

Gubitak pre oporezivanja i porez na dobitak: primer banaka iz Srbije

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Rezime: Uobičajeno se smatra da banke sa dobitkom pre oporezivanja plaćaju porez na dobitak, a banke sa gubitkom pre oporezivanja ne. Ipak, usled nezavisnog obračuna rezultata pre oporezivanja u bilansu uspeha i oporezovog dobitka u poreskom bilansu, moguće je da banka sa gubitkom pre oporezivanja zabeleži rashod za porez na dobitak. U radu je ispitano zašto i u kojoj meri banke sa gubitkom pre oporezivanja imaju opterećenje porezom na dobitak. Empirijsko istraživanje je obuhvatilo ceo bankarski sistem Srbije u periodu od 2013. do 2018. godine. S tim u vezi, formiran je uzorak od 175 opservacija. Rezultati istraživanja pokazuju da uključivanje opservacija sa gubitkom pre oporezivanja značajno utiče na procenu opterećenja porezom na dobitak bankarskog sektora u Srbiji. Takođe, porez na kapitalne dobitke jeste najčešći izvor opterećenja porezom na dobitak u opservacijama sa gubitkom pre oporezivanja. S druge strane, usklađivanje rashoda i prihoda u poreskom bilansu ima manji uticaj na opterećenje porezom na dobitak u opservacijama sa gubitkom pre oporezivanja.

Ključne reči: profitabilnost, rezultat pre oporezivanja, opservacije sa gubitkom, porez na dobitak, banke

JEL: G21, H25

Uvod

U uslovima izražene konkurencije, minimiziranje rashoda predstavlja glavni (nekad čak i jedini) način povećanja efikasnosti banaka (Barbuski, 2013). Jedna od važnih kategorija rashoda kojom banke mogu efikasno upravljati jeste rashod za porez na dobitak.

Bankarski sektor Srbije je tokom dve decenije XXI veka prošao kroz turbulentan period. Početkom XXI veka, bankarski sektor Srbije je prošao kroz proces vlasničke transformacije i ulaska stranog kapitala (Dimić & Barjaktarović, 2017). Dodatno, na performanse bankarskog sektora tranzicionih država negativno je uticala globalna ekonomska kriza (Dreca, 2012).

Porez na dobitak banaka je postao posebno važno pitanje sa ulaskom stranog kapitala u bankarski sektor Srbije. S tim u vezi, Claessens i saradnici (2001) smatraju da u zemljama u razvoju banke u stranom vlasništvu ostvaruju višu profitabilnost i, posledično, plaćaju više poreza na dobitak u odnosu na banke u domaćem vlasništvu.

Opterećenje porezom na dobitak najčešće se meri efektivnim poreskim stopama, koje u imeniocu obično sadrže dobitak pre oporezivanja. To znači da su opservacije sa gubitkom pre oporezivanja uobičajeno eliminisane iz poreskih istraživanja. S druge strane, usled usklađivanja rashoda i prihoda sa poreskim propisima i plaćanja poreza na kapitalne dobitke, moguće je da opservacije sa gubitkom pre oporezivanja imaju opterećenje porezom na dobitak. Stoga je važno ispitati kakav je uticaj uključivanja opservacija sa gubitkom pre oporezivanja na sprovođenje poreskih istraživanja.

Predmet rada jeste oporezivanje dobitka banaka u Srbiji. Performanse bankarskog sektora poslednjih godina imaju rastući trend, mada i dalje postoji značajan prostor za njihov napredak – primarno usled činjenice da banke imaju visok nivo rezervi likvidnosti koje ne plasiraju u alternative sa visokim prinosom (Todorović i saradnici, 2018).

Shodno definisanom predmetu rada, identifikovana su dva osnovna cilja rada. Prvi cilj rada jeste ispitivanje uticaja opservacija sa gubitkom pre oporezivanja na procenu opterećenja porezom na dobitak bankarskog sektora u Srbiji. Drugi cilj rada jeste utvrđivanje izvora opterećenja porezom na dobitak u opservacijama sa gubitkom pre oporezivanja.

U skladu sa predmetom i ciljevima, u radu su empirijski testirane sledeće istraživačke hipoteze:

H₁: Uključivanje opservacija sa gubitkom pre oporezivanja značajno utiče na procenu opterećenja porezom na dobitak banaka u Srbiji.

H₂: Porez na kapitalne dobitke predstavlja najčešći izvor opterećenja porezom na dobitak banaka u Srbiji u opservacijama sa gubitkom pre oporezivanja.

Nalazi u ovom radu doprinose rezultatima istraživanja u dve relativno slabo istražene oblasti. Oporezivanje dobitka banaka u Srbiji, kao i značaj opservacija sa gubitkom pre oporezivanja na globalnom nivou, predstavljaju dve oblasti u kojima su dodatna istraživanja neophodna. Rezultati istraživanja mogu biti korisni brojnim interesnim grupama. Primarno, rezultati mogu

koristiti Narodnoj banci Srbije (kao kontroloru bankarskog sistema) i Poreskoj upravi Srbije (kao nacionalnoj poreskoj vlasti) prilikom procene opterećenja bankarskog sektora Srbije porezom na dobitak. Takođe, rezultati mogu biti korisni menadžmentu banaka prilikom projektovanja profitabilnosti i opterećenja banke porezom na dobitak.

Gubitak pre oporezivanja i merenje opterećenja porezom na dobitak

S obzirom na to da porez na dobitak podrazumeva trajni odliv monetarnih resursa banke u korist države, opterećenje porezom na dobitak je više decenija predmet istraživanja. S tim u vezi, razvijena su brojna merila opterećenja porezom na dobitak, pri čemu je efektivna poreska stopa najčešće korišćeno merilo (Wu i saradnici, 2012). Efektivna poreska stopa se obično dobija iz odnosa opterećenja porezom na dobitak i nekog računovodstvenog rezultata.

Usled poverljivosti podataka iz poreskog bilansa, primarno o visini oporezivog dobitka, u imeniocu efektivne poreske stope se najčešće koristi rezultat pre oporezivanja iz bilansa uspeha. Smatra se da je rezultat pre oporezivanja najpribližnija aproksimacija oporezivog dobitka iz poreskog bilansa. Dodatno, Eberhartinger i Klostermann (2007) nalaze da se opterećenje porezom na dobitak ne bi značajno razlikovalo ukoliko bi se dobitak pre oporezivanja koristio umesto oporezivog dobitka kao poreska osnovica.

Ukoliko je banka u posmatranoj godini ostvarila gubitak pre oporezivanja, efektivna poreska stopa postaje negativna i nema jasno ekonomsko značenje. Stoga se u brojnim istraživanjima (na primer, Richardson & Lanis, 2007; Stamatopulos i saradnici, 2019; Todorović i saradnici, 2019) opservacije ili kompanije sa gubitkom pre oporezivanja eliminišu, pa istraživački uzorak čine jedino opservacije sa dobitkom pre oporezivanja.

Još u XX veku, na važnost opservacija sa gubitkom pre oporezivanja je ukazao Siegfried (1974), ističući da se poseban problem može javiti prilikom analize panela podataka. Primera radi, banka je ostvarila gubitak pre oporezivanja i, posledično, opservacija sa gubitkom pre oporezivanja će biti eliminisana. S druge strane, ukoliko u narednoj godini banka ostvari dobitak, onda će opservacija sa dobitkom pre oporezivanja biti obuhvaćena analizom, a njeno opterećenje porezom na dobitak će biti nisko usled korišćenja poreskih gubitaka iz prethodne godine. Ovakva analiza dovodi do potcenjivanja efektivnih poreskih stopa.

Eliminisanje opservacija sa gubitkom pre oporezivanja je posebno problematično kada opservacija, uprkos gubitku pre oporezivanja, ima opterećenje porezom na dobitak. To je posebno moguće u državama u kojima su utvrđivanje rezultata pre oporezivanja i oporezivog dobitka nezavisne aktivnosti, respektujući različite ciljeve finansijskog i poreskog izveštavanja (Huang & Wang, 2013). Tako je moguće da banka ostvari gubitak pre oporezivanja, ali oporezivi dobitak i opterećenje porezom na dobitak po tom osnovu.

U prošlosti su zabeleženi pokušaji da se opservacije sa gubitkom pre oporezivanja uključe pri izračunavanju efektivnih poreskih stopa. S tim u vezi, Gupta

i Newberry (1997) ograničavaju visinu efektivnih poreskih stopa na minimum od 0% i maksimum od 100%. Zatim, opservacije sa gubitkom pre oporezivanja bez opterećenja porezom na dobitak imaju efektivnu poresku stopu od 0%, dok opservacije sa gubitkom pre oporezivanja i opterećenjem porezom na dobitak imaju efektivnu poresku stopu od 100%.

S obzirom na to da metod koji su primenili Gupta i Newberry (1997) dovodi do suviše veštačke analize, neki autori su razvili drugačije metode obuhvatanja opservacija sa gubitkom pre oporezivanja. Merilo opterećenja porezom na dobitak može predstavljati odnos rashoda (ili odliva) za porez i ukupne imovine (Jansky & Prats, 2015). Ovo merilo obuhvata opservacije sa gubitkom pre oporezivanja bez metodoloških problema. Međutim, ovo merilo ne uzima u obzir profitabilnost banke.

Henry i Sansing (2018) obuhvataju opservacije sa gubitkom pre oporezivanja tako što opterećenje porezom na dobitak mere oduzimajući proizvod propisane stope poreza na dobitak i rezultata pre oporezivanja od odliva za porez na dobitak. Kako bi ovo merilo bilo uporedivo u prostoru, dobijeni iznos se deli sa tržišnom vrednosti ukupne imovine.

Ukoliko je ovo merilo veće od nule, onda je poresko opterećenje banke veće od propisanog opterećenja. Ukoliko je merilo jednako nuli, onda je poresko opterećenje jednako propisanom. Konačno, ukoliko je vrednost merila manja od nule, onda je poresko opterećenje banke manje od propisanog. Koristeći ovo merilo, Henry i Sansing (2018) pružaju značajno drugačije rezultate istraživanja u odnosu na tradicionalno korišćenje efektivnih poreskih stopa.

Uzevši u obzir poverljivost poreskih izveštaja i sistematske razlike u obelodanjivanjima o porezu na dobitak (Kvaal & Nobes, 2013), u praksi nije uvek lako doneti zaključak o izvorima opterećenja porezom na dobitak banke koja je ostvarila gubitak pre oporezivanja. Usled specifičnosti nacionalnih sistema poreza na dobitak, izvori ove okolnosti se mogu značajno razlikovati između različitih država.

Profitabilnost i porez na dobitak banaka u Srbiji

Bankarski sektor Srbije je u poslednje tri decenije prošao kroz niz turbulentnih okolnosti. Značajni pad profitabilnosti bankarskog sektora je zabeležen devedesetih godina XX veka, usled velike recesije, anomalija na finansijskom tržištu i odsustva adekvatne regulative (Mihailović i saradnici, 2009).

Radić (2018) primećuje da su, u proseku, banke u Srbiji ostvarile negativne stope prinosa na ukupnu imovinu (ROA) i sopstveni kapital (ROE) u periodu od 2008. do 2016. godine, primarno usled ekstremnih negativnih vrednosti pojedinih banaka (na primer, Srpska banka ili Telenor banka). Ipak, profitabilnost bankarskog sektora u Srbiji je od 2015. u konstantnom porastu (Vesić i saradnici, 2019).

Alihodžić (2017) nalazi značajne razlike u profitabilnosti između banaka u Srbiji, jer pojedine banke imaju, između ostalog, lošu politiku kreditiranja, visoku izloženost kreditnom riziku i visoke operativne troškove. Profitabilnost banaka se, takođe, razlikuje u zavisnosti od vrste vlasništva banke – domaće

ili strano, i u zavisnosti od načina ulaska inostrane bankarske grupe na srpsko bankarsko tržište – grinfield ili akvizicija (Erić i saradnici, 2019).

U zemljama bivše Socijalističke Federativne Republike Jugoslavije (SFRJ) su, generalno, utvrđivanje dobitka pre oporezivanja i oporezivog dobitka odvojene aktivnosti (Novak & Valentinčić, 2017). Za analiziranje razlika između dobitka pre oporezivanja i oporezivog dobitka u Srbiji neophodno je razumeti sadržinu poreskog bilansa u Srbiji. Skraćeni i uprošćeni poreski bilans je predstavljen u Tabeli 1.

U računovodstvenoj praksi se poreski bilans često deli na poslovni i kapitalni podbilans. Poslovni podbilans je kompleksniji deo poreskog bilansa i podrazumeva isključivanje dobitaka i gubitaka od prodaje imovine (utvrđenih prema Međunarodnim standardima finansijskog izveštavanja) iz rezultata pre oporezivanja, i usklađivanje rashoda i prihoda prema poreskim propisima. Ukoliko je usklađeni rezultat pozitivan (usklađeni dobitak), banka ga može umanjiti za poreske gubitke iz prethodnih godina.

Tabela 1: Uprošćeni poreski bilans

| I Poslovni podbilans | |
|--|--------------------------------------|
| | Rezultat pre oporezivanja |
| | ± dobiti (gubici) od prodaje imovine |
| | ± usklađivanje rashoda |
| | ± usklađivanje prihoda |
| | Usklađeni rezultat |
| | - preneti poreski gubici |
| 1 | Ostatak dobitka* |
| II Kapitalni podbilans | |
| | Tekući kapitalni dobitci |
| | - tekući kapitalni gubici |
| | - preneti kapitalni gubici |
| 2 | Ostatak kapitalnih dobitaka* |
| 1+2 | Oporezivi dobitak |
| * ako je pozicija negativna, unosi se 0. | |

Usklađivanjem rezultata pre oporezivanja moguće je da banka sa gubitkom pre oporezivanja (prezentovanim u bilansu uspeha) pređe u zonu dobitka za svrhe poreskih obračuna. Ovo se primarno može desiti usled nepriznavanja određenih rashoda (kao što su troškovi reprezentacije) u poreske svrhe. Avi-Yonah i Lahav (2012) zaključuju da su značajne razlike između rezultata pre oporezivanja i oporezivog dobitka primarno moguće kada je profitabilnost poreskog obveznika blizu nule. S druge strane, na osnovu istraživanja Šodana (2012) se može primetiti da u zemljama bivše SFRJ razlike između rezultata pre oporezivanja i oporezivog dobitka često nisu velike, s obzirom na to da rezultat pre oporezivanja predstavlja polaznu tačku za utvrđivanje oporezivog dobitka.

Drugi deo poreskog bilansa u Srbiji predstavlja kapitalni podbilans. Oporezivanje kapitalnih dobitaka po osnovu prodaje imovine je nezavisno od ostva-

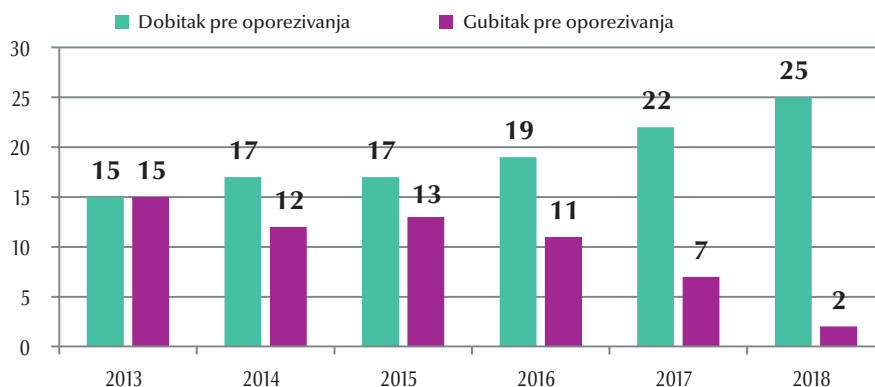
renog rezultata iz ostalih aktivnosti. Analogno poslovnom podbilansu, banka ima pravo da umanjuje poresku obavezu po osnovu kapitalnih gubitaka iz prethodnih godina. Todorović i saradnici (2019) smatraju da kapitalni dobitci predstavljaju ključni izvor opterećenja porezom na dobitak u opservacijama sa gubitkom pre oporezivanja u bankarskom sektoru Srbije.

Zakonom o porezu na dobit pravnih lica (Službeni glasnik RS, br. 86/2019) propisano je da se porez na kapitalne dobitke plaća po osnovu prodaje nepokretnosti, prava intelektualne svojine, dugoročnih finansijskih plasmana i investicionih jedinica otkupljenih od otvorenih investicionih fondova. Dodatno, kapitalni dobitak se utvrđuje kao razlika prodajne cene i nabavne cene, pri čemu se nabavna cena umanjuje za iznos amortizacije u skladu sa poreskim propisima.

Dakle, oporezivi dobitak predstavlja zbir ostatka dobitka i ostatka kapitalnih dobitaka iz poslovnog i kapitalnog podbilansa, respektivno. Ukoliko je jedna od te dve komponente negativna, ona se ne uzima u obzir prilikom utvrđivanja oporezivog dobitka.

U bankarskom sektoru Srbije je u periodu od 2013. do 2018. godine moguće identifikovati 175 opservacija. Pri tome je 115 opservacija (65,71%) ostvarilo dobitak pre oporezivanja, dok je 60 opservacija (34,29%) ostvarilo gubitak pre oporezivanja. Raspodela opservacija prema rezultatu pre oporezivanja po godinama je prikazana na Grafiku 1.

Grafik 1: Raspodela opservacija prema rezultatu pre oporezivanja



Izvor: kalkulacija autora.

S obzirom na to da čine više od 30% uzorka, opservacije sa gubitkom pre oporezivanja ne smeju biti zanemarene. S druge strane, broj opservacija sa gubitkom pre oporezivanja se u posmatranom periodu generalno smanjuje, podržavajući tvrdnju o rastućem trendu profitabilnosti bankarskog sektora u Srbiji (Todorović i saradnici, 2018; Vesić i saradnici, 2019).

Metodologija istraživanja i podaci

Empirijsko istraživanje u ovom radu je sprovedeno sa ciljem objašnjenja opterećenja porezom na dobitak opservacija koje su ostvarile gubitak pre oporezivanja u bankarskom sektoru Srbije. S tim u vezi, u radu je poredena efektivna poreska stopa koja ne obuhvata opservacije sa gubitkom pre oporezivanja sa efektivnom poreskom stopom koja obuhvata opservacije sa gubitkom pre oporezivanja.

Efektivna poreska stopa koja ne obuhvata opservacije sa gubitkom pre oporezivanja je označena kao prosečna efektivna poreska stopa (engl. *average effective tax rate*, *av_ETR*). Dobijena je kao aritmetička sredina efektivnih poreskih stopa opservacija sa dobitkom pre oporezivanja u posmatranoj godini.

S obzirom na to da obuhvata ceo bankarski sektor nezavisno od profitabilnosti, efektivna poreska stopa koja obuhvata opservacije sa gubitkom pre oporezivanja je označena kao makro efektivna poreska stopa (engl. *macro effective tax rate*, *macro_ETR*). Dobijena je kao odnos zbira opterećenja porezom na dobitak i zbira rezultata pre oporezivanja svih opservacija u posmatranoj godini.

Matematički, način izračunavanja *av_ETR* i *macro_ETR* za godinu t se može predstaviti na sledeći način:

$$av_ETR_t = \frac{\sum_{i=1}^n ETR_{i,t}}{n} = \frac{\sum_{i=1}^n \frac{CTE_{i,t}}{PTR_{i,t}}}{n} \quad \forall PTR_{i,t} > 0 \quad (1)$$

$$macro_ETR_t = \frac{\sum_{i=1}^n CTE_{i,t}}{\sum_{i=1}^n PTR_{i,t}} \quad (2)$$

pri čemu *ETR* označava efektivnu poresku stopu (engl. *effective tax rate*), *CTE* tekući rashod za porez na dobitak (engl. *current tax expense*) kao aproksimaciju opterećenja porezom na dobitak, a *PTR* rezultat pre oporezivanja (engl. *pre-tax result*) i -te opservacije od ukupno n opservacija. Treba primetiti da će broj opservacija (n) biti manji kod obračuna *av_ETR* kada bar jedna opservacija u posmatranom uzorku ostvaruje gubitak pre oporezivanja.

U uslovima prisustva opservacija sa gubitkom pre oporezivanja, racionalno je pretpostaviti da će *macro_ETR* biti veće od *av_ETR*. U ovom radu je ispitano da li je razlika između *av_ETR* i *macro_ETR* statistički značajna. S tim u vezi, imajući u vidu veličinu uzorka (svega šest godina), u radu je korišćen neparametarski Mann-Whitney test za testiranje značajnosti razlika između dve nezavisne grupe.

Opterećenje porezom na dobitak je mereno tekućim rashodom za porez na dobitak iz bilansa uspeha banke. Ova veličina se može smatrati reprezentativnom aproksimacijom opterećenja porezom na dobitak, s obzirom na to da je utvrđena u poreskoj prijavi za porez na dobitak. Tekući rashod za porez na dobitak je u prošlosti često korišćen kao aproksimacija opterećenja porezom na dobitak banaka u Srbiji (Todorović i saradnici, 2019; Vržina, 2019). Tekući rashod za porez na dobitak u Srbiji ne može biti negativan, s obzirom na

to da nije predviđena mogućnost povraćaja poreza na dobitak plaćenog u prethodnim godinama po osnovu tekućih poreskih gubitaka (engl. *tax loss carryback*).

Istraživanjem su obuhvaćene sve poslovne banke u Srbiji, aktivne između 2013. i 2018. godine. Tokom posmatranog perioda, propisana stopa poreza na dobitak je iznosila 15% uz proporcionalni sistem oporezivanja. Tako je identifikovano 175 opservacija. Spisak uzorkovanih banaka po godinama je dat u Prilogu.

Podaci o tekućem rashodu za porez na dobitak i rezultatu pre oporezivanja su preuzeti iz pojedinačnih finansijskih izveštaja banaka. Uprkos njihovoj istorijskoj orijentaciji, finansijski izveštaji predstavljaju najobjektivniju osnovu za praćenje poslovanja banaka (Jakšić i saradnici, 2011). Izvori postojanja opterećenja porezom na dobitak kod opservacija sa gubitkom pre oporezivanja su pronađeni u napomenama uz pojedinačne finansijske izveštaje banaka. Svi podaci su preuzeti od Agencije za privredne registre Republike Srbije (www.apr.gov.rs) i zvaničnih Internet prezentacija banaka. S obzirom na to da finansijske izveštaje najvećeg dela banaka u Srbiji revidiraju velike revizorske kompanije (tzv. velika četvorka revizorskih kompanija) i da najveći deo banaka dobija nekvalifikovano mišljenje revizora (Stanišić i saradnici, 2013), preuzeti podaci se mogu smatrati pouzdanim.

Rezultati istraživanja

Prezentacija rezultata istraživanja započinje rezultatima deskriptivne statistike za efektivnu poresku stopu banaka, dobijenu kao odnos tekućeg rashoda za porez na dobitak i dobitka pre oporezivanja. Deskriptivna statistika je prikazana u Tabeli 2.

Tabela 2: Deskriptivna statistika efektivne poreske stope

| Broj opservacija | 115 |
|-----------------------|-----------|
| Aritmetička sredina | 5,8619% |
| Minimum | 0,0000% |
| 25. percentil | 0,0000% |
| Medijana | 0,2837% |
| 75. percentil | 8,8558% |
| Maksimum | 112,0843% |
| Standardna devijacija | 13,3175% |

Izvor: kalkulacija autora.

Efektivne poreske stope banaka su, u proseku, značajno niže od propisane stope poreza na dobitak. S tim u vezi, aritmetička sredina je značajno veća od medijane efektivne poreske stope, što ukazuje na neuobičajeno visoke ekstremne vrednosti efektivnih poreskih stopa. Ovi rezultati su u skladu sa rezultatima prethodnih istraživanja o opterećenju porezom na dobitak banaka u Srbiji (Todorović i saradnici, 2019; Vržina, 2019). Prethodna istraživanja, takođe, smatraju da su relativno niske efektivne poreske stope banaka

u Srbiji posledica prihoda od kamata na državne hartije od vrednosti koji se izuzimaju iz oporezivog dobitka, i prenetih poreskih gubitaka iz prethodnih godina.

U narednom delu istraživanja je prikazana matrica poreza na dobitak, koja prikazuje raspodelu opservacija prema rezultatu pre oporezivanja i postojanju opterećenja porezom na dobitak. Matrica poreza na dobitak je prikazana u Tabeli 3. Osenčene su opservacije sa gubitkom pre oporezivanja i opterećenjem porezom na dobitak, s obzirom na to da one predstavljaju ključnu grupu opservacija u ovom radu.

Tabela 3: Matrica poreza na dobitak

| | | Rezultat pre oporezivanja | |
|-----------------------------------|-----|--|--|
| | | > 0 (dobitak) | < 0 (gubitak) |
| Tekući rashod za porez na dobitak | > 0 | 2013: 8 opservacija | 2013: 5 opservacija |
| | | 2014: 13 opservacija | 2014: 2 opservacije |
| | | 2015: 12 opservacija | 2015: 1 opservacija |
| | | 2016: 12 opservacija | 2016: 4 opservacije |
| | | 2017: 12 opservacija | 2017: 2 opservacije |
| | | 2018: 15 opservacija | 2018: 0 opservacija |
| | | Σ: 72 opservacije (41,14% uzorka) | Σ: 14 opservacija (8,00% uzorka) |
| | = 0 | 2013: 7 opservacija | 2013: 10 opservacija |
| | | 2014: 4 opservacije | 2014: 10 opservacija |
| | | 2015: 5 opservacija | 2015: 12 opservacija |
| | | 2016: 7 opservacija | 2016: 7 opservacija |
| | | 2017: 10 opservacija | 2017: 5 opservacija |
| | | 2018: 10 opservacija | 2018: 2 opservacije |
| | | Σ: 43 opservacije (24,57% uzorka) | Σ: 46 opservacija (26,29% uzorka) |

Izvor: kalkulacija autora.

Relativno niska prosečna efektivna poreska stopa je, takođe, rezultat činjenice da čak 43 opservacije od 115 opservacija sa dobitkom pre oporezivanja nemaju opterećenje porezom na dobitak, odnosno imaju efektivnu poresku stopu od 0%. S druge strane, 14 opservacija od 60 opservacija sa gubitkom pre oporezivanja imaju opterećenje porezom na dobitak. To znači da opservacije sa gubitkom pre oporezivanja koje su imale opterećenje porezom na dobitak ne smeju biti lako zanemarene.

U Tabeli 4 je izvršeno poređenje *av_ETR* i *macro_ETR* za banke u Srbiji za svaku posmatranu godinu. Dodatno, prezentovani su rezultati Mann-Whitney testa.

U skladu sa logikom uključivanja opservacija sa gubitkom pre oporezivanja, u svakoj posmatranoj godini *av_ETR* je niže u odnosu na *macro_ETR*. Dodatno, može se primetiti da se *macro_ETR* smanjuje, odnosno da se razlika između *av_ETR* i *macro_ETR* smanjuje u godinama kada je broj opservacija sa gubitkom pre oporezivanja relativno mali. Efektivna poreska stopa celog bankarskog sektora Srbije (*macro_ETR*) je u tri posmatrane godine niža od propisane stope poreza na dobitak, dok za 2013. godinu nije mogla biti utvrđena usled gubitka

pre oporezivanja koje je zbirno ostvario bankarski sektor Srbije. S obzirom na to da p -vrednost Mann-Whitney testa iznosi 0,045 može se zaključiti da je razlika između av_ETR i $macro_ETR$ statistički značajna na nivou od 5%.

Tabela 4: Poređenje av_ETR i $macro_ETR$

| Godina | av_ETR | $macro_ETR$ |
|----------------|----------------|-----------------|
| 2013. | 3,1632% | /* |
| 2014. | 7,8199% | 61,8234% |
| 2015. | 12,4900% | 25,1134% |
| 2016. | 3,5881% | 13,3670% |
| 2017. | 3,8862% | 6,2894% |
| 2018. | 5,1094% | 7,4537% |
| Ukupno | 5,8619% | 10,5618% |
| Mann-Whitney U | | 4,000 |
| Z | | -2,008 |
| p -vrednost | | 0,045 |

* nije moguće izračunati usled negativnog imenioca.
Izvor: kalkulacija autora.

Rezultati Mann-Whitney testa pokazuju da uključivanje opservacija sa gubitkom pre oporezivanja može značajno uticati na zaključke o opterećenju porezom na dobitak. Ovaj zaključak je u skladu sa stavom koji su izneli Henry i Sansing (2018). Dodatno, to znači da opservacije sa gubitkom pre oporezivanja koje imaju opterećenje porezom na dobitak treba da budu detaljno razmotrene.

Stoga je u Tabeli 5 prikazano svih četrnaest opservacija sa gubitkom pre oporezivanja i opterećenjem porezom na dobitak u posmatranom periodu. Takođe, prikazana je i materijalnost tekućeg rashoda za porez na dobitak, odnosno stepen u kojem poreski rashod pogoršava profitabilnost banke.

Tabela 5: Opservacije sa gubitkom pre oporezivanja i opterećenjem porezom na dobitak

| R.b. | Godina | Naziv banke | Tekući rashod za porez na dobitak (u 000 RSD) | Gubitak pre oporezivanja (u 000 RSD) | Materijalnost tekućeg rashoda za porez na dobitak |
|------|--------|---------------|---|--------------------------------------|---|
| [1] | [2] | [3] | [4] | [5] | [4/5] |
| 1. | 2013. | Expobank | 34 | 504.779 | 0,0067% |
| 2. | 2013. | Jubanka | 785 | 1.558.769 | 0,0504% |
| 3. | 2013. | NLB banka | 946 | 9.886.537 | 0,0096% |
| 4. | 2013. | Piraeus Bank | 1.451 | 1.006.749 | 0,1441% |
| 5. | 2013. | Telenor banka | 699 | 7.438.863 | 0,0094% |
| 6. | 2014. | Addiko Bank | 2.190 | 1.797.592 | 0,1218% |
| 7. | 2014. | NLB banka | 3.153 | 2.170.260 | 0,1453% |
| 8. | 2015. | Jubanka | 7.914 | 937.106 | 0,8445% |
| 9. | 2016. | Addiko Bank | 1.283 | 1.277.225 | 0,1005% |

| R.b. | Godina | Naziv banke | Tekući rashod za porez na dobitak (u 000 RSD) | Gubitak pre oporezivanja (u 000 RSD) | Materijalnost tekućeg rashoda za porez na dobitak |
|---------------|--------|----------------------------|---|--------------------------------------|---|
| 10. | 2016. | Banka Poštanska štedionica | 86 | 6.360.205 | 0,0014% |
| 11. | 2016. | Direktna banka | 91.303 | 188.731 | 48,3773% |
| 12. | 2016. | MTS banka | 1.467 | 284.477 | 0,5157% |
| 13. | 2017. | Bank of China Srbija | 2.691 | 21.862 | 12,3090% |
| 14. | 2017. | Vojvođanska banka | 1.447 | 2.058.137 | 0,0703% |
| Ukupno | | | 115.449 | 35.491.292 | 0,3253% |

Izvor: kalkulacija autora.

Generalno, tekući rashod za porez na dobitak pogoršava profitabilnost posmatranih opservacija za manje od 1%. Ipak, u slučaju dve opservacije materijalnost tekućeg rashoda za porez na dobitak je veća od 10%.

Analizom napomena uz pojedinačne finansijske izveštaje banaka, moguće je identifikovati izvore opterećenja porezom na dobitak posmatranih opservacija, uprkos ostvarenom gubitku pre oporezivanja. Istraživanjem su obuhvaćene napomene uz finansijske izveštaje dvanaest opservacija, s obzirom na to da napomene za dve opservacije nisu javno dostupne. Reč je o bankama koje su preuzete i više nisu aktivne.

Izveštajnim entitetima je ostavljena značajna sloboda u pogledu obelodanjivanja informacija u napomenama uz finansijske izveštaje. Međunarodnim računovodstvenim standardom (MRS) 12 – Porezi na dobitak, je utvrđen minimum informacija o porezu na dobitak koje izveštajni entiteti moraju obelodaniti u napomenama uz finansijske izveštaje. Ipak, banke u Srbiji se značajno razlikuju u pogledu načina i detaljnosti obelodanjivanja o porezu na dobitak.

Od analiziranih dvanaest opservacija, u samo jednoj opservaciji je navedeno da je usklađivanje rashoda uzrok opterećenja porezom na dobitak. Drugim rečima, u napomenama je naveden poreski efekat nepriznatih rashoda, odnosno rashoda koji su priznati u bilansu uspeha, ali ne i u poreskom bilansu. Time je potvrđen stav Šodana (2012) o relativno malom značaju usklađivanja rashoda i prihoda u zemljama bivše SFRJ.

S druge strane, u preostalih jedanaest opservacija je navedeno da porez na kapitalne dobitke predstavlja izvor opterećenja porezom na dobitak. Izuzev toga, u većini opservacija nisu obelodanjene detaljnije informacije o imovini na koju se kapitalni dobitak odnosi. Interesantno je da je najdetaljnija obelodanjivanja izvršila Banka Poštanska štedionica u napomenama uz finansijske izveštaje za 2016. godinu, iako je materijalnost tekućeg rashoda za porez na dobitak u toj opservaciji najniža. Konkretno, u napomenama je navedeno da kapitalni dobici potiču od prodaje dve garaže. Time je potvrđen stav Todrovićeve i saradnika (2019) o značaju poreza na kapitalne dobitke u bankama u Srbiji.

Zaključak

Pitanje poreskog tretmana opservacija sa gubitkom pre oporezivanja u bankarskom sektoru postalo je posebno važno u post-kriznom periodu, s obzirom na to da je značajan broj banaka ostvario gubitak pre oporezivanja. Međutim, neke od tih banaka su imale opterećenje porezom na dobitak, uprkos ostvarenom gubitku.

Istraživanje u ovom radu sprovedeno je sa ciljem objašnjenja opterećenja porezom na dobitak opservacija koje su ostvarile gubitak pre oporezivanja. S tim u vezi, empirijsko istraživanje je obuhvatilo bankarski sektor Srbije u periodu od 2013. do 2018. godine. U tom periodu je propisana stopa poreza na dobitak bila na konstantnom nivou od 15%.

Rezultati istraživanja pokazuju da uključivanje opservacija sa gubitkom pre oporezivanja prilikom izračunavanja efektivne poreske stope značajno utiče na rezultate istraživanja. Naime, u radu je pronađena statistički značajna razlika između efektivnih poreskih stopa obračunatih samo sa opservacijama sa dobitkom pre oporezivanja i efektivnih poreskih stopa obračunatih sa svim opservacijama. Stoga, *prva istraživačka hipoteza se ne može odbaciti*.

U radu su, takođe, istraženi izvori koji dovode do toga da opservacije sa gubitkom pre oporezivanja imaju opterećenje porezom na dobitak. Ključni izvor se može pronaći u oporezivanju kapitalnih dobitaka banke. U Srbiji se kapitalni dobici oporezuju u sklopu poreza na dobitak, ali nezavisno od ostvarenog rezultata iz ostalih aktivnosti banke. S druge strane, usklađivanje rashoda i prihoda nije značajan izvor. Stoga, *druga istraživačka hipoteza se ne može odbaciti*.

Ključni doprinos istraživanja se može pronaći u osvetljavanju pitanja poreskog tretmana opservacija sa gubitkom pre oporezivanja. U većini prethodnih istraživanja se opservacije sa gubitkom pre oporezivanja eliminišu na početku i istraživanje se sprovodi isključivo sa opservacijama sa dobitkom pre oporezivanja. Dodatno, istraživanje ukazuje na značaj poreza na kapitalne dobitke za sprovođenje poreskih istraživanja u Srbiji.

Rad pruža alternativne mogućnosti za procenu opterećenja porezom na dobitak bankarskog sektora Srbije – jednu sa korišćenjem samo opservacija sa dobitkom pre oporezivanja i jednu sa korišćenjem svih opservacija. U tom smislu, autor veruje da se rezultati istraživanja mogu koristiti prilikom budućih poreskih analiza u bankarskom sektoru.

Ključno ograničenje rada se nalazi u tome da je istraživanje obuhvatilo banke iz samo jedne države. Uzevši u obzir značajne razlike u nacionalnim sistemima poreza na dobitak, rezultati istraživanja ne trebaju biti analogno preneti na banke u drugim državama. S obzirom na rastuće performanse bankarskog sektora u Srbiji, u narednim godinama se može očekivati manji broj opservacija sa gubitkom pre oporezivanja. Stoga bi bilo interesantno sprovesti istraživanje za nekoliko godina i uporediti rezultate tog istraživanja sa prezentovanim rezultatima.

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Prilog

Spisak uzorkovanih banaka

| Naziv banke | Matični broj | Period |
|-------------------------------|--------------|------------|
| Addiko Bank | 07726716 | 2013-2018. |
| AIK banka | 06876366 | 2013-2018. |
| API Bank | 20439866 | 2013-2018. |
| Banca Intesa | 07759231 | 2013-2018. |
| Bank of China Srbija | 21251640 | 2017-2018. |
| Banka Poštanska štedionica | 07004893 | 2013-2018. |
| Credit Agricole banka Srbija | 08277931 | 2013-2018. |
| Direktna banka | 07654812 | 2013-2018. |
| Erste Bank | 08063818 | 2013-2018. |
| Eurobank | 17171178 | 2013-2018. |
| Expobank | 07534183 | 2013-2018. |
| Findomestic banka | 17076841 | 2013-2016. |
| Halkbank | 07601093 | 2013-2018. |
| Jubanka | 07736681 | 2013-2016. |
| JUBMES banka | 07074433 | 2013-2018. |
| Jugobanka Jugbanka | 09023321 | 2013-2017. |
| Komercijalna banka | 07737068 | 2013-2018. |
| Mirabank | 21080608 | 2015-2018. |
| MTS banka | 09081488 | 2013-2018. |
| NLB banka | 08250499 | 2013-2018. |
| Opportunity banka | 08761132 | 2013-2018. |
| OTP banka Srbija | 08603537 | 2013-2018. |
| Piraeus Bank | 17082990 | 2013-2017. |
| ProCredit Bank | 17335677 | 2013-2018. |
| Raiffeisen banka | 17335600 | 2013-2018. |
| Sberbank Srbija | 07792247 | 2013-2018. |
| Societe Generale banka Srbija | 07552335 | 2013-2018. |
| Srpska banka | 07092288 | 2013-2018. |
| Telenor banka | 17138669 | 2013-2018. |
| Unicredit bank Srbija | 17324918 | 2013-2018. |
| Univerzal banka | 06031676 | 2013-2013. |
| Vojvođanska banka | 08074313 | 2013-2018. |

Loss Before Taxation and Corporate Tax: The Example of Banks from Serbia

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Summary: It is usually considered that banks with income before taxation pay corporate tax, while banks with loss before taxation do not. However, it is possible that a bank with loss before taxation incurs corporate tax expense due to the separate calculation of result before taxation in income statement and taxable income in the tax balance. This paper examines why and to which extent banks with loss before taxation have a corporate tax burden. Empirical research captured the whole banking system of Serbia in period between 2013 and 2018. In this regard, a sample of 175 observations was formed. Research results show that the inclusion of observations with loss before taxation significantly impacts the estimation of corporate tax burden of the banking sector of Serbia. In addition, capital gains tax is the most common source of corporate tax burden in observations with loss before taxation. On the other hand, the adjustment of expenses and revenue in tax balance has less impact on corporate tax burden in observations with loss before taxation.

Keywords: profitability, result before taxation, observations with loss, corporate tax, banks

JEL: G21, H25

Introduction

In stiff competition circumstances, the minimization of expenses is the main (sometimes even the only) mode of increasing the banks' efficiency (Barbuski, 2013). One of the main categories of expenses that may be efficiently managed by banks is the corporate tax expense.

The banking sector of Serbia experienced a turbulent period in the two decades of XXI century. At the begging of the XXI century, the banking sector of Serbia came through the process of ownership transformation and foreign capital inflow (Dimić & Barjaktarović, 2017). In addition, the performances of the banking sector of transitioning countries were negatively affected by the global economic crisis (Dreca, 2012).

Corporate tax of banks has become an important issue with the inflow of the foreign capital in the banking sector of Serbia. In this regard, Claessens et al. (2001) argue that banks with foreign ownership have higher profitability and, as a result, pay more corporate tax in developing countries compared to the banks with domestic ownership.

The corporate tax burden is usually measured by effective tax rates that usually employ income before taxation in the denominator. It implies that observations with loss before taxation are usually eliminated from the tax research. On the other hand, it is possible that observations with loss before taxation have a corporate tax burden due to the adjustment of expenses and revenue with the tax law and payment of capital gains tax. Therefore, it is important to examine how the inclusion of observations with loss before taxation affects the conduction of tax research.

The subject of the paper is taxation of income of banks in Serbia. Performances of the banking sector have been experiencing a growing trend in the last years, though there is still significant room for their improvement – primarily due to the fact that banks have high level of liquidity reserves that are not invested in alternatives that yield a high return (Todorović et al., 2018).

In line with the defined subject of the paper, two main objectives of the paper have been identified. The first objective of the paper is to examine the impact of observations with loss before taxation on the estimation of the corporate tax burden of the banking sector of Serbia. The second objective of the paper is to determine the sources of corporate tax burden in observations with loss before taxation.

In accordance with the subject and objectives, the paper empirically tested the following hypotheses:

H₁: Inclusion of observations with loss before taxation has a significant impact on estimation of corporate tax burden of banks in Serbia.

H₂: Capital gains tax is the most common source of corporate tax burden of banks in Serbia in observations with loss before taxation.

The findings in this paper contribute to the research results in two relatively poorly researched issues. Taxation of income of banks in Serbia, as well as the importance of observations with loss before taxation at the global level

are two research issues needing additional research. Research results may be of interest to many interest groups. Primarily, results may be of interest to National Bank of Serbia (as a controller of banking system) and Tax Administration of Serbia (as a national tax authority) during the estimations of corporate tax burden of the banking sector of Serbia. In addition, the results may be of interest to management of banks during the projections of profitability and corporate tax burden of banks.

Loss Before Taxation and Measurement of the Corporate Tax Burden

Considering that corporate tax assumes the permanent outflow of monetary resources in the favor of a country, the corporate tax burden has been a research subject for many decades. In this regard, a number of corporate tax burden measures have been developed with the effective tax rate being the most commonly used measure (Wu et al., 2012). The effective tax rate is usually given as a relation between the corporate tax burden and some of the accounting results.

Result before taxation is most commonly used in the denominator of the effective tax rate due to the confidentiality of tax balance data (primarily data on the taxable income amount). It is often considered that result before taxation is the closest approximation of taxable income from the tax balance. In addition, Eberhartinger and Klostermann (2007) find that the corporate tax burden would not significantly differ if income before taxation was employed as a tax base instead of taxable income.

If a bank, in the observed year, reported loss before taxation, the effective tax rate becomes negative and does not have clear economic meaning. Therefore, in several research (for instance, Richardson & Lanis, 2007; Stamatopoulos et al., 2019; Todorović et al., 2019) observations or companies with loss before taxation are eliminated, so the research sample consists only of observations with income before taxation.

As early as the XX century, Siegfried (1974) pointed out the importance of observations with loss before taxation, arguing that a particular problem may occur when analyzing panel data. For instance, a bank reported loss before taxation and, as a result, the observation with loss before taxation has been eliminated. On the other hand, if the bank reports an income in the next year, the observation with income before taxation will be captured and corresponding corporate tax burden will be lower due to the utilization of the prior year tax loss carryforward. Such analysis leads to underestimation of effective tax rates.

Eliminating observations with loss with before taxation is particularly problematic when observations have a corporate tax burden despite loss before taxation. It is especially possible in countries with separated activities of calculation of result before taxation and taxable income due to the respect of different objectives of financial and tax reporting (Huang & Wang, 2013). Thus, it is possible that a bank reports loss before taxation, but taxable income and corporate tax burden on this basis.

In the past, attempts to include observations with loss before taxation in the calculation of effective tax rates were recorded. In this regard, Gupta and Newberry (1997) limit the effective tax rate at the minimum of 0% and maximum of 100%. Then, observations with loss before taxation without corporate tax burden have an effective tax rate of 0%, while observations with loss before taxation and corporate tax burden have an effective tax rate of 100%.

Considering that the method implemented by Gupta and Newberry (1997) leads to a significantly more artificial analysis, some authors developed different methods of capturing observations with loss before taxation. The relation between corporate tax expense (or corporate tax paid) and total assets may be a measure of corporate tax burden (Jansky & Prats, 2015). Such measure captures observations with loss before taxation without methodological problems. However, this measure does not account for bank profitability.

Henry and Sansing (2018) capture observations with loss before taxation and measure the corporate tax burden by deduct the product of statutory corporate tax rate and result before taxation from the corporate tax paid. In order to enable cross-company comparison, the given amount is divided by the market value of total assets.

If this measure is higher than null, then the corporate tax burden of bank is higher than the statutory burden. If the measure is equal to null, then the tax burden is equal to the statutory. Finally, if the value of this measure is lower than null, then the tax burden of the bank is lower than statutory. Using this measure, Henry and Sansing (2018) offer significantly different research results than the traditional using of effective tax rates.

In practice, it is not always easy to draw conclusion on the sources of corporate tax burden of a bank that reported loss before taxation, primarily due to the confidentiality of tax reports and systematic differences in disclosures on corporate tax (Kvaal & Nobes, 2013). Due to the specificities of national corporate tax systems, sources of such circumstance may vary between different countries.

Profitability and Corporate Tax of Banks in Serbia

The banking sector of Serbia experienced many turbulent events in the last three decades. Important decrease of profitability of banking sector was recorded in the 1990s due to the big recession, financial market anomalies and a lack of appropriate regulation (Mihailović et al., 2009).

Radić (2018) notes that, on the average, banks in Serbia reported negative rates of return on total assets (ROA) and shareholders' equity (ROE) in the period between 2008 and 2016, primarily due to the extreme negative values for certain banks (for instance, Srpska Banka or Telenor Bank). However, the profitability of banking sector in Serbia has been experiencing a constant growth since 2015 (Vesić et al., 2019).

Alihodžić (2017) finds significant differences in profitability between banks in Serbia, since certain banks have, *inter alia*, bad credit policy, high credit risk exposure and high operative expenses. The profitability of banks also varies

depending on the type of bank ownership – domestic or foreign, and the way of entrance of foreign banking group on Serbian banking market – greenfield or acquisition (Erić et al., 2019).

In general, in countries of the former Socialist Federal Republic of Yugoslavia (SFRY) the calculation of income before taxation and taxable income are two separate activities (Novak & Valentinčić, 2017). In order to analyze differences between income before taxation and taxable income in Serbia, it is necessary to understand the contents of tax balance in Serbia. Summarized and simplified tax balance is presented in Table 1.

In accounting practice, the tax balance is often divided into operating and capital subbalance. Operating subbalance is the more complex part of the tax balance and assumes elimination of gains and losses from assets sale (calculated in line with International Financial Reporting Standards) from the result before taxation, and the adjustment of expenses and revenues with the tax law. If the adjusted result is positive (adjusted income), a bank may reduce it on behalf of prior year' tax loss carryforward.

Table 1: Simplified Tax Balance

| I Operating subbalance | |
|--|-----------------------------------|
| | Result before taxation |
| | ± gains (losses) from assets sale |
| | ± adjustment of expenses |
| | ± adjustment of revenue |
| | Adjusted result |
| | - tax loss carryforward |
| 1 | Income surplus* |
| II Capital subbalance | |
| | Current capital gains |
| | - current capital losses |
| | - capital losses carryforward |
| 2 | Capital gains surplus* |
| 1+2 | Taxable income |
| * if a position is negative, insert 0. | |

Due to the adjustment of result before taxation, it is possible that a bank with loss before taxation (presented in the income statement) steps into the income zone for purposes of tax calculation. This may primarily occur due to the certain expenses (such as representation costs) not deductible for tax purposes. Avi-Yonah and Lahav (2012) conclude that considerable differences between result before taxation and taxable income primarily occur when the profitability of taxpayer is close to zero. On the other hand, based on the research of Šodan (2012), it may be noted that differences between result before taxation and taxable income are often not large in countries of the former SFRY, considering that result before taxation represents the starting point for the calculation of taxable income.

The second part of the tax balance in Serbia is capital subbalance. Taxation of capital gains realized on sale of assets is independent from the reported

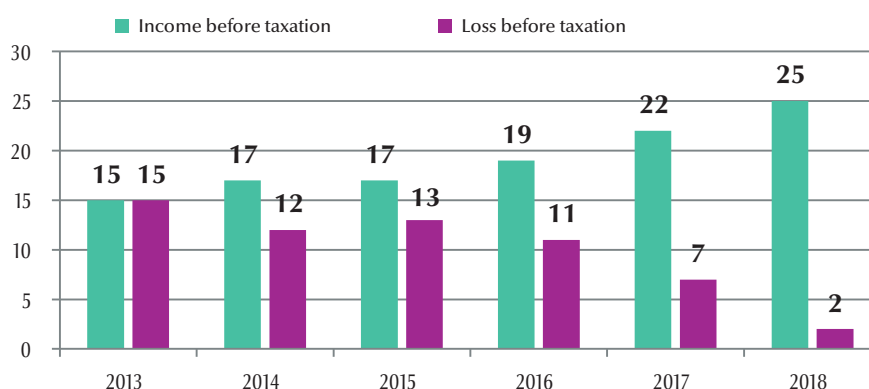
result from other activities. Analogous to the operating subbalance, a bank has a right to reduce tax liability on behalf of prior years' capital loss tax carryforward. Todorović et al. (2019) argue that capital gains are a key source of corporate tax burden in observations with loss before taxation in the banking sector of Serbia.

Corporate Profit Tax Law (The official Gazette of the RS, no. 86/2019) prescribed that capital gains tax is paid on the basis of sale of the real estate, intellectual property rights, long-term financial investments and investment units purchased from open-end investment funds. In addition, capital gains are calculated as a difference between the selling price and the purchase price, whereby the purchase price is reduced for the amount of depreciation, in accordance with tax law.

Therefore, taxable income is a sum of income surplus and capital gains surplus from the operating and capital subbalance, respectively. If one of these two components is negative, it is not considered in the calculation of taxable income.

There are 175 observations that may be identified in the banking sector of Serbia in the period between 2013 and 2018. In this regard, 115 observations (65.71%) reported income before taxation, while 60 observations (34.29%) reported loss before taxation. Distribution of observations according to the result before taxation by years is presented on the Figure 1.

Figure 1: Distribution of Observations According to the Result Before Taxation



Source: author's calculation.

Considering that they represent more than 30% of the sample, observations with loss before taxation should not be omitted. On the other hand, the number of observations with loss before taxation has a declining trend, supporting the findings about growing trend of profitability of banking sector in Serbia (Todorović et al., 2018; Vesić et al., 2019).

Research Methodology and Data

Empirical research in this paper is conducted in order to explain the corporate tax burden of observations that reported loss before taxation in the banking sector of Serbia. In this regard, this paper compares the effective tax rate that does not capture observations with loss before taxation and the effective tax rate that captures observations with loss before taxation.

The effective tax rate that does not capture observations with loss before taxation is labeled as average effective tax rate (*av_ETR*). It is calculated as an arithmetic mean of the effective tax rate for the observations with income before taxation.

The effective tax rate that captures observations with loss before taxation is labeled as macro effective tax rate (*macro_ETR*) as it captures the whole banking sector regardless of recorded profitability. It is calculated as a relation between the sum of corporate tax burden and the sum of result before taxation of each observation in the observed year.

Mathematically, the method of calculation of *av_ETR* and *macro_ETR* for the year *t* can be presented as follows:

$$av_ETR_t = \frac{\sum_{i=1}^n ETR_{i,t}}{n} = \frac{\sum_{i=1}^n \frac{CTE_{i,t}}{PTR_{i,t}}}{n} \quad \forall PTR_{i,t} > 0 \quad (1)$$

$$macro_ETR_t = \frac{\sum_{i=1}^n CTE_{i,t}}{\sum_{i=1}^n PTR_{i,t}} \quad (2)$$

, whereas *ETR* denotes effective tax rate, *CTE* denotes current corporate tax expense as an approximation of corporate tax burden, while *PTR* denotes result before taxation of the observation *i* from the total of *n* observations. It should be noted that the number of observations (*n*) will be lower when calculating *av_ETR* when at least one observation in the observed sample reports loss before taxation.

When observations with loss before taxation occur, it is rational to assume that *macro_ETR* will be higher than *av_ETR*.

In this paper is examined whether the difference between *av_ETR* and *macro_ETR* is statistically significant. Since the sample size is relatively small (only six years), the paper employed the non-parametric Mann-Whitney test for testing the significance between the two independent groups.

Corporate tax burden is measured by current corporate tax expense showed in the income statement of the bank. This value may be treated as the representative approximation of the corporate tax burden, since it is calculated in the tax return for the corporate tax. Current corporate tax expense has been widely used as an approximation of corporate tax burden of banks in Serbia (Todorović et al., 2019; Vržina, 2019). Current corporate tax cannot be negative in Serbia, since banks in Serbia are not allowed to use tax loss carryback on the basis of corporate tax paid in prior years.

This research included each commercial bank in Serbia, active between 2013 and 2018. During the observed period, the statutory tax rate was 15% with flat system of taxation. Thus, there are identified 175 observations. A list of sampled banks by years is presented in the Appendix.

Data on current corporate tax expense and result before taxation has been retrieved from statutory financial statements of banks. Despite their historical orientation, financial statements are the most objective basis to track the banks' operations (Jakšić et al., 2011). Sources for the corporate tax burden in observations with loss before taxation have been found in notes to the statutory financial statements of banks. All the data has been retrieved from the Business Registers Agency of the Republic of Serbia (www.apr.gov.rs) and official Internet presentations of banks. Considering that most of the financial statements of the banks in Serbia are audited by well-known accounting companies (the big four accounting companies) and that most of the banks have unqualified audit opinions (Stanišić et al., 2013), retrieved data can be treated as reliable.

Research Results

The presentation of research results begins with the results of descriptive statistics for the effective tax rate of banks, calculated as a relation between the current corporate tax expense and income before taxation. Descriptive statistics is presented in Table 2.

Table 2: Descriptive Statistics for the Effective Tax Rate

| Number of observations | 115 |
|-----------------------------|-----------|
| Arithmetic mean | 5.8619% |
| Minimum | 0.0000% |
| 25 th percentile | 0.0000% |
| Median | 0.2837% |
| 75 th percentile | 8.8558% |
| Maximum | 112.0843% |
| Standard deviation | 13.3175% |

Source: author's calculation.

Effective tax rates of banks are, on the average, considerably lower than the statutory corporate tax rate. In this regard, the arithmetic mean is considerably higher than the effective tax rate median, indicating unusually high extreme values of effective tax rates. These results are consistent with the results of prior research on corporate tax burden of banks in Serbia (Todorović et al., 2019; Vržina, 2019). Prior research also argues that relatively low effective tax rates of banks in Serbia are primarily result of interest revenue on government securities that are exempt from taxable income and prior years' tax loss carryforward.

The next part of the research is the corporate tax matrix that shows the distribution of observations according to the result before taxation and the exist-

ence of corporate tax burden. Corporate tax matrix is presented in Table 3. Observations with loss before taxation and corporate tax burden are colored grey, since these observations are the key group of observations in this paper.

Table 3: Corporate Tax Matrix

| | | Result before taxation | |
|-------------------------------|-----|--|--|
| | | > 0 (income) | < 0 (loss) |
| Current corporate tax expense | > 0 | 2013: 8 observations | 2013: 5 observations |
| | | 2014: 13 observations | 2014: 2 observations |
| | | 2015: 12 observations | 2015: 1 observation |
| | | 2016: 12 observations | 2016: 4 observations |
| | | 2017: 12 observations | 2017: 2 observations |
| | | 2018: 15 observations | 2018: 0 observations |
| | | Σ: 72 observations (41.14% of sample) | Σ: 14 observations (8.00% of sample) |
| | = 0 | 2013: 7 observations | 2013: 10 observations |
| | | 2014: 4 observations | 2014: 10 observations |
| | | 2015: 5 observations | 2015: 12 observations |
| | | 2016: 7 observations | 2016: 7 observations |
| | | 2017: 10 observations | 2017: 5 observations |
| | | 2018: 10 observations | 2018: 2 observations |
| | | Σ: 43 observations (24.57% of sample) | Σ: 46 observations (26.29% of sample) |

Source: author's calculation.

Relatively low average effective tax rate is also the result of the fact that 43 observations of the 115 observations with income before taxation do not have corporate tax burden, i.e. have an effective tax rate of 0%. On the other hand, 14 observations of the 60 observations with loss before taxation have corporate tax burden. It means that observations with loss before taxation and corporate tax burden should not be easily omitted.

Table 4 compares *av_ETR* and *macro_ETR* for banks in Serbia, for each observed year. In addition, the results of the Mann-Whitney test are presented there.

In line with the logic of capturing observations with loss before taxation, *av_ETR* is lower than *macro_ETR* in each observed year. In addition, it should be noted that *macro_ETR* and the difference between *av_ETR* and *macro_ETR* decrease in years when the number of observations with loss before taxation is relatively small. The effective tax rate of the whole banking sector of Serbia (*macro_ETR*) is lower than the statutory corporate tax rate in three years, while it could not be calculated for 2013 due to the aggregated loss before taxation of the banking sector of Serbia. Considering that the *p*-value of the Mann-Whitney test is 0.045 it can be concluded that the difference between *av_ETR* and *macro_ETR* is statistically significant at the level of 5%.

Table 4: Comparison of the av_ETR and macro_ETR

| Year | av_ETR | macro_ETR |
|----------------|----------|-----------|
| 2013 | 3.1632% | /* |
| 2014 | 7.8199% | 61.8234% |
| 2015 | 12.4900% | 25.1134% |
| 2016 | 3.5881% | 13.3670% |
| 2017 | 3.8862% | 6.2894% |
| 2018 | 5.1094% | 7.4537% |
| Pooled | 5.8619% | 10.5618% |
| Mann-Whitney U | | 4.000 |
| Z | | -2.008 |
| p-value | | 0.045 |

* cannot calculate due to negative denominator.
Source: author's calculation.

Results of the Mann-Whitney test show that the inclusion of observations with loss before taxation may significantly affect the conclusions about the corporate tax burden. This finding is consistent with the arguments of Henry and Sansing (2018). In addition, it implies that the observations with loss before taxation and corporate tax burden should be considered in detail.

Therefore, Table 5 shows all fourteen observations with loss before taxation and corporate tax burden in the observed period. In addition, it shows the materiality of the current corporate tax expense, i.e. the extent to which tax expense decreases the bank's profitability.

Table 5: Observations with Loss Before Taxation and Corporate Tax Burden

| No. | Year | Company name | Current corporate tax expense (in 000 RSD) | Loss before taxation (in 000 RSD) | Materiality of current corporate tax expense |
|---------------|------|----------------------|--|-----------------------------------|--|
| [1] | [2] | [3] | [4] | [5] | [4/5] |
| 1 | 2013 | Expobank | 34 | 504,779 | 0.0067% |
| 2 | 2013 | Jubanka | 785 | 1,558,769 | 0.0504% |
| 3 | 2013 | NLB Bank | 946 | 9,886,537 | 0.0096% |
| 4 | 2013 | Piraeus Bank | 1,451 | 1,006,749 | 0.1441% |
| 5 | 2013 | Telenor Bank | 699 | 7,438,863 | 0.0094% |
| 6 | 2014 | Addiko Bank | 2,190 | 1,797,592 | 0.1218% |
| 7 | 2014 | NLB Bank | 3,153 | 2,170,260 | 0.1453% |
| 8 | 2015 | Jubanka | 7,914 | 937,106 | 0.8445% |
| 9 | 2016 | Addiko Bank | 1,283 | 1,277,225 | 0.1005% |
| 10 | 2016 | Postal Savings Bank | 86 | 6,360,205 | 0.0014% |
| 11 | 2016 | Direktna Bank | 91,303 | 188,731 | 48.3773% |
| 12 | 2016 | MTS Bank | 1,467 | 284,477 | 0.5157% |
| 13 | 2017 | Bank of China Serbia | 2,691 | 21,862 | 12.3090% |
| 14 | 2017 | Vojvodanska Banka | 1,447 | 2,058,137 | 0.0703% |
| Pooled | | | 115,449 | 35,491,292 | 0.3253% |

Source: author's calculation.

In general, current corporate tax expense decreases profitability of observed observations for less than 1%. However, in the case of two observations, the materiality of current corporate tax expense is higher than 10%.

The analysis of notes to the statutory financial statements of banks enables the identification of sources of corporate tax burden of observed observations that reported loss before taxation. Research captures notes to the financial statements of twelve observations, considering that notes for two observations are not available. These two banks are acquired and are not active.

Reporting entities have considerable freedom in terms of disclosure of information in notes to the financial statements. The International Accounting Standard (IAS) 12 – Income Taxes, prescribes a minimum of information that reporting entities must disclose in the notes to the financial statements. However, banks in Serbia significantly differ in terms of the method and the details of corporate tax disclosure.

Out of the twelve observations, only one observation stated that the adjustment of expenses is the source of corporate tax burden. In other words, the notes stated the tax effect of non-deductible expenses, i.e. expenses that are recognized in the income statement, but not in the tax balance. This supports the argument of Šodan (2012) on the relatively low importance of adjustment of expenses and revenues in countries of the former SFRY.

On the other hand, in the other eleven observations it is stated that capital gains tax represents the source of corporate tax burden. Except that, in most of the observations detailed information is not disclosed about the assets that made capital gains. It is interesting that the most detailed disclosure was made by the Postal Savings Bank in notes to the financial statements for 2016, although the materiality of current corporate tax expense in this observation is the lowest. Specifically, it is stated in the notes that capital gains were made from the sale of two garages. These support the argument of Todorović et al. (2019) on the importance of capital gains tax in banks in Serbia.

Conclusion

An issue of the tax treatment of observations with loss before taxation in the banking sector has become especially important in the post-crisis period, since an important portion of banks reported loss before taxation. However, some of these banks had corporate tax burden despite reported loss.

Research in this paper has been conducted in order to explain the corporate tax burden of observations that reported loss before taxation. In this regard, empirical research captured the banking sector of Serbia in the period between 2013 and 2018. In this period the statutory corporate tax rate was at the constant level of 15%.

Research results show that the inclusion of observations with loss before taxation in the calculation of effective tax rates significantly affects the results of the research. Namely, the paper found statistically significant difference between effective tax rates calculated only with observations with income

before taxation and effective tax rates calculated with all observations. Therefore, *the first research hypothesis cannot be rejected.*

The paper also examined the sources that produce corporate tax burden in observations with loss before taxation. Key source may be found in taxation of capital gains of bank. In Serbia, capital gains are taxed as a part of corporate taxation, but independently from the recorded results from other bank activities. On the other hand, the adjustment of expenses and revenues is not an important source. Therefore, *the second research hypothesis cannot be rejected.*

The key contribution of the research may be found in shedding light on an issue of the tax treatment of observations with loss before taxation. In most of the prior research observations with loss before taxation are eliminated at the beginning and the research is carried out only with observations with income before taxation. In addition, research points out at the importance of capital gains tax when conducting tax research in Serbia.

The paper offers alternative possibilities for the estimation of corporate tax burden of the banking sector of Serbia – one using only the observations with income before taxation, and one using all the observations. In this regard, the author believes that the research results may be useful during a future tax analysis of the banking sector.

The main limitation of the paper is found in the fact that the research captured banks from only one country. Considering the important differences in the national systems of corporate tax, research results should not be analogously applied to banks in other countries. Considering the growing performances of banking sector in Serbia, a smaller number of observations with loss before taxation may be expected in the future. Therefore, it would be interesting to conduct research in a few years and compare these results with the presented ones.

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Appendix

The List of Sampled Banks

| Bank name | Identification number | Period |
|------------------------------|-----------------------|-----------|
| Addiko Bank | 07726716 | 2013-2018 |
| AIK Bank | 06876366 | 2013-2018 |
| API Bank | 20439866 | 2013-2018 |
| Banca Intesa | 07759231 | 2013-2018 |
| Bank of China Srbija | 21251640 | 2017-2018 |
| Credit Agricole banka Srbija | 08277931 | 2013-2018 |
| Direktna Banka | 07654812 | 2013-2018 |
| Erste Bank | 08063818 | 2013-2018 |
| Eurobank | 17171178 | 2013-2018 |
| Expobank | 07534183 | 2013-2018 |
| Findomestic banka | 17076841 | 2013-2016 |
| Halkbank | 07601093 | 2013-2018 |
| Jubanka | 07736681 | 2013-2016 |
| JUBMES Banka | 07074433 | 2013-2018 |
| Jugobanka Jugbanka | 09023321 | 2013-2017 |
| Komercijalna Banka | 07737068 | 2013-2018 |
| Mirabank | 21080608 | 2015-2018 |
| MTS Bank | 09081488 | 2013-2018 |
| NLB Bank | 08250499 | 2013-2018 |
| Opportunity Bank | 08761132 | 2013-2018 |
| OTP Banka Serbia | 08603537 | 2013-2018 |
| Piraeus Bank | 17082990 | 2013-2017 |
| Postal Savings Bank | 07004893 | 2013-2018 |
| ProCredit Bank | 17335677 | 2013-2018 |
| Raiffeisen Bank | 17335600 | 2013-2018 |
| Sberbank Serbia | 07792247 | 2013-2018 |
| Societe Generale Bank Serbia | 07552335 | 2013-2018 |
| Srpska Banka | 07092288 | 2013-2018 |
| Telenor Bank | 17138669 | 2013-2018 |
| Unicredit Bank Serbia | 17324918 | 2013-2018 |
| Univerzal Bank | 06031676 | 2013-2013 |
| Vojvođanska Banka | 08074313 | 2013-2018 |