PREGLEDNI RAD

Branimir Kalaš*
Vera Mirović**

Teorijski aspekt optimalnog oporezivanja u javnim finansijama

Theoretical aspect of optimal taxation in public finance

Rezime

Porezi predstavljaju fundamentalni izvor prihoda svake ekonomije i najvažniji segment fiskalne politike. Suština poreskih oblika manifestuje se kroz potrebu prikupljanja sredstava neophodnih za finansiranje javnih rashoda i zadovoljenje javnih potreba. U radu se objašnjava teorijski koncept optimalnog oporezivanja sa stanovišta merenja poreskog opterećenja, osnovnih poreskih načela i prikaza Laferove krive. Takođe, optimalna struktura poreza objašnjena je kroz Remzijevo pravilo. Rad treba da doprinese proširenju teorijskog opusa o problematici optimalnog oporezivanja i ukaže na značaj optimalne poreske strukture koja će biti u funkciji poboljšanja makroekonomskog okvira jedne zemlje.

Ključne reči: *porezi, optimalna teorija, Laferova kriva, Remzijevo pravilo.*

Abstract

Taxes are fundamental source of revenues for every economy and the most important segment of fiscal policy. The essence of tax forms is manifested through need to collect funds necessary to finance public expenditures and meet public needs. The paper explains the theoretical concept of optimal taxation from aspect of measuring tax burden, basic tax principles and Lafer curve. Likewise, optimal tax structure is explained by Ramsey rule. The paper should contribute to expansion of theoretical opus on optimal taxation problem and points to importance of an optimal tax structure which will be in the function of improving macroeconomic framework of a country.

Keywords: *taxes, optimal theory, principle, Laffer curve, Rasmey rule.*

*   Asistent, Univerzitet u Novom Sadu, Ekonomski fakultet u Subotici, e-mail: branimir.kalas@ef.uns.ac.rs
**   Docent, Univerzitet u Novom Sadu, Ekonomski fakultet u Subotici, e-mail: vera.mirovic@ef.uns.ac.rs

UVOD

Posmatrajući istoriju javnih finansija, možemo uočiti snažnu tendenciju uporednog razvoja poreskih sistema i promene ciljeva oporezivanja, pri čemu je ona naročito izražena od vremena nastanka kapitalizma. Naime, porezi dobijaju sve više na značaju, pri čemu se prvobitno opredeljen cilj u vidu prikupljanja sredstava radi finansiranja javnih potreba, kompletiran ciljevima koji su snažno povezani sa ekonomskom, socijalnom i demografskom politikom države. Time je naglašena šira dimenzija poreza u makroekonomskom okviru države. Iako postoji značajna sličnost između poreskih sistema zemalja u svetu, izvesne razlike su evidentne i one proizlaze iz društvenih, političkih, ekonomskih i kulturoloških komponenti. Shodno tome, veličina teritorije, broj stanovnika, bruto domaći proizvod po glavi stanovnika, ekonomska struktura, odnos izvoza i uvoza i bruto domaćeg proizvoda predstavljaju važne komponente koje utiču na nivo i strukturu oporezivanja. Poreski sistemi obuhvataju više poreskih oblika i nastaju kao posledica potrebe uvažavanja principa pravičnosti i ravnomernosti raspodele poreskog tereta (Kalaš, Mirović, Andrašić, 2017). U uslovima poreskog monizma, gde je bio zastupljen jedan poreski oblik, ova načela su bila ozbiljno narušena, uz istovremeni problem nedovoljne izdašnosti prihoda po osnovu poreza. Kako bi se utvrdilo da li poreski oblici imaju pozitivne ili štetne implikacije na ekonomske tokove, neophodno je determinisati stepen njihovog učešća i odrediti da li su na optimalnom nivou.

1. TEORIJSKI KONCEPT OPTIMALNOG OPOREZIVANJA

Optimalnost oporezivanja podrazumeva utvrđivanje limita oporezivanja koje se meri putem poreskog odnosa koji manifestuje odnos poreskih prihoda prema bruto društvenom proizvodu. To podrazumeva da poreski odnos prikazuje kretanje poreskog udela u raspodeli novostvorene vrednosti jedne ekonomije. Posmatrajući teorijske i empirijske nalaze, nameće se potreba definisanja maksimalnog i minimalnog nivoa granice oporezivanja. Kao prvo, empirijska analiza ukazuje na to da OECD zemlje sa višim tax ratio imaju niže stope rasta u odnosu na ostale zemlje sa manjim učešćem ovog indikatora (Bhattarai, 2010). (Besley, Persson, 2014) navode da je učešće prikupljenih prihoda po osnovu poreza između 10% i 20% bruto domaćeg proizvoda u slabo razvijenim zemljama (Besley, Persson, 2014), dok je u poslednjih petnaest godina došlo do pada učešća poreskih prihoda u tranzicionim zemljama (Turley, 2006). S druge strane, prosečno učešće poreskih prihoda u visokorazvijenim zemljama često prelazi i 40% bruto domaćeg proizvoda (Besley, Persson, 2014). Prilikom definisanja gornje granice oporezivanja, potrebno je imati u vidu društveni i ekonomski aspekt koji se se ogleda kroz dostignuti nivo akumulacije privrede i stepen životnog standarda stanovništva. Kod određivanja donje granice oporezivanja naročito se ističe socijalni aspekt u vidu egzistencijalnog minimuma. Shodno poreskom odnosu, može se izvršiti klasifikacija zemalja u četiri grupe (Adelman, Morris, 1973):

– zemlje sa prosečno uspešnim poreskim sistemom, gde je učešće poreskih prihoda u bruto domaćem proizvodu manje od 15%, dok učešće direktnih poreza u poreskim prihodima iznosi najmanje 20%;

– zemlje sa ograničeno uspešnim poreskim sistemom, gde učešće poreskih prihoda u bruto domaćem proizvodu iznosi najmanje 15%, dok učešće direktnih poreza u poreskim prihodima iznosi iznosi najmanje 10%;

– zemlje sa relativno uspešnim poreskim sistemom, gde učešće poreskih prihoda u bruto domaćem proizvodu varira između 10% i 14%, dok učešće direktnih poreza u poreskim prihodima iznosi manje od 10%;

– zemlje sa neefikasnim poreskim sistemom, gde učešće poreskih prihoda u bruto domaćem proizvodu iznosi manje od 10%.

1.1. Optimalna teorija oporezivanja

Neophodnost utvrđivanja optimalnog nivoa poreskih oblika predstavlja važan uslov prilikom merenja njihovih uticaja na fundamentalne makroekonomske agregate. (Kaplow, Princeton, 2011) navode značaj optimalnog oporezivanja, pri čemu ova teorijska konstrukcija polazi od pretpostavke da poreski sistem mora biti u funkciji maksimiziranja društvenog blagostanja. (Mankiw at al., 2009, str.149) Istovremeno, fokus je na troškovima oporezivanja, kao i na njihovom smanjenju (Slemrod, 1990). Banks i Diamond (Banks, Diamond, 2010, str. 557) navode kako porezi moraju biti postavljeni na nivou koji omogućava ravnotežu između jednakosti i efikasnosti. Kao za svaki teorijski koncept, postoje zagovornici koji naglašavaju relevantnost ove teorije, kao i kritičari koji ističu da teorija nije dala robustne rezultate. To se prvenstveno odnosi na koliziju teoretičara i praktičara javnih finansija, koji tvrde da teorija ne daje konkretne i korisne savete u politici (Sorrensen, 2007). Svaki poreski oblik može dovesti do potencijalnih poremećaja u raspodeli dohotka, pri čemu treba voditi računa o neutralisanju tih efekata. Brummerhoff (Brummerhoff, 2000, str.279) ističe da, ako svi poreski oblici uzrokuju poremećaje u alokaciji, onda se ne može ostvariti optimum u raspodeli dohotka u tržišnim uslovima. Oporezivanje određenog dobra g putem proporcionalne stope t_{xg} prouzrokovaće poremećaj koji se može neutralisati odgovarajućim opterećenjem drugog dobra s.

$$MRS_{gs} = \frac{(1+txg)}{1+txs} = \frac{\rho 1}{\rho 2} = MRT_{gs}$$

Oporezivanje dobra g uzrokuje promenu odnosa između cene faktora proizvodnje w i $\rho 1$, kao i w, što podrazumeva korigovanje kako bi se neutralisao efekat poreza:

$$MRS_{gxg} = \frac{w(1+tw)}{\rho 1(1+txg)} + \frac{w}{\rho} = MRT_{gs}$$

Poseban porez na potrošnju dobra g može rezultirati višim poreskim opterećenjem, ako je tražnja za dobrom g savršeno elastična. Međutim, u slučaju odsustva cenovne elastičnosti, prisustvo poreza na određeno dobro neće uticati na nivo tražnje, kao ni višak poreskog tereta. Optimalno oporezivanje podrazumeva obrnuto proporcionalne poreske stope u odnosu na elastičnost tražnje, pri čemu se može izraziti kao pravilo inverzne elastičnosti. Ovo pravilo definiše odnos cenovne elastičnosti tražnje za dobrom g i s. Konkretno, potrebno je dobra sa nižim nivoom elastičnosti tražnje opteretiti višim poreskim stopama i na taj način ostvariti odgovarajući nivo poreskih prihoda. U slučaju oporezivanja određenog dobra čija tražnja nije cenovno elastična, ostvariće se pozitivan efekat sa stanovišta generisanja poreskih prihoda. Takođe, Baodway (Boadway, 2012, str. 10) navodi potrebu većeg oporezivanja luksuznih proizvoda i ističe redistributivnu jednakost koja proizlazi iz definisanih diferencijalnih poreskih stopa na luksuzne proizvode u odnosu na ostale proizvode. Kleven (Kleven, 2004, str. 554) ističe da je opti-

INTRODUCTION

Looking at the history of public finance, it could be seen as a strong trend of parallel development of tax systems and changes in the objectives of taxation, which is particularly important and expressed since of the beginning of capitalism. The taxes are getting more and more important, with the originally defined target in the form of raising funds to finance public needs, complete goals that are strongly related to economic, social and demographic policy of the state. This is emphasized as a wider dimension of taxes in the macroeconomic framework of the country. Although there is considerable similarity between the tax systems of countries in the world, some differences are evident and those arising from social, political, economic and cultural components. Accordingly, the size of territory, population, gross domestic product per capita, economic structure, the ratio of exports and imports, and gross domestic product are important components that affect the level and structure of taxation. Tax systems include multiple tax forms, and arise as a result the need to respect the principle of fairness and the balance of distribution of the tax burden (Kalaš, Mirović, Andrašić, 2017). In the terms of tax monism, where he was represented by a form of taxation, these principles have been seriously violated with a simultaneous problem of insufficient yield tax revenues. In order to determine whether the tax forms have positive or adverse implications for economic developments, it is necessary to determine the extent of their participation and to determine whether they are at the optimum level.

1. TEORETICAL CONCEPT OF OPTIMAL TAXATION

Optimality of taxing involves determining the limits of taxation which is measured by the tax relationship that manifests the ratio of tax revenue to gross domestic product. This means that the tax ratio shows the movement of the tax share in the distribution of added value of an economy. Looking at the theoretical and empirical findings, there is a need to define the maximum and minimum limits of taxation. First, empirical analysis shows that OECD countries with higher tax ratio have lower growth rates compared to other countries with lower share of this indicator (Bhattarai, 2010). Besley and Persson (2014) stated that the share of revenues collected from taxes of between 10% and 20% of gross domestic product in lowly developed countries (Besley, Persson, 2014), while in the last fifteen years has been a falling share of tax revenues in transition countries (Turley, 2006). On the other hand, the average share of tax revenues in highly developed countries often exceeds 40% of gross domestic product (Besley, Persson, 2014). When defining the upper limit of the tax is necessary to bear in mind the social and economic aspect that is reflected in the achieved level of accumulation of the economy and the level of living standards. In determining the lower limit of the tax in particular emphasizes the social aspect in the form of subsistence minimum. Accordingly tax comparison, classification may be carried out in four groups of countries (Adelman, Morris, 1973):

— countries with average successful tax system where the share of tax revenue to gross domestic product less than 15%, while the share of direct taxes in the tax revenue of at least 20%;

— countries with limited successful tax system where the share

of tax revenues in GDP is at least 15% while the share of direct taxes in the tax revenue is at least 10%;

— countries with relatively successful tax system where the share of tax revenues to GDP varies between 10% and 14%, while the share of direct taxes in the tax revenue is less than 10%;

— countries with inefficient tax system where the share of tax revenue to gross domestic product is less than 10%.

1.1. Optimal taxation theory

The necessity of determining the optimal level of tax forms is an important condition for the measurement of their impact on fundamental macroeconomic aggregates. (Kaplow, Princeton, 2011) cited the importance of optimal taxation, whereby this theoretical construction based on the assumption that the tax system should be the maximization of social welfare (Mankiw at al., 2009, p.149). At the same time, the focus is on the cost of taxation, as well as for their reduction (Slemrod, 1990)[2]. Banks and Diamond, (Banks, Diamond, 2010, p. 557) state that taxes must be set at a level which allows a balance between equity and efficiency[3]. Like any theoretical concept, there are advocates who emphasize the relevance of this theory, and critics who point out that the theory did not provide robust results. This is primarily related to the collision of theorists and practitioners of public finances, claiming that the theory does not provide specific and useful advice to policy (Sorrensen, 2007). Any form of taxation may lead to potential disruption in the distribution of income, taking into account the neutralization of these effects. Brummerhoff (Brummerhoff, 2000, p. 279) points out that if all the tax forms cause disruptions in the allocation, then it cannot achieve the optimum in the distribution of income in market conditions. Taxation of a good g by the proportional method t_{xg} will cause a disorder that can be neutralized by an appropriate load to the second item s.

$$MRSgs = \frac{(1+txg)}{1+txs} = \frac{\rho 1}{\rho 2} = MRTgs$$

Taxation good g causes a change of the relationship between the prices of factors of production w and $\rho 1$, and w, which includes corrections in order to neutralize the effect of taxes:

$$MRSgxg = \frac{w(1+tw)}{\rho 1(1+txg)} + \frac{w}{\rho} = MRTgs$$

The special consumption tax on goods g may result in a higher tax burden if the demand for good g perfectly elastic. However, in the absence of price elasticity, the presence of taxes on certain goods will not affect the level of demand, as well as the excess of the tax burden. Optimal taxation means inversely proportional to the tax rate in relation to the elasticity of demand, whereby it can be expressed as the inverse elasticity rule. This rule defines the ratio of price elasticity of demand for a good g and s. In particular, it is good with lower elasticity of demand load higher tax rates and thus achieve the appropriate level of tax revenues. In the case of taxation of certain goods whose demand is not elastic price, will achieve a positive effect from the point of generating tax revenues. Also, Boadway (Boadway, 2012, p. 10) cites the need for higher taxation of luxury products and highlights the redistributive equality arising from defined differential tax rates on luxury products compared to other products.[6] Kleven (Kleven, 2004, str. 554) points out that the optimum consumption taxation during the life cycle correlated with the intensity of the consumption in different time periods[7].

malno oporezivanje potrošnje tokom životnog ciklusa korelisano sa intenzitetom potrošnje u različitim periodima. To podrazumeva da je potrošačka korpa determinisana nivoom dohotka, ali i starošću doba. Na osnovu svega navedenog, cilj optimalnog oporezivanja proizvoda jeste određivanje poreskih stopa za proizvode na odgovarajući način koji podrazumeva da višak tereta usled prikupljanja neophodnih poreskih prihoda bude na što nižem nivou. Nakon definisanja teorijskih osnova optimalnog oporezivanja, potrebno je prikazati osnovna poreska načela, njihovu značajnost, kao i međuzavisnost.

2. PORESKA NAČELA

Razvijene ekonomije često stavljaju veliki akcenat na prikupljanje poreza I, shodno tome, poreski sistemi moraju biti dizajnirani u pravcu poboljšanja ekonomije. (Mirrlees at al., 2015, str. 8). Poreski sistemi počivaju na određenim načelima koja opredeljuju karakter njihovog uređenja, odnosno društvenog sistema prihoda u celini. Još davne 1776. godine Adam Smit je definisao pravičnost, neutralnost, umerenost i ekonomičnost kao ključne principe koji treba da karakterišu jedan poreski sistem. Kako su se razvijali poreski sistemi i rastao njihov značaj, tako su nastala nova načela koja su nephodna za odgovarajući poreski sistem. Stoga, neophodno je

definisati šta obuhvata adekvatan poreski sistem. „Dobar" poreski sistem podrazumeva (Stiglity, 2008):

1. politički odgovoran i formulisan sistem na način da pojedinci mogu proveriti šta plaćaju i proceniti kako i koliko takav sistem reflektuje njihove preferencije;

2. pravičan sistem i pristup različitim pojedincima;

3. ekonomski efikasan sistem koji se reflektuje kroz pravilnu alokaciju resursa;

4. fleksibilan sistem u funkciji pravovremene reakcije na izmenjene privredne okolnosti.

Poreski sistem predstavlja skup neposrednih i posrednih poreza, pri čemu njihov kvantitet zavisi od veličine teritorije, državnog uređenja, broja stanovnika, nivoa društvenog blagostanja i ekonomske strukture zemlje. Poreski sistem treba da bude u funkciji društva, a ne pojedinca i ličnih ciljeva (Bhartia, 2009). Da bi poreski oblici doprineli rastu i prosperitetu ekonomije, potrebno je uspostaviti održiv poreski sistem čije karakteristike će se ogledati u jednakosti i pravičnosti, jednostavnosti, efikasnosti i efektivnosti i neutralnosti. Pored toga, neophodno je obezbediti odgovarajući nivo transparentnosti poreskog sistema koji će imati pozitivne implikacije na poverenje poreskih obveznika. Rezultat toga će biti veći poreski moral, koji treba da predstavlja osnovu poreskog sistema svake zemlje (Du Preez, 2015).

Tabela 1. Pregled najznačajnijih načela savremenih poreskih sistema

Jednakost i pravičnost	Određenost i jednostavnost	Efikasnost	Efektivnost	Neutralnost
Poreski sistemi uključuju horizontalnu i vertikalnu pravičnost. Zastupljeno poverenje javnosti o pravednom poreskom sistemu. Internacionalna pravičnost kod međunarodnih elemenata oporezivanja.	Poreska pravila ne smeju biti proizvoljna. Poreska pravila moraju biti jasna i jednostavna za razumevanje tematike oporezivanja, tako da poreski obveznici mogu predvideti potencijalne posledice od poreskih transakcija, uključujući poznavanje kada, gde i kako obračunati porez. Transparentnost i vidljivost u kreiranju i primeni poreskih pravila.	Poreski sistemi obuhvataju poreze koji iziskuju što manje troškove administriranja i prikupljanja. Smanjiti administrativne troškove i troškove ugodnosti poreza uz što jednostavnije plaćanje poreza.	Poreski sistem treba pravovremeno da prikupi dovoljno sredstava bez nametanja dvostrukog oporezivanja ili nenamernog oporezivanja, kako na domaćem, tako i na međunarodnom nivou. Poreski sistem treba da bude fleksibilan, dinamičan i usaglašen sa stanovišta tehnološkog i komercijalnog razvoja.	Poreski sistem ne bi trebalo da šteti produktivnosti i kapacitetu privrede. Poslovne odluke treba da budu motivisane ekonomskim, a ne poreskim motivima. Neutralnost oporezivanja kapitala sa stanovišta uvoza i izvoza.

Izvor: Alley, Bentley (2005)

Kao što se može videti u tabeli 1, efikasnost i pravičnost predstavljaju neke od fundamentalnih principa savremenog poreskog

sistema. Takođe, potrebno je utvrditi potencijalni trade-off između ova dva načela.

This means that the consumer basket determined by income level, and the certain time. Based on the foregoing, the goal of optimal taxation of products is determining the tax rate for products in an appropriate manner, which means that the excess burden due to collect the necessary tax revenue is as low as possible. After defining the theoretical basis of optimal taxation, it is necessary to show the basic tax principles, their significance and interdependence.

2. TAX PRINCIPLES

Developed economies often put great emphasis on the collection of taxes and, consequently, tax systems must be designed in improving the economy. (Mirrlees at al., 2015, p. 8) Tax systems are based on certain principles that determine the character of their organization or social system of income as a whole. Back in 1776, Adam Smith defined the fairness, neutrality, moderation, and economy as key principles that should characterize a tax system. As they were developing tax systems and their character was growing, so they created new principles that are necessary for an appropriate tax system. Therefore, it is necessary to define what comprises an appropriate tax system. ``Good`` tax system includes (Stiglity, 2008):

1. Politically responsible system formulated in a way that individuals can check what they are paying and to assess how and how such a system reflects their preferences;

2. A fair system and access to different individuals;

3. Economically efficient system that is reflected through the proper allocation of resources;

4. Flexible system in the function of timely responses to changing economic circumstances.

The tax system is a set of direct and indirect taxes, while their quantity depends on the size of the territory, state organization, and population, level of social welfare and economic structure of the country. The tax system should be a function of society, not the individual and personal goals (Bhartia, 2009). In order tax forms contributed to the growth and prosperity of the economy, it is necessary to establish a sustainable tax system whose characteristics will be reflected in equality and fairness, simplicity, efficiency and effectiveness and neutrality. In addition, it is necessary to provide an adequate level of transparency of the tax system that will have a positive impact on the confidence of taxpayers. The result will be higher tax morale, which should be the basis of the tax system of each country (Du Preez, 2015).

Table 1. Overview of the most important principles of modern tax system
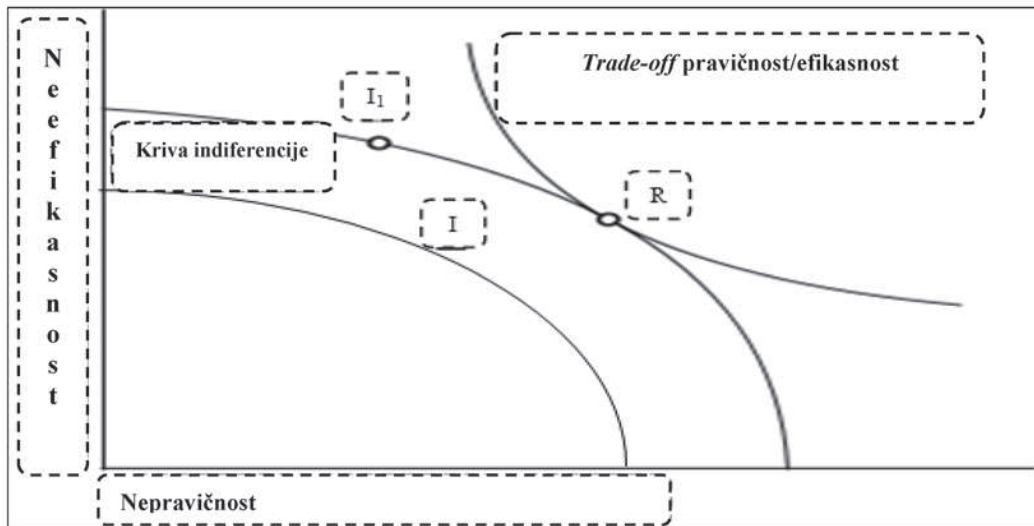
Equality and fairness	Determinism and simplicity	efficiency	effectiveness	neutrality
Tax systems include horizontal and vertical equity. Represented public confidence in the tax system fair. International justice at international elements of taxation	Tax rules should not be arbitrary. Tax rules should be clear and easy to understand the subject matter of taxation so that taxpayers can anticipate potential tax consequences of the transaction, including knowing when, where and how to calculate the tax. Transparency and visibility in the design and implementation of tax rules	Tax systems include taxation that require the least costs of administration and data collection. Reduce administrative costs and tax benefits with the simplest way of paying taxes.	The tax system should be timely to raise sufficient funds without imposing double taxation or unintended tax on both the domestic and international level. The tax system should be flexible, dynamic and agreed with the point of view of technological and commercial development	The tax system should not damage the productivity and capacity of the economy. Business decisions should be motivated by economic rather than tax motives. The neutrality of taxation of capital from the point of import and export.

Source: Alley, Bentley (2005)

As can be seen in Table 1, the efficiency and fairness of one of the fundamental principles of modern tax system. Also, it is necessary to identify the potential trade-off between these two principles.

Slika 1. Trade-off nepravičnosti i neefikasnosti u oporezivanju

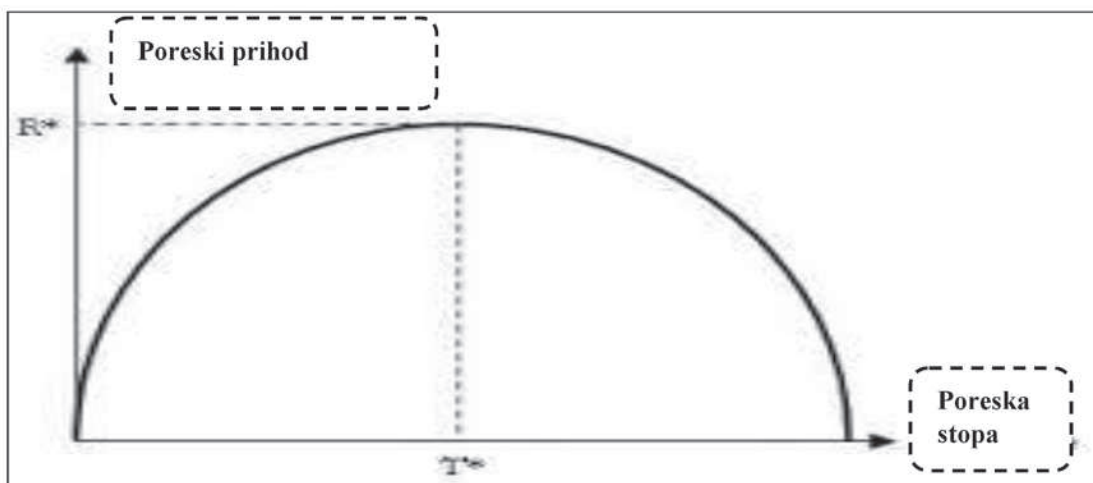

Izvor: Đurović-Todorović, Đorđević (2010)

Slika 1. prikazuje nepravičnost i neefikasnost u oporezivanju koje su označene na apcisnoj i ordinatnoj osi. Unutar koordinatnog sistema, krive indiferencije društva I i I₁ prikazuju različite kombinacije neefikasnosti i nepravičnosti. To podrazumeva da smanjenje nepravičnosti dovodi do neefikasnosti u oporezivanju. Ova kriva je konveksna jer prikazuje izbor između dve pozitivne opcije, dok su krive I i I₁ konkavnog karaktera, jer pokazuju izbor između dve negativne opcije. Ukoliko se analizira kriva I, primetan je viši nivo društvenog blagostanja, što je rezultat nižeg nivoa neefikasnosti. Optimalno poresko opterećenje je prikazano u tački S, u kojoj je kriva trade off tangenta krivoj indiferencije društva između nepravičnosti i neefikasnosti. Pored navedenih načela, neophodno je naglasiti umerenost poreskog opterećenja kao jedan od važnijih segmenata adekvatno postavljenog poreskog sistema. Visina po-

reza utiče na ekonomske komponente i ponašanje učesnika na tržištu, te je potrebno uspostaviti optimalan nivo poreskog opterećenja. Naime, previsoki porezi mogu imati negativne implikacije na poreske obveznike i dovesti do poremećaja u privredi. Posmatrano sa makrostanovišta, princip umerenosti podrazumeva definisanje apsolutnog poreskog limita, pri čemu svako povećanje poreskih stopa ili uvođenje dodatnih poreskih oblika ne bi doprinelo rastu javnih prihoda. To se dešava u slučaju kada poresko opterećenje prevazilazi poreski limit i dovodi do kontraproduktivnog efekta koji je reflektovan kroz smanjenje javnih prihoda.

Takođe, ovde se otvara i potencijalni problem poreske evazije, koji može postati aktuelan u uslovima rasta poreskih stopa. Tada će efekti neplaćanja poreza biće veći od prikupljenih poreza po osnovu smanjenih poreskih stopa (Mehrara, Farahani, 2016).

Slika 2. Laferova kriva

Izvor: Ilustracija autora

Koncept Laferove krive polazi od ideje da je prihod od poreza nulti ako je poreska stopa na nivou 0% ili 100% i ističe da smanjenje poreskih stopa treba da rezultira direktnim povećanjem poreskih prihoda (Hillman, 2006). Potrebno je istaći da visina prihoda nije ultimativno uslovljena poreskom stopom, već i širinom poreske osnovice (Clausing, 2007). Može se navesti primer proporcionalnog poreza na prihod od rada u kome je w bruto porez na prihod, w(1-t) neto porez na prihod, S(w(1-t)) funkcija ponude radne snage sa S(0) = 0 i D(w) funkcija tražnje za radnom snagom i potvrđuje da G – prihod zavisi
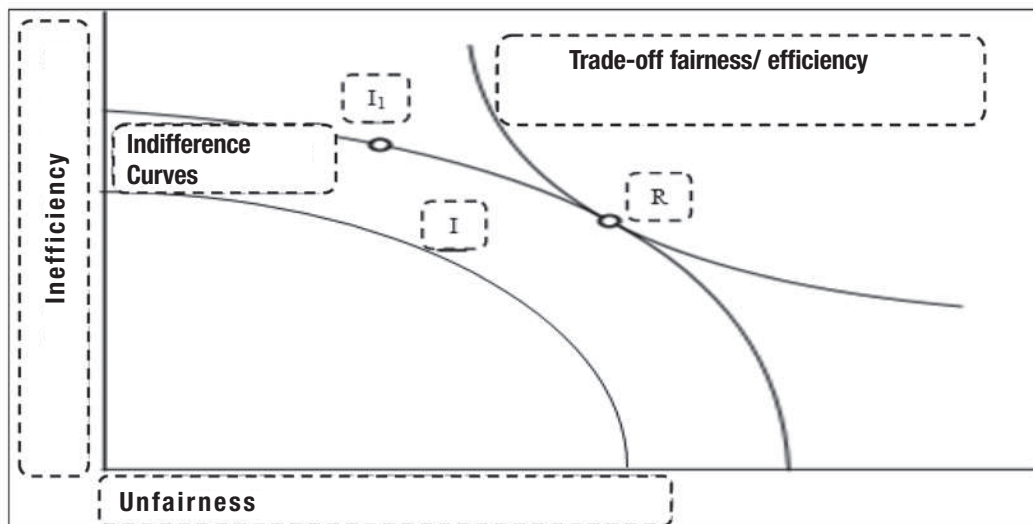
od odstupanja granične poreske stope, jer je (Blinder, 1981):

$$\frac{dG}{dt} = w \times S \left[1 + \frac{t}{1-t} \times \frac{n(1-n')}{n-n0} \right]$$

pri čemu se maksimalna poreska stopa može odrediti na sledeći način:

$$t = \frac{n-n'}{-n'(1+n)}$$

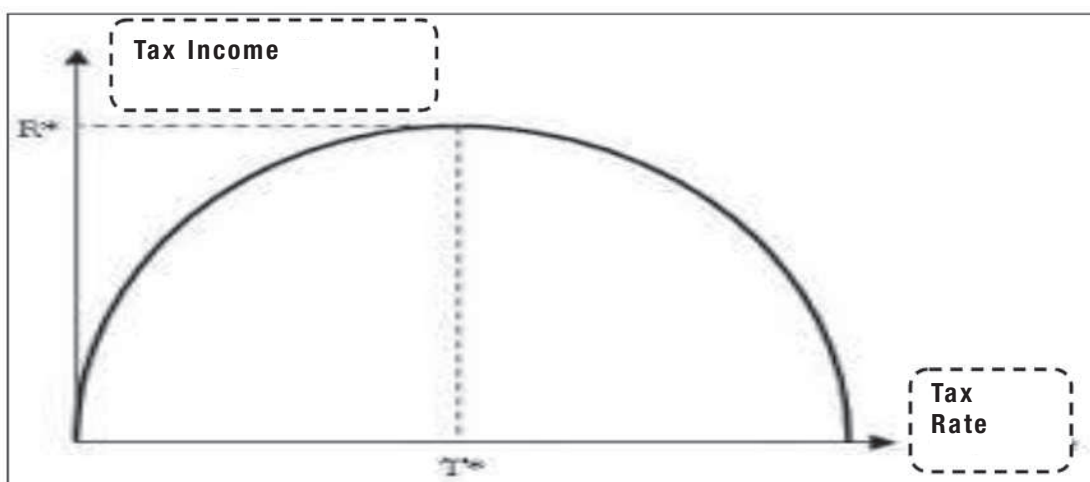*Figure 1.* Trade-off inequities and inefficiencies in taxation

Source: Đurović-Todorović, Đorđević (2010)

Figure 1 shows the unfairness and inefficiency in taxation that have been marked on the both axis. Within the coordinate system, and society indifference curves l1 and illustrate the various combinations of inefficiency and unfairness. This means that reducing inequity leads to inefficiencies in taxation. This curve is convex because it displays a choice between two positive options, while the curves I and l1 is concave in character, because they show a choice between two negative options. If we analyze the curve I, there has been a higher level of social welfare as a result of lower levels of inefficiency. Optimal tax burden is shown at point S where the blame trade off tangent curve indifference of society from injustice and inefficiency. In addition to the above principles, it is necessary to stress moderation tax burden as one of the most important segments of an adequate set of tax system. The tax impact on the economic component and

the behavior of market participants, and it is necessary to establish the optimal level of the tax burden. The high level of taxes can have negative implications for taxpayers and lead to disturbances in the economy. Viewed from a macro point of view, the principle of moderation means defining absolute tax limit at which any increase in tax rates or the introduction of additional tax forms would not contribute to the growth of public revenues. This happens when the tax burden exceeds the tax limit and leads to perverse effect that is reflected through the reduction of public revenues.

Also, it opens up the potential problem of tax evasion, which could become topical in terms of growth rate of tax. Then the effects of non-payment of taxes will be higher than the tax collected on the basis of reduced tax rates (Mehrara, Farahani, 2016).

Figure 2. Laffer curve

Source: author`s illustration

The concept of the Laffer curve starts from the idea that the prime income tax is zero if the tax rate at the level of 0% or 100%, and stressed that the reduction of tax rates should result in a direct increase in tax revenues (Hillman, 2006). It should be noted that the amount of income is not ultimately determined by the tax rate, but also the breadth of the tax base (Clausing, 2007). One can cite the example of the flat tax on income from work in which w gross income tax, w (1-t) Net income tax, S (w (1-t)) is a function of labor supply to S (0) = 0 and D (w) is a function of demand for labor and confirms

that G - income depends on the variance marginal tax rates, because (Blinder, 1981):

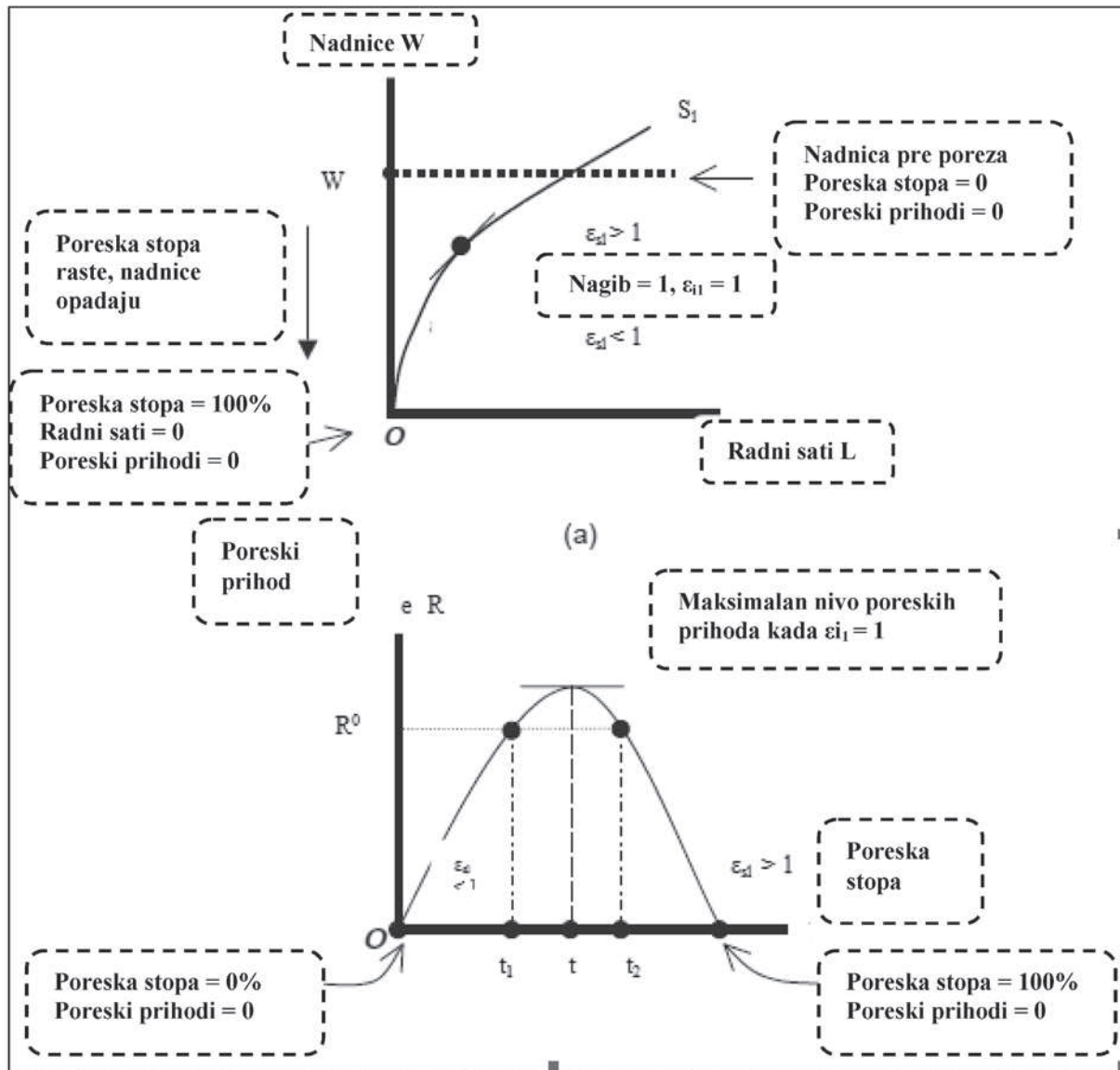$$\frac{dG}{dt} = w \, x \, S \left[1 + \frac{t}{1-t} x \frac{n(1-n')}{n-n0} \right]$$

Wherein the maximum tax rate can be determined as it follows:

$$t = \frac{n-n'}{-n'(1+n)}$$

Zagovornici ovog teorijskog koncepta ističu da bi u slučaju smanjenja visokih poreskih stopa došlo do prividnog smanjenja poreskih prihoda. Naime, smanjenje poreza može stimulativno delovati na privrednu aktivnost u pogledu obezbeđenja podsticaja radnoj snazi da izađe iz „skrivenog" dela privrede. Na taj način, ostvariće se povećanje poreskih prihoda i tako neutralisati efekat smanjenja visokih poreskih stopa.

Slika 3. *Laferova kriva i ekonomija ponude*

Izvor: Hillman (2006)

Slika 3. prikazuje odnos Laferove krive i ekonomije ponude, gde dolazi do povećanja ponude rada kao posledica smanjivanja poreske stope. Niži porezi podstiču ljude da rade, što pozitivno utiče na ekonomsko blagostanje sa aspekta poreskih prihoda. Potrebno je voditi računa o visini poreskog opterećenja kako ne bi došlo do kontraproduktivnog efekta na ponudu rada. Ukoliko su nadnice opterećene porezima, smanjuje se raspoloživi dohodak radnika i njihova ekonomska sposobnost, što utiče na njihovu demotivisanost. Neophodno je omogućiti optimalan odnos ponude rada i poreskog opterećenja, ali istovremeno imati i u vidu i nivo poreskih prihoda koji je neophodan za pokriće javnih rashoda.

malni nivo viška poreskog tereta. Remzijevo pravilo podrazumeva da se minimiziranje ukupnog viška tereta može ostvariti u slučaju kada su poreske stope determinisane na način da procentualno smanjenje tražene količine svakog proizvoda bude jednako. Naime, kako bi se ostvario minimalni nivo ukupnog viška tereta, potrebno je da granični višak tereta poslednje ostvarene novčane jedinice poreskog prihoda od svakog proizvoda bude jednak. U suprotnom, smanjenje ukupnog viška tereta bi bilo moguće smanjenjem poreske stope na proizvod koji ima veći granični višak tereta ili povećanjem poreske stope na proizvod koji ima manji granični višak tereta. Na slici 4. predstavljeno je kako povećanje jediničnog poreza sa u_x za jednu novčanu jedinicu kreira granični višak tereta fbae i rezultira povećanjem poreskih prihoda gfih - ibae.
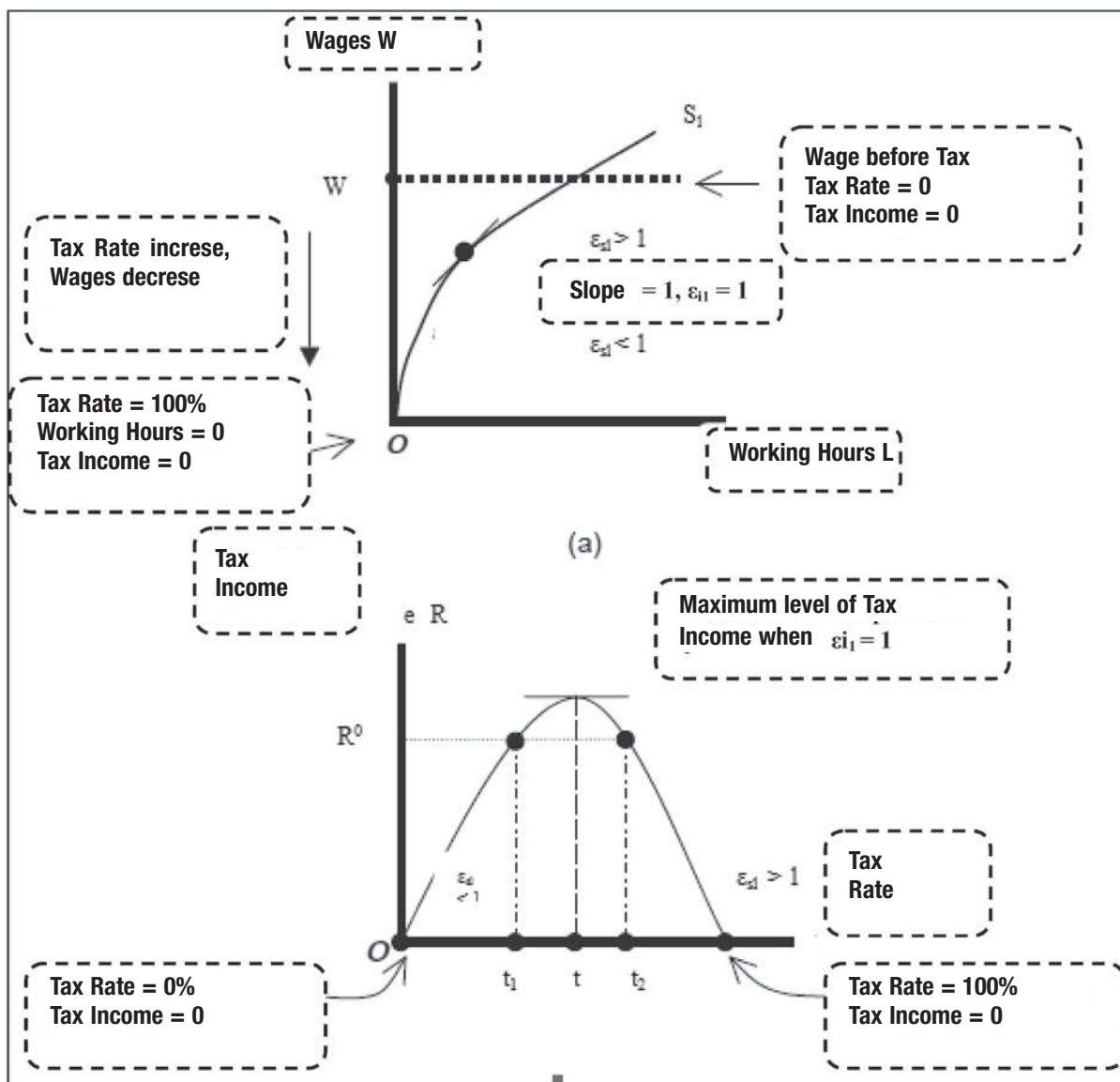
3. REMZIJEVO PRAVILO

Poresko zahvatanje proizvoda i usluga predstavlja važno pitanje sa aspekta ostvarivanja optimalnog nivoa poreskih prihoda uz mini-

Proponents of this theory point out that the concept of order in the case of reducing the high tax rates has been an apparent decrease in tax revenues. The tax cuts can stimulate work on economic activity in terms of providing incentives to the labor force to get out from the ``hidden`` part of the economy. In this way, will be achieved by increasing tax revenue and thus neutralize the effect of reducing the high tax rates.

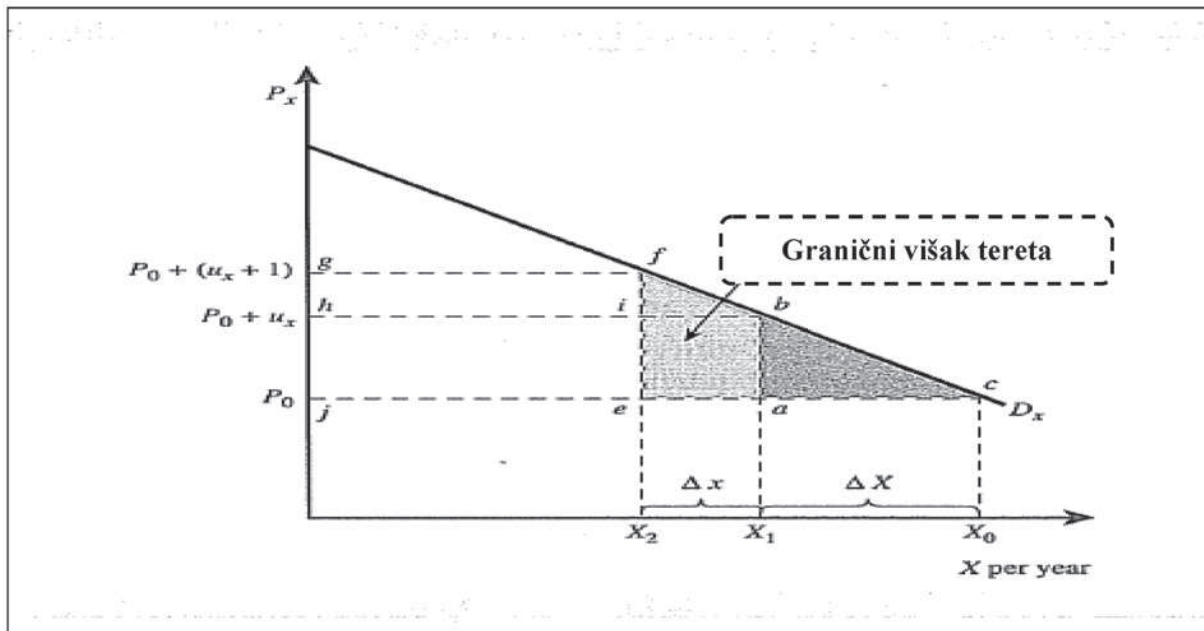**Figure 3.** *Laffer curve and economics*

Source: Hillman (2006)

Figure 3 shows the relationship of the Laffer curve and economics of offer where there is an increase in labor supply as a result of reducing the tax rate. Lower taxes encourage people to work has a positive effect on the economic well-being in terms of tax revenues. It is necessary to take into account the amount of the tax burden in order to avoid counterproductive effects on labor supply. If wages are burdened by taxes, reduces the disposable income of workers and their economic ability which affects their demotivation. It is necessary to provide the optimal ratio of labor supply and tax burden, but also have in mind the level of tax revenues, which is necessary to cover the public expenditures.

level of excess tax burden. Ramsey's rule includes minimizing the total excess burden can be achieved when tax rates are determined in such a way that the percentage reduction in the required quantity of each product is the same. Specifically, in order to achieve a minimum level of total excess burden, it is necessary that border the excess burden of the past realized the monetary unit of the tax revenue from each product be equal. Otherwise, the reduction in the excess burden of cargo would be possible by reducing the tax rate on the product that has a higher threshold excess to the load or increasing the tax rate on the product that has a lower limit any extra weight. In Figure 4 is presented as an increase in the tax unit u_x single currency border creates an excess burden bae and the resulting increase in tax revenue gfih - ibae.

3. RAMSEY`S RULE

Tax abstraction of products and services is an important issue in terms of achieving an optimal level of tax revenues with a minimum

Slika 4. *Granični višak tereta*

Izvor: Rosen, Gayer (2011)

Polazeći od pretpostavke da dva proizvoda nisu komplementarna, kao ni supstituti, predstavljena je količina proizvoda X po ceni P_0. Uvođenje poreza na proizvod povećava njegovu cenu i rezultira manjim nivoom tražnje sa X_0 na X_1 i definisanim viškom poreskog tereta abc. Ukoliko se uvede pretpostavka $u_x + 1$, dolazi do pomeranja cenovnog nivoa na $P_0 + (u_x + 1)$ i smanjenja tražnje za Δx na X_2. Na taj način predstavljen je odgovarajući poreski teret fec. Razlika između viška poreskog tereta abc i poreskog tereta fec predstavlja granični višak tereta fbae. To znači da je granični višak poreskog tereta predstavljen sa ΔX. Nakon definisanja graničnog viška tereta, potrebno je utvrditi promenu poreskih prihoda kao rezultat povećanja stope poreza sa u_x na $u_x + 1$. Naime, pri poreskoj stopi u_x, poreski prihodi iznose hbaj, dok u slučaju $u_x + 1$, poreski prihodi iznose gfej. Poređenjem ova dva nivoa poreskih prihoda, država ostvaruje dodatni prihod gfih, dok je, s druge strane, suočena sa gubitkom u vidu ibae. To podrazumeva da promena poreskih prihoda iznosi gfih - ibae. Na osnovu navedenog, može se definisati matematički izraz u vezi s promenom nivoa poreskih prihoda:

$$X1 - \Delta X = \text{granični poreski prihod}$$

Granični višak poreskog tereta po dodatnoj novčanoj jedinici poreskog prihoda definisan je na sledeći način:

$$\frac{\Delta X}{X1 - \Delta X}$$

Isto tako, u slučaju da se isto primeni na proizvod Y, granični višak poreskog tereta je:

$$\frac{\Delta Y}{Y1 - \Delta Y}$$

Na osnovu gorenavedenog i činjenice da granični višak tereta po poslednjoj novčanoj jedinici poreskog prihoda treba da bude isti za svaki proizvod, mora da važi sledeća jednakost:

$$\frac{\Delta X}{X1 - \Delta X} = \frac{\Delta Y}{Y1 - \Delta Y}$$

iz čega proizlazi da je:

$$\frac{\Delta X}{X1} = \frac{\Delta Y}{Y1}$$

Razmatrajući Remzijevo pravilo i utvrđivanje viška poreskog tereta, potrebno je analizirati element elastičnost tražnje uz primenu ad valorem poreza. Naime, ukoliko je kompenzovana elastičnost tražnje za proizvodom X označena n_x, a poreska stopa t_x. Ad valorem porez predstavlja procentualno povećanje cene do kojeg je došlo usled uvođenja poreza. Na osnovu toga, $t_x n_x$ predstavlja procentualnu promenu cene proizvoda pomnoženu procentualnom promene tražnje u slučaju kada se cena poveća za 1%. To je upravo ekvivalentno procentualnom smanjenju tražnje za proizvodom X kao posledica uvođenja poreza. Isto tako, $t_y n_y$ predstavlja proporcionalno smanjenje tražnje za proizvodom Y, pri čemu ova procentualna smanjenja moraju biti jednaka kako bi se ostvarilo minimiziranje viška poreskog tereta:

$$TxNx = TyNy$$
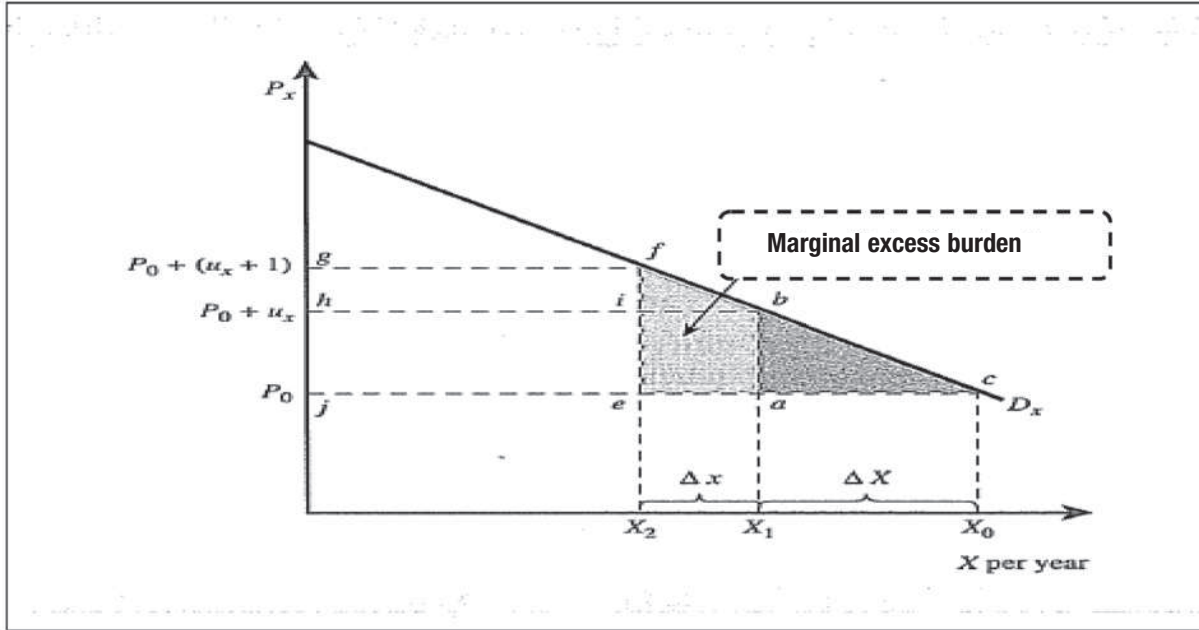
pri čemu njihovo deljenje dovodi do inverzne elastičnosti:

$$\frac{Tx}{Ty} = \frac{Ny}{Nx}$$

Ovo pravilo podrazumeva da za proizvode čija potrošnja nije korelisana, poreske stope treba da budu obrnuto proporcionalnog karaktera. Konkretno, to znači da, ako je n_y više u odnosu na n_x, tada t_y treba da bude niže u odnosu na t_x. Na osnovu navedenog, može se konstatovati da, što je elastičnija tražnja za nekim proizvodom, veća je mogućnost da dođe do distorzija, što ukazuje na neophodnost efikasnosti oporezivanja. Jedinstveni porez na proizvodnju može rezultirati većim profitima preduzeća nakon oporezivanja (Katz, Rosen, 1985). Analizirajući Remzijevo pravilo, neophodno je napomenuti i Korlet–Hejgovo pravilo koje ukazuje da, ukoliko postoje dva proizvoda, efikasno oporezivanje zahteva da se proizvod koji je komplementaran dokolici oporezuje po relativno visokoj poreskoj stopi. S obzirom na to da ne postoji mogućnost oporezivanja dokolice, poreske vlasti mogu posredno smanjiti potrebu za njom. Naime, poreske vlasti mogu uticati na njeno smanjenje putem oporezivanja dobara koja se mogu koristiti zajedno sa dokolicom.

4. MERENJE PORESKOG OPTEREĆENJA

Poresko opterećenje može se analizirati sa individualnog, granskog, regionalnog i nacionalnog stanovišta, pri čemu se posmatraju

Figure 4. *Marginal excess burden*

Source: Rosen, Gayer (2011)

Assuming that the two products are not complementary, or sub-stitutes, is represented by the amount of product X at a price of P0. A tax on a product increases its cost and results in a smaller level of demand from X0 to X1 and defined excess tax burden abc. If the assumption is introduced at u_x + 1, there is a shift of price levels in the P0 + (u_x + 1) and a decrease in demand for Δx to the X 2. In this way, unveiled in the corresponding tax burden fec. The difference between the excess taxes burden abc and tax burden fec is the marginal excess burden fbae. This means that the marginal excess burden of the tax may be presented as ΔX. After defining the border of excess burden, it is necessary to determine the change in tax revenue as a result of an increase in the tax rate from $u_{x\,to}$ u_x + 1. In fact, in the tax rate u_x tax revenues amount hbaj, while in the case of the x + 1, tax revenues amounted gfej. The comparison between these two levels of tax revenues, the state realizes additional income gfih, while on the other hand is facing a loss in the form of ibae. This means that changes in tax revenue is gfih - ibae. Based on the above, it can be defined by a mathematical expression related to changes in the level of tax revenue:

$$X1 - \Delta X = \text{border tax income}$$

Marginal excess burden of taxation per additional monetary unit of tax revenue is defined as follows:

$$\frac{\Delta X}{X1 - \Delta X}$$

Similarly, in the case that the same applied to the product Y, the marginal excess burden of taxation:

$$\frac{\Delta Y}{Y1 - \Delta Y}$$

Based on the above and the fact that the marginal excess burden after the last monetary unit of tax revenue should be the same for each product, must satisfy the following equality:

$$\frac{\Delta X}{X1 - \Delta X} = \frac{\Delta Y}{Y1 - \Delta Y}$$

From which it follows that:

$$\frac{\Delta X}{X1} = \frac{\Delta Y}{Y1}$$

Considering Ramsey's rule and determining the excess of the tax burden, it is necessary to analyze the element elasticity of demand with the use of ad valorem tax. Namely, if the compensated elasti-city of demand for product X marked n_x, a tax rate t_x. Ad valorem tax is the percentage increase in prices that occurred due to the introduction of the tax. On that basis, $t_x n_x$ represents the percen-tage change in price of the product multiplied by the percentage change in demand when the price increased by 1%. This is exactly equivalent to the percentage reduction of demand for product X as a result of the introduction of the tax. Likewise, $t_y n_y$ represents a proportional decrease in demand for the product Y, wherein the percentage reduction will be uniform in order to achieve minimi-zation of the excess tax burden:

$$TxNx = TyNy$$

Wherein the sharing those leads to the inverse of elasticity:

$$\frac{Tx}{Ty} = \frac{Ny}{Nx}$$

This rule means that for products whose consumption is not correlated, the tax rate should be inversely proportional character. Specifically, this means that if a n_y more than in n_x, then t_y should be lower than the t_x. Based on the above, it can be concluded that it is more elastic demand for the product, the greater the possi-bility of a distortion which indicates the necessity of efficiency of taxation. Unique taxes on production may result in higher profits of companies after tax (Katz, Rosen, 1985). Analyzing Ramsey's rule, it is necessary to mention and Corlette Haig`s rule indicates that if there are two products, efficient taxation requires that a product which is complementary leisure taxed at a relatively high tax rate. Given that there is no possibility of leisure tax, the tax authorities can indirectly reduce the need for it. The tax authorities can influence its reduction through taxation of goods that can be used together with leisure.

ekonomske kategorije kao što su dohodak građana, profit preduzeća, kao i nacionalni dohodak određene grane, regiona ili zemlje.

Prilikom kvantitativnog određivanja poreskog opterećenja često se koristi koeficijent poreskog opterećenja Kfo, gde se mogu analizirati tri relacije (Ristić, Ristić, 2010):

I. relacija fiskalnih prihoda FP i nacionalnog dohotka ND:

$$Kfo = \frac{FP}{ND} x\ 100$$

II. relacija poreza i doprinosa i dobiti preduzeća (P+D)f i dobiti preduzeća Df:

$$Kfo = \frac{(P+D)f}{Df} x\ 100$$

III. relacija poreza i doprinosa iz ličnog dohotka radnika (P+D)$_{LD}$ i ličnog dohotka radnika LD:

$$Kfo = \frac{(P+D)LD}{LD} x\ 100$$

Istovremeno, poresko opterećenje se može kvantitativno izraziti kao:

$$FO_G = (F_t/Y_t)\ x\ 100$$

pri čemu je prisutni bruto i neto pristup:

$$FO_{G-B} = F/Y^P\ ili\ F/Y^D\ i\ FO_{G-N} = (F-T_E)/Y^P\ ili\ (F-T)/Y^D$$

Matematički izrazi diferentni su u zavisnosti od toga li se svi porezi F i transferi T$_E$ stavljaju u odnos sa društvenim proizvodom Y^P ili nacionalnim dohotkom Y^D. Ukoliko se uključe i prihodi po osnovu javnog duga i emisije novca, dobija se sledeći kvantitativni izraz:

$$FO_{G-B} = DP_r/Y^P\ ili\ DP_r/Y^D\ i\ FO_{G-N} = (DP_r - T_E)/Y^P\ ili\ (DP_r-T_E/Y^D)$$

Visina poreskih prihoda zavisi od načina oblikovanja poreza, pod kojim se podrazumeva izbor i određivanje osnovnih poreskih termina kao što su poreska osnovica i poreska stopa. (Brummerhoff, 2000) definiše funkciju poreskog iznosa na sledeći način:

$$T = T\ (X)$$

pri čemu se prosečna poreska stopa može prikazati kao:

$$\frac{T(X)}{X} = t(X)$$

odnosno, granična poreska stopa:

$$\frac{dT}{dX} = t'(X)$$

U zavisnosti od promene poreskog opterećenja i varijacije poreske osnovice, poreska stopa može biti determinisana kao proporcionalna, progresivna i regresivna. Poreska progresija može se javiti u dva oblika: a) granična poreska stopa je konstantna, ali zbog poreskih oslobođenja, prosečna poreska stopa raste sa poreskom osnovicom; i b) granična poreska stopa raste sa poreskom osnovicom (Wong, 2011).

Da bi se utvrdio karakter poreske stope, mogu se izvesti sledeći matematički izrazi:

$$\alpha_1 = t'(X) - t(X)$$

gde α_1 predstavlja razliku između granične poreske stope i prosečne poreske stope.

$$\alpha_2 = \frac{dt(X)}{dX} = \frac{1}{X}(t'(X) - t(X))$$

gde α_2 podrazumeva stopu promene prosečne poreske stope kod promene poreske osnovice.

$$\alpha_3 = \frac{dT/T}{dX/X} = \frac{dT/dX}{T/X} = \frac{t'(X)}{t(X)}$$

gde α_3 predstavlja elastičnost poreskog iznosa i meru relativne promene porskog iznosa i relativne promene poreske osnovice ili odnos granične poreske stope i prosečne poreske stope.

$$\alpha_4 = \frac{d[X-T(X)]/dX}{[X-T(X)]/X} = \frac{1-t'(X)}{1-t(X)} = 1 - \frac{X}{X-T(X)}[t'(X) - t(X)]$$

gde α_4 predstavlja rezidualnu elastičnost i meru relativne stope promene poreske osnovice preostale nakon odbitka poreskog iznosa i relativne stope promene poreske osnovice, gde X i T(X) moraju biti izraženi u istim mernim jedinicama.

$$\alpha_5 = \frac{dt'(X)}{dX} = \frac{d^2T(X)}{dX^2}$$

gde α_5 podrazumeva promenu granične poreske stope kod promene poreske osnovice. Funkcija poreza se može izraziti kao:

$$T = t'(X),\ \ t'= 0,\ \ X \le X_G$$

$$t' = t,\ \ X > X_G$$

Limiti poreskog oslobođenja uzrokuju prekide funkcija poreskog iznosa, kao i funkcije prosečne poreske stope i granične poreske stope. Imajući u vidu stepen progresivnosti poreske stope, razlikuju se tri slučaja:

1. usporena progresija

$$\frac{d^2t}{dX} < 0$$

2. linearna progresija

$$\frac{d^2t}{dX} = 0$$

3. ubrzana progresija

$$\frac{d^2t}{dX} > 0$$

Značajno je naglasiti da progresivnost treba posmatrati u kontekstu prosečne poreske stope. Progresivno oporezivanje može biti realno primenjeno ukoliko je zasnovano na individualnim karakteristikama (Auerbach, 2008). Poreski sistem je progresivniji u slučaju kada je povećanje prosečne poreske stope veće od rasta dohotka:

$$v1 = \frac{\frac{T1}{I1} - \frac{T0}{I0}}{I1 - I0}$$

gde je $v1$ mera progresivnosti, a T0 i T1 predstavljaju stvarne poreske obaveze za nivoe dohotka I0 i I1, pri čemu je I1 veće od I0.

Isto tako, poreski sistem je progresivniji u situaciji kada je veća elastičnost poreskih prihoda u odnosu na dohodak:

$$v2 \frac{(T1 - T0)}{T0} : \frac{(I1 - I0)}{I0}$$

Iako poreski odnos omogućava dobijanje određenih informacija kao što je nivo različitih poreskih oblika i njihovo učešće u bruto domaćem proizvodu, ovaj pokazatelj ne odražava realno stanje u potpunosti. Naime, prosečna poreska stopa ne daje informaciju da li je nivo oporezivanja nizak ili visok, odnosno da li su prikupljeni prihodi dovoljni za zadovoljenje javnih potreba.

4. MEASUREMENT OF TAX LOAD

Tax burden can be analyzed from the individual, of the branch, regional and national point of view, wherein the view economic categories such as income tax, profit enterprises, and as a particular branch of national income, region or country.

When quantitative determination of the tax burden is often used Kfo coefficient of the tax burden, which can be analyzed three relations (Ristic Ristic, 2010):

I.   The relation of fiscal revenues FP and national income ND:

$$Kfo = \frac{FP}{ND} x\ 100$$

II. The relation of taxes, contributions and corporate income (P + D) f and enterprise profit Df

$$Kfo = \frac{(P+D)f}{Df} x\ 100$$

III. The relation of taxes and contribution of employees salary (P + D) LD and personal income of workers LD:

$$Kfo = \frac{(P+D)LD}{LD} x\ 100$$

At the same time, the tax burden can be quantitatively expressed as:

$$FO_G = (F_t/Y_t)\ x\ 100$$

Whereby the present gross and net access:

$$FO_{G-B} = F/Y^P \text{ ili } F/Y^D \text{ i } FO_{G-N} = (F-T_E)/Y^P \text{ ili } (F-T)/Y^D$$

Mathematical expressions are differentiated depending on whether all taxes F and transfers T_E put in relation with the gross domestic product Y^P or national income Y^D. If you engage and income from public debt and money issue, obtain the following quantitative expression:

$$FO_{G-B} = DP_r/Y^P \text{ ili } DP_r/Y^D \text{ i } FO_{G-N} = (DP_r - T_E)/Y^P \text{ ili } (DP_r - T_E/Y^D)$$

Height of tax revenue depends of the form of the taxes, which means the selection and determination of basic tax terms such as tax base and tax rate. (Brummerhoff, 2000) defines the function of the tax amount as follows:

$$T = T\ (X)$$

Wherein the average tax rate can be expressed as:

$$\frac{T(X)}{X} = t(X)$$

In fact, marginal tax rate:

$$\frac{dT}{dX} = t'(X)$$

Depending on changes in the tax burden and the variation of the tax base, the tax rate can be determined as a proportional, progressive and regressive. Tax progression can occur in two forms: a) limit the tax rate is constant, but because of the liberation of tax, average tax rate increases with tax base and b) limit the tax rate increases with tax base. (Wong, 2011).

To determine the nature of tax rates, can be performed following mathematical expressions:

$$\alpha_1 = t'(X) - t(X)$$

a1) the difference between marginal tax rates and average tax rates

$$\alpha_2 = \frac{dt(X)}{dX} = \frac{1}{X}(t'(X) - t(X))$$

a2) means the rate of change of the average tax rate of the change in the tax base

$$\alpha_3 = \frac{dT/T}{dX/X} = \frac{dT/dX}{T/X} = \frac{t'(X)}{t(X)}$$

a3) represents elasticity of the tax amount and measure relative changes of tax amount and relative changes in the tax base or the ratio of marginal tax rates and average tax rates.

$$\alpha_4 = \frac{d[X-T(X)]/dX}{[X-T(X)]/X} = \frac{1-t'(X)}{1-t(X)} = 1 - \frac{X}{X-T(X)}[t'(X) - t(X)]$$

a4) represents a residual elasticity and measures the relative rate of change of the tax base remaining after deduction of the tax amounts and relative rate of change of the tax base, where X and T (X) must be expressed in the same units of measurement.

$$\alpha_5 = \frac{dt'(X)}{dX} = \frac{d^2T(X)}{dX^2}$$

a5) involves a change in marginal tax rates for the change of the tax base. Function taxes can be expressed as:

$$T = t'(X),\ \ t' = 0,\ \ X \leq X_G$$
$$t' = t,\ \ X > X_G$$

The limits of the tax exemptions cause disruptions function of the amount of the tax, as well as functions of the average tax rate and the marginal tax rate. Bearing in mind the degree of progressive tax rates, there are three different cases:

1.   slow progression

$$\frac{d^2t}{dX} < 0$$

2.   linear progression

$$\frac{d^2t}{dX} = 0$$

3.   accelerated progression

$$\frac{d^2t}{dX} > 0$$

It is important to emphasize that progressivity should be viewed in the context of the average tax rate. Progressive taxation can be realistically applied if it is based on individual characteristics (Auerbach, 2008). The tax system is progressive when the increase in the average tax rate higher than the growth of income:

$$v1 = \frac{\frac{T1}{I1} - \frac{T0}{I0}}{I1 - I0}$$

Wherein the measure of progressivity, and T0 and T1 represent the actual tax liability for the income levels of I0 and I1, where I1 is greater than I0. Also, the tax system is progressive in a situation where the higher elasticity of tax revenue in relation to income:

$$v2 \frac{(T1-T0)}{T0} : \frac{(I1-I0)}{I0}$$

ZAKLJUČAK

Svaka ekonomija mora profilisati fiskalnu politiku u pravcu pravičnog i efikasnog poreskog sistema koji će biti u funkciji zadovoljenja opštedruštvenih interesa. To podrazumeva da je optimalan poreski sistem usmeren na realizaciju ciljeva ekonomske politike jedne zemlje. Kao što je i naglašeno, potrebno je uspostaviti balans između pravičnosti i efikasnosti poreza kako bi efekti optimalnosti došli do izražaja. U uslovima kada je poreski sistem više usmeren ka efikasnosti, pravičnost oporezivanja može biti ugrožena. Poresko zahvatanje proizvoda i usluga predstavlja značajno pitanje sa stanovišta ostvarivanja optimalnog nivoa poreskih prihoda uz minimalni stepen viška poreskog tereta. Remzijevo pravilo podrazumeva da, kada su poreske stope određene na način da procentualno smanjenje tražene količine svakog proizvoda bude jednako. Naime, neophodno je da granični višak tereta poslednje ostvarene novčane jedinice poreskog prihoda od svakog proizvoda i usluga bude jednak, kako bi se dostigao minimalni stepen ukupnog viška tereta. Poresko opterećenje se može analizirati sa individualnog, granskog, regionalnog i nacionalnog aspekta, pri čemu se posmatraju ekonomske komponente kao što su dohodak građana, profit preduzeća, kao i nacionalni dohodak određene grane, regiona ili zemlje. Prilikom kvantitativnog određivanja poreskog opterećenja često se koristi koeficijent poreskog opterećenja Kfo, koji analizira nivo fiskalnih prihoda i nacionalnog dohotka. U zavisnosti od promene poreskog opterećenja i varijacije poreske osnovice, poreska stopa može biti definisana kao proporcionalna, progresivna i regresivna. Visina poreskih stopa ne mora biti opredeljujući faktor u ocenjivanju visine poreskog opterećenja, što se može opravdati kroz relativni poreski pritisak i simultano posmatranje koristi i troškova oporezivanja.

IZVORI

1. Adelman, I., Morris, T. (1973). *Economic Growth and Social Equality in Developing Countries*, University Press, Stanford.

2. Alley, C., Bentley, D. (2005). *A remodelling of Adam Smith's tax design principles*, ePublications@bond, Australian Tax Forum 579.

3. Auerbach, A. J. (2008). Tax Reform in the Twenty-First Century. In: Diamond, J. W., Zodrow, G. R. (Eds.). *Fundamental Tax Reform: Issues, Choices and Implications*. The MIT Press, Cambridge.

4. Banks, J. W., Diamond, P. A. (2010). The Base for Direct Taxation, In: Institute for Fiscal Studies (Eds.). *Dimension of Tax Design*. Oxford University Press, New York.

5. Bhartia, H. L. (2009). *Public Finance* – 14th edition. Vikas Publishing House PVT Ltd, New Delhi.

6. Bhattarai, K. (2010). *Taxes, public spending and economic growth in OECD countries*. Problems and Perspectives in Management, 8(1), 14–30.

7. Blinder, A. S. (1981). Thoughts on the laffer Curve, in Meyer. L. H. (Ed.). *The Supply-Side Effects of Economic Policy*, Kluwer-Nijhoff, Boston.

8. Besley, T., Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives*, 28(4), 99–120.

9. Boadway, R. (2012). *From Optimal Tax Theory to Tax Policy – Retrospective and Prospective Views*, Cambridge, MIT Press.

10. Brummerhoff, D. (2000). *Javne financije*, Zagreb: MATE.

11. Clausing, K. (2007). Corporate tax revenues in OECD countries. *International Tax and Public Finance*, 14(2), 115–133.

12. Du Preez, H. (2015). *A construction of the fundamental principles of taxation*, doctoral dissertation, Faculty of Economic and Management Sciences, University of Pretoria, South Africa.

13. Đurović-Todorović, J., Đorđević, M. (2010). *Javne finansije*, Niš: Ekonomski fakultet.

14. Hillman, A. L. (2006). *Public Finance and Public Policy –Responsibilities and Limitations of Government*, Second Edition, Cambridge, University Press.

15. Kalaš, B., Mirović, V., Andrašić, J. (2017). Struktura poreza u Republici Srbiji. F*inansije – Časopis za teoriju i praksu finansija*, 1/6, 7–18.

16. Katz, M. L., Rosen, H. S. (1985). Tax Analysis in an Oligopoly Model. *Public Finance Quarterly*, 13(1), 3–19.

17. Mankiw, G., Weinzierl, M., Yagan, D. (2009). Optimal Taxation in Theory and Practice. *Journal of Economic Perspectives*, 23(4), 147–174.

18. Kleven, H. J. (2004). Optimum Taxation and the Allocation of Time. *Journal of Public Economics*, 88, 545-557.

19. Mehrara, M., Farahani, Y. (2016). The study of the effects of tax evasion and tax revenues on economic stabilities in OECD countries, *World Scientific News*, 33, 43–55.

20. Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G., Poterba, J. (2011). *Tax by design*, Oxford University Press.

21. Ristić, K., Ristić, Ž. (2010). *Fiskalna ekonomija i menadžment javnog sektora*, Beograd: EtnoStil.

22. Rosen, H., Gayer, T. (2011). *Javne finansije* – deveto izdanje, Centar za izdavačku delatnost, Beograd: Ekonomski fakultet.

23. Slemrod, J. (1990). Optimal Taxation and Optimal Tax Systems. *The Journal of Economic Perspectives*, 4(1), 157–178.

24. Sorensen, P. B. (2007). The theory of optimal taxation: what is the policy relevance. *International Tax and Public Finance*, 14, 383–406.

25. Stiglitc, E. J. (2008). *Ekonomija javnog sektora* – prevod, Beograd: Ekonomski fakultet.

26. Turley, G. (2006). *Transition, Taxation and the State*, Aldershot, England: Ashgate.

27. Wong, K. (2011). Progressive Taxation and the Intensity and Timing of Investment. *Economic Modelling*, 28(1), 100–108.

Although the ratio of tax to some certain information such as the level of different types of taxes and their share in gross domestic product, this indicator does not reflect the real situation completely. The average tax rate does not provide information if the level of taxation is low or high, or if the collected revenues are sufficient to meet public needs.

CONCLUSION

Every economy needs profiled fiscal policy towards fair and efficient tax system that will serve the satisfaction of general social interests. This implies that the optimal tax system directed realization of the objectives of the economic policy of a country. As it is pointed out, it is necessary to establish a balance between fairness and efficiency of the tax to the effects of optimization come to the fore. Under conditions where the tax system is more directed to the efficiency, the fairness of the tax may be compromised. Tax abstraction of products and services is an important issue from the standpoint of achieving an optimal level of tax revenues with a minimum level of excess tax burden. Ramsey's rule means that when tax rates are determined in such a way that the percentage reduction in the required quantity of each product is the same. Namely, it is essential that border the excess burden of the past realized the monetary unit of the tax revenue from each product and service is the same, in order to reach the minimum level of total excess burden. Tax burden can be analyzed from the individual, of the branch, regional and national aspect, wherein the view economic components, such as income tax, profit enterprises, and as a particular branch of national income, region or country. When quantitative determination of the tax burden is often used coefficient of the tax burden Kfo which analyzes the level of fiscal revenue and national income. Depending on changes in the tax burden and the variation of the tax base, the tax rate can be defined as a proportional, progressive and regressive. Tax rates may not determine factor in assessing the amount of tax burden, which can be justified by the relative tax pressure and simultaneously observe the benefits and costs of taxation.

REFERENCES

1. Adelman, I., Morris, T. (1973). *Economic Growth and Social Equality in Developing Countries*, University Press, Stanford.

2. Alley, C., Bentley, D. (2005). *A remodelling of Adam Smith's tax design principles*, ePublications@bond, Australian Tax Forum 579.

3. Auerbach, A. J. (2008). Tax Reform in the Twenty-First Century. In: Diamond, J. W., Zodrow, G. R. (Eds.). *Fundamental Tax Reform: Issues, Choices and Implications*. The MIT Press, Cambridge.

4. Banks, J. W., Diamond, P. A. (2010). The Base for Direct Taxation, In: Institute for Fiscal Studies (Eds.). *Dimension of Tax Design*. Oxford University Press, New York.

5. Bhartia, H. L. (2009). *Public Finance* – 14th edition. Vikas Publishing House PVT Ltd, New Delhi.

6. Bhattarai, K. (2010). *Taxes, public spending and economic growth in OECD countries*. Problems and Perspectives in Management, 8(1), 14–30.

7. Blinder, A. S. (1981). Thoughts on the laffer Curve, in Meyer. L. H. (Ed.). *The Supply-Side Effects of Economic Policy*, Kluwer-Nijhoff, Boston.

8. Besley, T., Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives*, 28(4), 99–120.

9. Boadway, R. (2012). *From Optimal Tax Theory to Tax Policy – Retrospective and Prospective Views*, Cambridge, MIT Press.

10. Brummerhoff, D. (2000). *Javne financije*, Zagreb: MATE.

11. Clausing, K. (2007). Corporate tax revenues in OECD countries. *International Tax and Public Finance*, 14(2), 115–133.

12. Du Preez, H. (2015). *A construction of the fundamental principles of taxation*, doctoral dissertation, Faculty of Economic and Management Sciences, University of Pretoria, South Africa.

13. Đurović-Todorović, J., Đorđević, M. (2010). *Javne finansije*, Niš: Ekonomski fakultet.

14. Hillman, A. L. (2006). *Public Finance and Public Policy – Responsibilities and Limitations of Government*, Second Edition, Cambridge, University Press.

15. Kalaš, B., Mirović, V., Andrašić, J. (2017). Struktura poreza u Republici Srbiji. F*inansije – Časopis za teoriju i praksu finansija*, 1/6, 7–18.

16. Katz, M. L., Rosen, H. S. (1985). Tax Analysis in an Oligopoly Model. *Public Finance Quarterly*, 13(1), 3–19.

17. Mankiw, G., Weinzierl, M., Yagan, D. (2009). Optimal Taxation in Theory and Practice. *Journal of Economic Perspectives*, 23(4), 147–174.

18. Kleven, H. J. (2004). Optimum Taxation and the Allocation of Time. *Journal of Public Economics*, 88, 545-557.

19. Mehrara, M., Farahani, Y. (2016). The study of the effects of tax evasion and tax revenues on economic stabilities in OECD countries, *World Scientific News*, 33, 43–55.

20. Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G., Poterba, J. (2011). *Tax by design*, Oxford University Press.

21. Ristić, K., Ristić, Ž. (2010). *Fiskalna ekonomija i menadžment javnog sektora*, Beograd: EtnoStil.

22. Rosen, H., Gayer, T. (2011). *Javne finansije* – deveto izdanje, Centar za izdavačku delatnost, Beograd: Ekonomski fakultet.

23. Slemrod, J. (1990). Optimal Taxation and Optimal Tax Systems. *The Journal of Economic Perspectives*, 4(1), 157–178.

24. Sorensen, P. B. (2007). The theory of optimal taxation: what is the policy relevance. *International Tax and Public Finance*, 14, 383–406.

25. Stiglitc, E. J. (2008). *Ekonomija javnog sektora* – prevod, Beograd: Ekonomski fakultet.

26. Turley, G. (2006). *Transition, Taxation and the State*, Aldershot, England: Ashgate.

27. Wong, K. (2011). Progressive Taxation and the Intensity and Timing of Investment. *Economic Modelling*, 28(1), 100–108.