge strane, nijedna banka nije imala godišnju tekuću EPS veću od 15% u svakoj godini, dok je samo jedna banka imala godišnju gotovinsku EPS veću od 15% u svakoj godini. Ovakvi rezultati pokazuju da su izuzetno niske godišnje EPS postojanje u odnosu na izuzetno visoke

godišnje EPS. Drugim rečima, visoke godišnje EPS su obično prolazna okolnost u bankama.

Grafik 2 prikazuje raspodelu opservacija prema visini dugoročnih EPS. Ova raspodela je relativno slična raspodeli opservacija prema visini godišnjih EPS.

Grafik 2: Raspodela opservacija prema visini dugoročnih EPS

Izvor: kalkulacija autora

Osam banaka ima dugoročnu tekuću EPS nižu od 5%, dok deset banaka ima dugoročnu gotovinsku EPS nižu od 5%. Interesantno je pomenuti da je samo jedna banka imala i dugoročnu tekuću EPS i dugoročnu gotovinsku EPS veću od 15%. Dve banke su zabeležile dugoročnu tekuću EPS od 0%, dok su četiri banke imale dugoročnu gotovinsku EPS od 0%.

Predstavljeni rezultati sugerišu da banke efikasno upravljaju obavezama za porez na dobitak, odnosno da su u mogućnosti da u dugom roku (u petogodišnjem periodu) zadrže relativno niske EPS. S tim u vezi, minimiziranje obaveza za porez na dobitak ostavlja bankama više sredstava za reinvestiranje ili raspodelu vlasnicima.

Naredni deo empirijskog istraživanja se odnosi na uticaj određenih karakteristika (veličina, zaduženost i profitabilnost) na EPS

Figure 1: Distribution of observations according to the value of annual ETRs

Source: author's calculation

while 60 observations (65.93% of the sample) had annual cash ETR lower than 5%. Thereby, 32 observations (35.16% of the sample) had annual current ETR of 0%, while 49 observations (53.85% of the sample) had annual cash ETR of 0%.

Annual cash ETRs have higher dispersion compared to annual current ETRs. High values of annual ETRs (higher than 20%) primarily refer to cash ETRs – there is only one observation

six banks had annual current ETR lower than 15% in each year, while four banks had annual cash ETR lower than 15% in each year. On the other hand, none of the banks had annual current ETR higher than 15% in each year, while only one bank had annual cash ETR higher than 15% in each year. Such results show that exceptionally low annual ETRs are more persistent compared to exceptionally high

annual ETRs. In other words, high annual ETRs are usually a transitory occasion in banks.

Chart 2 shows the distribution of observations according to the value of long-run ETRs. This distribution is relatively similar to the distribution of observations according to annual ETRs.

Eight banks have a long-run current ETR lower than 5%, while ten banks have long-run cash ETRs lower than 5%.

It is interesting to note that

only one bank had both long-run current ETR and long-run cash ETR higher than 15%. Two banks recorded long-run current ETRs of 0%, while four banks had long-run cash ETRs of 0%.

Presented results suggest that banks efficiently manage corporate income tax liabilities as they are in a position to keep relatively low ETRs in the long-run. In this regard, the minimization of corporate income tax liabilities leaves more resources for banks to reinvest or distribute to owners.

The next part of the empirical research regards the impact of certain features (size,

Figure 2: Distribution of observations according to the value of long-run ETRs

Source: author's calculation

with annual current ETR higher than 20% in the sample, compared to five observations with annual cash ETR higher than 20%.

The profitability of banks has considerably increased during the observed period. In 2018, only one sampled bank recorded loss before taxation, unlike 2014, when eleven banks recorded negative result before taxation. Such findings confirm the argument on the development of a modern and stable banking system in Serbia (Domanović et al., 2018).

Nine banks recorded income before taxation in each of the five observed years. Out of those,

Tabela 5: Rezultati t-testova za godišnje EPS

Varijabla	EPS ≤ 5%		EPS > 5%		t-statistika	Jednakost varijansi
	Broj opservacija	Aritmetička sredina	Broj opservacija	Aritmetička sredina		
Panel A. Analiza determinanti godišnjih tekućih EPS						
Veličina	58	18,093	33	18,664	** -2,254	Da
Zaduženost	58	79,804%	33	80,210%	-0,299	Da
Profitabilnost	58	1,498%	33	2,229%	* -1,748	Da
Panel B. Analiza determinanti godišnjih gotovinskih EPS						
Veličina	60	18,052	31	18,780	*** -2,884	Da
Zaduženost	60	79,723%	31	80,395%	-0,531	Ne
Profitabilnost	60	1,567%	31	2,144%	-1,350	Da

Napomena: statistički značajno na nivou od 10% (*), 5% (**) i 1% (***); jednakost varijansi je ispitana Levenovim testom
Izvor: kalkulacija autora

banaka. Rezultati t-testova za nezavisne uzorke, za godišnje EPS, su predstavljeni u Tabeli 5.

Podaci iz Tabele 5 pokazuju da veće banke imaju statistički značajno više godišnje tekuće i gotovinske EPS. U poreskoj teoriji je situacija u kojoj veće kompanije plaćaju više poreza na dobitak poznata kao hipoteza političkih

Kako bi se ispitalo da li potencijalne determinante EPS različito utiču u kratkom i dugom roku, sprovedeni su dodatni t-testovi za dugoročne EPS. Rezultati testova su predstavljeni u Tabeli 6. Za svrhe analize determinanti dugoročnih EPS, veličina banke je računata kao prosek prirodnog logaritma

Tabela 6: Rezultati t-testova za dugoročne EPS

Varijabla	EPS ≤ 5%		EPS > 5%		t-vrednost	Jednakost varijansi
	Broj opservacija	Aritmetička sredina	Broj opservacija	Aritmetička sredina		
Panel A. Analiza determinanti dugoročnih tekućih EPS						
Veličina	8	18,253	8	18,878	-1,191	Da
Zaduženost	8	82,955%	8	78,350%	1,500	Da
Profitabilnost	8	1,131%	8	2,157%	-1,328	Da
Panel B. Analiza determinanti dugoročnih gotovinskih EPS						
Veličina	10	18,567	6	18,562	0,010	Da
Zaduženost	10	80,872%	6	80,286%	0,172	Da
Profitabilnost	10	1,345%	6	2,142%	-0,973	Da

Napomena: statistički značajno na nivou od 10% (*), 5% (**) i 1% (***); jednakost varijansi je ispitana Levenovim testom.
Izvor: kalkulacija autora

troškova. Vržina (2018), takođe, pronalazi delovanje hipoteze političkih troškova u srpskom bankarskom sektoru, ali ti rezultati nisu statistički značajni. Ipak, važno je istaći da se metodologija istraživanja u tom radu značajno razlikuje od metodologije ovog rada.

Banke sa većim učešćem obaveza u ukupnoj imovini imaju veće godišnje EPS. Ipak, taj nalaz nije statistički značajan. S druge strane, profitabilnije banke imaju statistički značajno veće godišnje tekuće EPS.

ukupne imovine (u 000 RSD), zaduženost banke je računata kao prosečna vrednost odnosa ukupnih obaveza i ukupne imovine, dok je profitabilnost banke računata kao odnos prosečnog rezultata pre oporezivanja i prosečne ukupne imovine u posmatranom periodu.

Uticaj izabranih karakteristika banke na EPS je značajno različit u dugom roku u odnosu na kratak rok. U dugom roku, veće banke imaju više dugoročne tekuće EPS, ali niže dugoročne gotovinske EPS. Suprotno od analize

Table 5: Results of t-tests for annual ETRs

Variable	ETR ≤ 5%		ETR > 5%		t-statistics	Equal variances
	Observations	Arithmetic mean	Observations	Arithmetic mean		
Panel A. Analysis of determinants of annual current ETRs						
Size	58	18.093	33	18.664	** -2.254	Yes
Leverage	58	79.804%	33	80.210%	-0.299	Yes
Profitability	58	1.498%	33	2.229%	* -1.748	Yes
Panel B. Analysis of determinants of annual cash ETRs						
Size	60	18.052	31	18.780	*** -2.884	Yes
Leverage	60	79.723%	31	80.395%	-0.531	No
Profitability	60	1.567%	31	2.144%	-1.350	Yes

Note: statistically significant at the level of 10% (*), 5% (**) and 1% (***); equality of variances is examined with Levene’s test
Source: author’s calculation

leverage and profitability) on ETRs of banks. Results of independent samples t-tests for annual ETRs are presented in Table 5.

Data from Table 5 show that larger banks have statistically significant higher annual current and cash ETRs. In taxation theory, a situation when larger companies pay more corporate income tax is known as political cost hypothesis. Vržina (2018) also finds the impact

this finding is not statistically significant. On the other hand, more profitable banks have statistically significantly higher annual current ETRs.

In order to determine whether the potential determinants of ETR have different impacts in the short and long run, additional t-tests were conducted for long-run ETRs. The results of these tests are presented in Table 6. For the purposes

Table 6: Results of t-tests for long-run ETRs

Variable	ETR ≤ 5%		ETR > 5%		t-statistics	Equal variances
	Observations	Arithmetic mean	Observations	Arithmetic mean		
Panel A. Analysis of determinants of long-run current ETRs						
Size	8	18.253	8	18.878	-1.191	Yes
Leverage	8	82.955%	8	78.350%	1.500	Yes
Profitability	8	1.131%	8	2.157%	-1.328	Yes
Panel B. Analysis of determinants of long-run current ETRs						
Size	10	18.567	6	18.562	0.010	Yes
Leverage	10	80.872%	6	80.286%	0.172	Yes
Profitability	10	1.345%	6	2.142%	-0.973	Yes

Note: statistically significant at the level of 10% (*), 5% (**) and 1% (***); equality of variances have been examined with Levene’s test
Source: author’s calculation

of political cost hypothesis in Serbian banking sector, but this finding is not statistically significant. However, it is important to note that the research methodology in that paper considerably differs from the methodology used here.

Banks with a higher share of liabilities in total assets have higher annual ETRs. However,

of analysing the determinants of long-run ETRs, bank size was calculated as an average of the natural logarithm of total assets (in 000 RSD), bank leverage was calculated as an average value of the ratio of total liabilities to total assets, while bank profitability was calculated as a ratio of average result before taxation and average total assets in the observed period.

determinanti godišnjih EPS, ove razlike između velikih i manjih banaka nisu statistički značajne.

Banke sa većim učešćem obaveza u ukupnoj imovini imaju niže dugoročne EPS. Ovaj nalaz je suprotan u odnosu na analizu godišnjih EPS, ali, takođe, nije statistički značajan. Dodatno, profitabilnije banke imaju više dugoročne EPS. Ovaj nalaz je konzistentan sa analizom godišnjih EPS, ali nije statistički značajan.

Očigledno je da tradicionalne determinante EPS relativno loše objašnjavaju varijabilnost EPS banaka u Srbiji, posebno u dugom roku. Stoga je potrebno pronaći specifične karakteristike banaka koje mogu determinisati EPS. Na primer, stepen investiranja u državne dužničke hartije od vrednosti može umanjiti EPS, s obzirom na to da su prihodi od kamate na takve hartije (emitovane od strane Republike Srbije, autonomne pokrajine, jedinice lokalne samouprave i Narodne banke Srbije) oslobođeni poreza na dobitak. Prihodi od kamata na takve hartije obično predstavljaju najvažniju korekciju računovodstvenog dobitka pre oporezivanja u poreskom bilansu banaka.

Problematični krediti, takođe, mogu uticati na EPS banaka. Nakon globalne finansijske krize, poreski tretman problematičnih kredita je postao važan. Različite države su nametnule različita rešenja (Bholat i saranici, 2018), a Srbija ima relativno povoljan poreski tretman problematičnih kredita. Primera radi, bankama u Srbiji je dozvoljeno da kao odbitnu stavku u poreskom bilansu koriste iznos potraživanja koji nije naplaćen iz sredstava ostvarenih prodajom nepokretnosti, kao i iznos otpisanih potraživanja po osnovu problematičnih kredita (klasifikovanih prema propisima Narodne banke Srbije).

Zaključak

Istraživanje u ovom radu je sprovedeno sa ciljem ispitivanja godišnjih i dugoročnih (petogodišnjih) EPS u bankama u Srbiji. U tu svrhu su korišćeni podaci o tekućem rashodu za porez na dobitak, odlivu za porez na dobitak i dobitku pre oporezivanja banaka u periodu od 2014. do 2018. godine.

Rezultati istraživanja pokazuju da, u proseku, banke u Srbiji imaju izuzetno niske godišnje i dugoročne EPS. Naime, propisana

stopa poreza na dobitak u Srbiji je tokom posmatranog perioda bila 15%, dok je najveći broj banaka imao EPS niže od 5%. Značajan procenat banaka ima EPS od 0%. Dodatno, dugoročne EPS su, u proseku, više od godišnjih EPS, što je razumljivo imajući u vidu činjenicu da dugoročni rezultat pre oporezivanja uključuje određene godišnje gubitke pre oporezivanja.

Analiza determinanti godišnjih i dugoročnih EPS je pokazala da veće banke imaju statistički značajno više godišnje EPS. Ovaj nalaz je u skladu sa hipotezom političkih troškova. Ipak, statistička značajnost tog uticaja se u dugom roku gubi. Takođe, determinante EPS različito utiču u kratkom i dugom roku.

Istraživanje je pokazalo da su banke u Srbiji prilično uspešne u minimiziranju EPS, i u kratkom i u dugom roku. Visoke godišnje EPS (više od propisane stope poreza na dobitak) su retkost i nisu održive u dugom roku. Drugim rečima, visoke godišnje EPS su prolazna okolnost u poslovanju banaka.

Dugoročne EPS imaju ograničenu upotrebljivost u bankarskom sektoru Srbije. Problem opservacija sa gubitkom pre oporezivanja nije rešen primenom koncepta dugoročnih EPS - naprotiv, procenat iskorišćenosti uzorka je veći u slučaju primene godišnjih EPS nego u slučaju dugoročnih EPS. Takođe, broj banaka u Srbiji je relativno mali, pa je istraživački uzorak nedovoljno veliki u slučaju primene dugoročnih EPS.

Pored ograničene upotrebljivosti dugoročnih EPS, rezultati istraživanja trebaju biti interpretirani u svetlu drugih ograničenja. Moguće je da bi rezultati istraživanja bili drugačiji promenom strukture uzorka. Kako bi se zadržala konzistentnost EPS, u radu nisu uzorkovane sve aktivne banke u Srbiji, već banke koje su konstantno bile aktivne tokom posmatranog perioda. Takođe, usled značajnih razlika u nacionalnim poreskim sistemima, rezultati istraživanja ne bi trebali biti analogno preneti na bankarske sisteme ostalih država.

Dugoročne EPS bi trebale biti izračunate i za ostale delatnosti u Srbiji u cilju poređenja dugoročnog opterećenja porezom na dobitak po delatnostima. Ukoliko bi naredni radovi proširili istraživanje na period pre 2013. godine, trebali bi koristiti razliku između propisane stope poreza na dobitak i EPS kao meru

The impact of chosen bank features on ETRs is considerably different in the long run compared to the short run. In the long run, larger banks have higher long-run current ETRs, but lower long-run cash ETRs. Contrary to the analysis of determinants of annual ETRs, these differences between larger and smaller banks are not statistically significant.

Banks with a higher share of liabilities in total assets have lower long-run ETRs. This finding is contrary to the analysis of annual ETRs, but is also not statistically significant. In addition, more profitable banks have higher long-run ETRs. This finding is consistent with the analysis of annual ETRs, but is not statistically significant.

It is obvious that traditional determinants of ETRs are relatively insufficient in explaining the variability of ETRs of banks in Serbia, particularly in the long run. Therefore, it is necessary to find specific bank features that may determine ETRs. For example, the intensity of investment in government debt securities may reduce ETR since interest revenue from such securities (issued by the Republic of Serbia, an autonomous province, local government unit or the National bank of Serbia) is tax exempt. Interest revenue from such securities is usually the most important correction of accounting income before taxation in tax balance of banks.

Non-performing loans may also influence ETRs of banks. After the global financial crisis, the tax treatment of non-performing loans has become an important issue. Different countries imposed different provisions (Bholat et al., 2018), while Serbia has a relatively favorable tax treatment of non-performing loans. For example, banks in Serbia are allowed to deduct in the tax balance an amount of receivables that was not collected on the basis of real estate sale, as well as an amount of written-off receivables regarding non-performing loans (classified according to the criteria of the National bank of Serbia).

Conclusion

Research in this paper has been conducted in order to assess the annual and long-run (five-year) ETRs in banks in Serbia. For this purpose, the author used data on current corporate

income tax expenses, corporate income tax paid and income before taxation of banks in the period between 2014 and 2018.

Research results show that, on the average, banks in Serbia have very low annual and long-run ETRs. Namely, the statutory corporate income tax rate in Serbia during the observed period was 15%, while most of the banks had ETRs lower than 5%. A significant portion of banks had ETR of 0%. Furthermore, long-run ETRs are, on the average, higher than annual ETRs, which is understandable, bearing in mind the fact that long-run result before taxation includes certain annual losses before taxation.

The analysis of determinants of annual and long-run ETRs showed that larger banks statistically have significantly higher annual ETRs. This finding is consistent with the political cost hypothesis. However, the statistical significance of this impact is lost in the long run. In addition, determinants of ETRs have different impact in the short and long run.

Research showed that banks in Serbia are highly successful in ETR minimization, both in the short and long run. High annual ETRs (higher than the statutory corporate income tax rate) are a rarity and not persistent in the long run. In other words, high annual ETRs are a transitory occasion in bank operations.

Long-run ETRs have limited usability in the banking sector of Serbia. The problem of observations with loss before taxation is not solved with the implementation of the long-run ETRs concept – on the contrary, the percentage of sample usability is higher in the case of annual ETRs than in the case of long-run ETRs. Furthermore, the number of banks in Serbia is relatively small, so the research sample was not large enough in the case of implementation of long-run ETRs.

Aside from the limited usability of long-run ETRs, research results should be interpreted in the light of other limitations. It is possible that the research results would have been different if the structure of the sample had been changed. In order to maintain the consistency of ETRs, this paper did not include samples of all active banks in Serbia, but only the banks that were constantly active during the observed period. In addition, due to important differences in national tax systems, research results should not be analogously transposed on the banking

poreskog opterećenja, usled niže propisane stope poreza na dobitak pre 2013. godine. Po ugledu na istraživanje Fagbemija i saradnika (2018), korisna bi bila i posebna poreska analiza za sistemski važne banke.

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systems of other countries.

Long-run ETRs should also be calculated for other industries in Serbia in order to make a cross-industry comparison of the long-run corporate income tax burden. If a subsequent research were to expand the study to include the period before 2013, they should employ

the difference between the statutory corporate income tax rate and the ETR as a measure of tax burden, due to the statutory corporate income tax rate being lower before 2013. Following the research of Fagbemi et al. (2018), a separate tax analysis of systemically important banks would also be useful.

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