

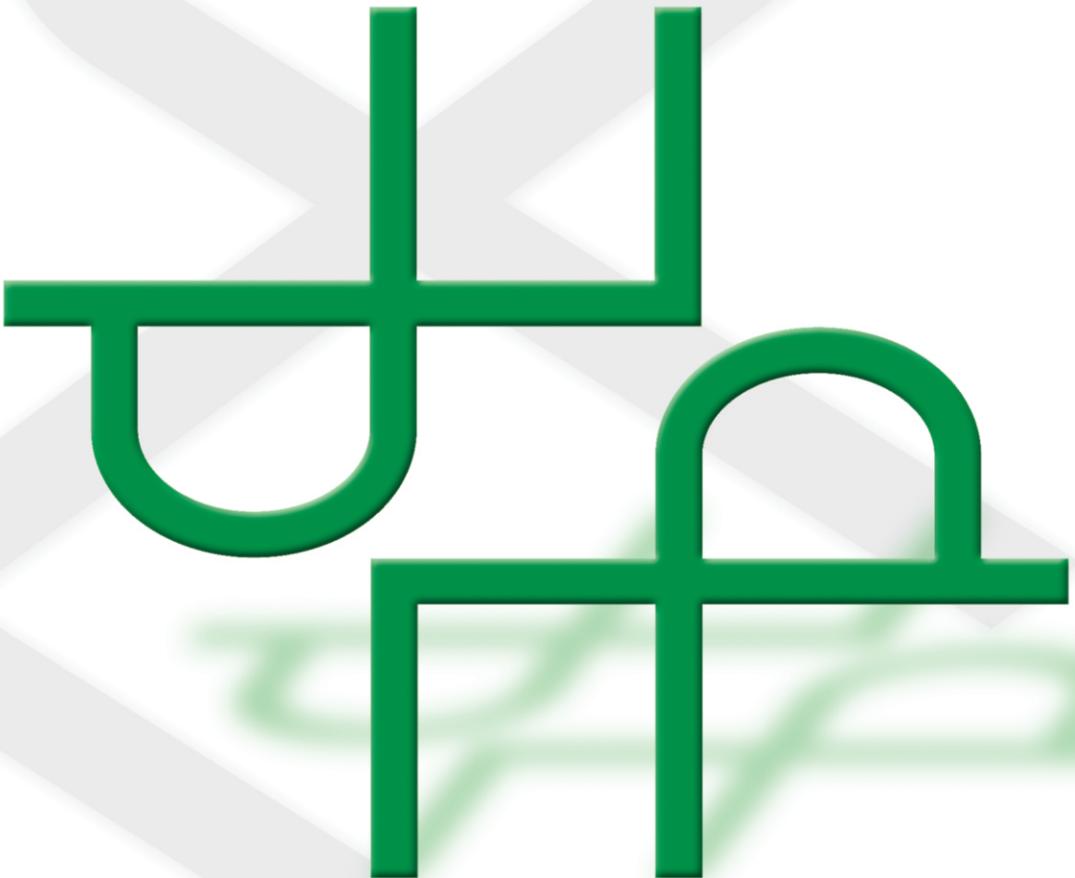
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# ЕКОНОМИКА

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МЕЂУНАРОДНИ ЧАСОПИС  
ЗА ЕКОНОМСКУ ТЕОРИЈУ И ПРАКСУ И ДРУШТВЕНА ПИТАЊА



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## ANALYSIS OF THE VOLUME AND STRUCTURE OF ORIGINAL AND ASSIGNED REVENUES OF THE BUDGET OF THE CITY OF LESKOVAC

### Abstract

*Strengthening the financial independence of local self-government is a prerequisite without which the demand for faster democratization and decentralization of state power, as well as the implementation of economic development processes, cannot be fulfilled. In order to achieve a series of tasks and functions that the state is obliged and competent to perform, it needs certain financial resources. Local public revenues represent the revenues of local authorities from which their public affairs are financed. The strengthening of local government is related to the process of fiscal decentralization and the increase of the share of local public revenues in the total revenues of the state.*

*The aim of the work is to analyze the distribution of public revenues in the budget of the city of Leskovac, to indicate the ratio of original and ceded revenues and the factors that influence their size. Based on the analysis of the available data, it can be seen that the ratio of original and ceded revenues in the budgets of local self-governments is unfavorable. Within the scope of revenues and receipt of local self-government budgets, a significantly larger amount of funds is made up of ceded revenues, which shows a high level of centralization.*

**Key words:** local self-government, original revenues of local self-government, ceded revenues.

**JEL Classification:** H20, P43

## АНАЛИЗА ОБИМА И СТРУКТУРЕ ИЗВОРНИХ И УСТУПЉЕНИХ ПРИХОДА БУЏЕТА ГРАДА ЛЕСКОВЦА

### Апстракт

*Јачање финансијске самосталности локалне самоуправе је предуслов без кога се не може испунити захтев за бржом демократизацијом и децентрализацијом државне власти, као и спровођење економских развојних процеса. Ради остваривања низа задатака и функција које је држава обавезна и надлежна да уради, потребна су јој одређена финансијска средства. Локални јавни приходи, представљају приходе локалних органа власти из којих се фи-*

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нансирају њихови јавни послови. Јачање локалне власти је везано за процес фискалне децентрализације и повећање удела локалних јавних прихода у укупним приходима државе.

Циљ рада је да изврши анализу расподеле јавних прихода у буџету града Лесковца, укаже на однос изворних и уступљених прихода и на факторе који утичу на њихову величину. На основу анализе доступних података може се уочити да је однос изворних и уступљених прихода у буџетима локалних самоуправа неповољан. У оквиру прихода и примања буџета локалне самоуправе, знатно већи износ средстава чине уступљени приходи, што показује висок ниво централизације.

**Кључне речи:** локална самоуправа, изворни приходи локалне самоуправе, уступљени приходи.

## Introduction

The system of public revenues and expenditures is regulated by the *Law on Public Revenues and Public Expenditures* ("Official Gazette of RS" No. 22/01). It can introduce only those revenues and expenses that are defined by this law.

The main goal of every local community is to improve the living and working conditions of its citizens, and it is based on their ability to manage public affairs of immediate importance that are of general interest to local citizens.

The goal of properly implemented fiscal decentralization is to strengthen the role of cities and municipalities, as well as their fiscal autonomy, that the Republic to entrust local authorities with numerous important competencies and for local budgets to be increased many times over (Aleksić, 2018).

The first part of the paper will discuss local revenues in the system of financing local self-governments. In order to be able to perform the tasks assigned to it by law, the local self-government must have a certain amount of funds. The second part of the paper will deal with the analysis of the original and ceded revenues in the budget of the city of Leskovac. The basic idea of categorizing revenues according to their origin, i.e. separating the original from the assigned revenues of the local level of government, is to separate the fiscal competences of the given levels of government in the country by establishing them, create greater financial independence and strength in the financing of public affairs within the framework of the original competences of local self-government units. At the end, concluding considerations will be presented in order to provide certain proposals for further research on the optimal level of fiscal and budgetary decentralization.

## Theoretical backgrounds

The local self-government must have a certain amount of funds in order to be able to perform the tasks assigned to it by law. Local public revenues, as their name suggests, represent the revenues of local authorities from which their public affairs are financed. Some of them are introduced and established at the central level, and some at

the local level. It is very important to balance the relationship between the expenditure side, which arises from the competences established by the constitution and the law and, based on that, public affairs, and the income side of the balance of their budgets. Their unevenness leads to a vertical imbalance in the relations between the central level and units at the local level of government. The state must build mechanisms to harmonize that balance, and the institutionalization of local public revenues is one of the ways to solve that problem.

Bearing in mind the importance of local self-government in the state organization of every country, it is quite logical that the local level of government should be given the authority and responsibility to dispose of certain fiscal forms that will represent their own revenues. In fiscal policy, it is the sphere of fiscal federalism, which represents the regulation of relations between different levels of government in terms of public revenues and expenditures, both in a unitary and decentralized state (Beslač, 2021).

Fiscal forms of source income of local self-government are regulated by the central level of government, and the determination of their tax rates, bases and exemptions is the responsibility of local self-government units.

Local public revenues should be a stable and predictable source of revenues and provide sufficient funds that will correspond to expenditures arising from the scope of local public affairs. The starting assumption is that the smaller the difference between subnational expenditures and revenues, that is, the lower the dependence of the subnational level on transfers from the central level, the more effective the relationship between the different levels of state administration in terms of fiscal discipline, i.e. responsible and rational spending of scarce funds (Molnar, 2013). In this way, revenues would be clearly purposeful and as close as possible to the purpose for which they are introduced, and expenditures would be transparent.

The basic idea of categorizing revenues according to their origin, i.e. separating the original from the assigned revenues of the local level of government, is to separate the fiscal competences of the given levels of government in the country by establishing them, create greater financial independence and strength in the financing of public affairs from the framework of the original competences of local self-government units. The principle of harmonization (expenditure and revenue) implies that each level of government should be assigned those sources of revenue from which the expenses incurred by performing the functions of the given level of government will be covered (Radičević, 2016). This should establish a closer connection between the bearers of the tax burden and the benefits that both the taxpayers themselves and other citizens will have from the “package of public services” of the local authorities. This logical principle is difficult to achieve consistently and precisely. In the event that the original revenues are not sufficient to provide financing for the performance of public affairs arising from the original scope of competence, the state must also establish additional sources of funds from the budget of local authorities. They should also be used for the purpose of covering expenditures that arise on the basis of entrusted tasks, that is, the transfer of certain competences from the central level of government.

There are several methods and ways in which this request can be realized, because exclusive reliance on the source revenues of local authorities can cause negative effects and deformations in the functioning of the country’s fiscal and political system. Namely, exclusive reliance on fiscal capacities within their jurisdiction, from which local self-

government units will be financed through their own revenues, can produce different financial strengths of their budgets, which will lead to the emergence of vertical and horizontal imbalances in the government financing system in the country. What disrupts the precise and rational coverage of obligations from additional funds from the republic level (surplus or lack of funds for certain purposes) is the different dynamics of activities and processes during the year, despite the previously implemented planning process and coordination. Another significant problem of state development that is actually realized at the local and regional level is balanced regional development, which can be achieved with additional funds from the republic level. Regional development implies regional development of the economy as a whole, territorial (complementary) division of labor by creating assumptions of development, connecting regions, merging sectoral and regional development (Derić, Perišić, 1996). At the same time, the local self-government with its administration should have management capacity and the ability to create ideas for its territory and the local community on how to use those funds, in order to compensate for the limited financial resources (Redburn, Shea, Buss, 2008).

In addition to the financing of local authorities through source revenues, it is also very important to provide funds that are realized through participation in the community of revenues with the central level of government. It should be borne in mind that the central government, for the most part, is financed from the most significant and generous forms of taxation, such as personal income tax, sales taxes (in the form of general sales tax and individual consumption tax) and corporate profit tax. Based on that and depending on its state structure, it cedes a part of the realization of those revenues to the lower levels of government in the country. The importance and role of the given revenues in the financing of the local level of government varies. What is visible on the example of the budget of the city of Leskovac is the high share of ceded and transfer funds of the Republic, which in the last few years amounts to about 80%, which speaks of a low level of fiscal decentralization, and on the other hand, it can lead to irrational spending.

### **The predominance of the share of ceded over the original revenues in the budget of the city of Leskovac: methodology and discussion**

According to the *Law on Financing of Local Self-Government* ("Official Gazette of the RS", No. 97/2023), the most significant sources of revenues generated on the territory of a local self-government unit are: property tax, except tax on the transfer of absolute rights and inheritance and gift tax; local administrative fees; local utility taxes; local taxes; compensation for the use public goods, in accordance with the law; concession fee, and other fees in accordance with the law.

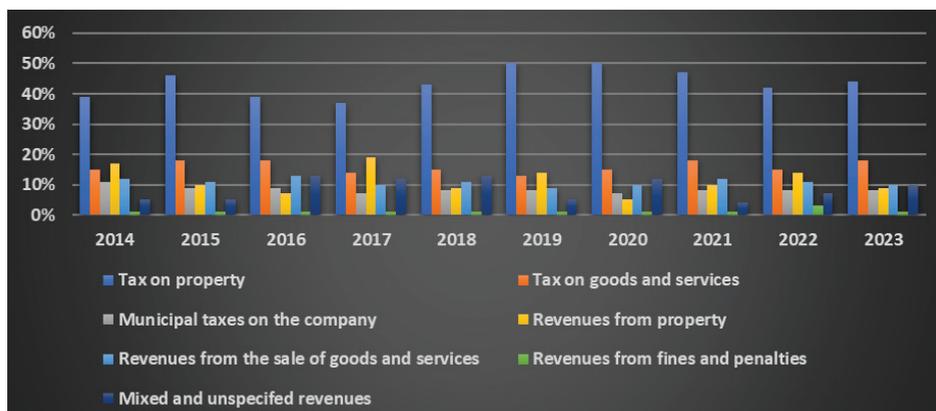
The following table shows the most important categories of original income of the budget of the city of Leskovac. A period of 10 years was taken for the analysis of observations, in order to observe some tendencies in their changes, that is, to see if there are fluctuations in their movement.

Table No. 1: Original revenues of the budget of the city of Leskovac in the period 2014-2023. year (in million dinars)

Year	Original revenues	Tax on property	Tax on goods and services	Municipal taxes on the company	Revenues from property	Revenues from the sale of goods and services	Revenues from fines and penalties	Mixed and unspecified revenues
2014.	458.0	178.1	68.3	52.7	79.2	55.2	2.3	22.2
2015.	534.0	244.1	96.4	48.9	54.8	59.0	2.2	28.6
2016.	533.3	207.7	93.5	50.1	39.0	67.5	2.9	72.7
2017.	733.6	269.1	101.8	51.5	139.7	77.8	6.4	87.2
2018.	703.0	301.5	105.7	55.0	64.3	76.7	5.6	94.2
2019.	704.9	352.4	89.3	54.5	99.6	67.7	7.1	34.4
2020.	737.1	362.4	112.9	55.1	37.2	75.8	4.8	89.0
2021.	779.9	369.3	142.4	64.0	78.5	91.5	6.4	27.7
2022.	897.6	375.3	133.7	69.4	130.6	96.7	26.9	65.0
2023.	920.1	405.5	169.5	73.1	83.5	93.9	4.6	90.0

Source: Budget of the city of Leskovac

Chart No. 1. The share of individual original revenues in total source revenues



Source: Budget of the city of Leskovac

Based on table no. 1, we can conclude that the total original revenues of the budget of the local self-government of the city of Leskovac in the period 2018-2023. showed constant growth. Looking at the structure of source revenues, most funds are collected through property taxes. This original revenues tends to grow in the observed period. It is a very generous original revenues and reaches up to 50% of the total original revenues of the budget of the city of Leskovac.

In the case of the balance item taxes on goods and services, alternating growth and decline of this original revenues can be observed. The municipal tax on the company has a tendency to increase in the observed period, while the revenues from property in the observed period showed certain fluctuations. Revenues from the sale of goods and services from 2019 show a growing tendency, except for 2023, where there was a slight decrease. Revenues from fines and penalties, as well as mixed and unspecified revenues in the observed period showed a changing trend.

In addition to the financing of local authorities through source revenues, it is also very important to provide funds that are realized through participation in the community of revenues with the central level of government. In the following, the ceded revenues of the budget of the city of Leskovac for a certain period of time will be presented.

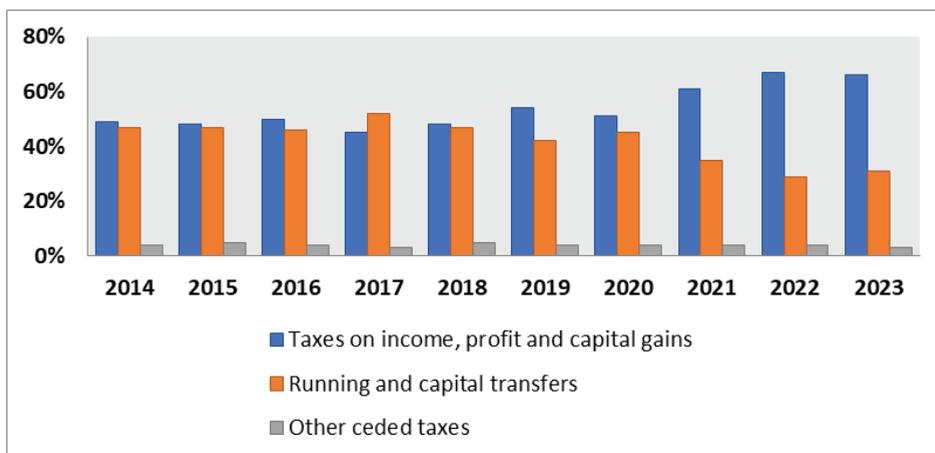
Table No. 2 Ceded revenues of the budget of the city of Leskovac in the period 2014-2023. Years

Year	Ceded revenues	Tax on income, profit and capital gains	Current and capital transfers	Other deferred taxes
2014.	2.217,1	1.088,8	1.040,6	87,7
2015.	2.323,4	1.122,7	1.093,2	107,5
2016.	2.362,6	1.186,4	1.077,7	98,5
2017.	2.849,8	1.264,4	1.491,6	93,7
2018.	2.822,3	1.367,3	1.332,4	122,6
2019.	2.874,9	1.555,8	1.212,7	106,4
2020.	3.220,4	1.655,6	1.458,4	106,4
2021.	3.611,4	2.211,1	1.262,6	137,7
2022.	3.683,7	2.493,8	1.054,4	135,5
2023.	4.106,6	2.717,4	1.260,5	128,7

Source: Budget of the city of Leskovac

Based on the previous table, we can conclude that the ceded revenues of the budget of the city of Leskovac, in the observed period, make up about 80% of the total current revenues. In the period from 2014-2023. year, they showed a constant growth trend. Among the ceded revenues, the city of Leskovac collects the most funds through ceded taxes on income, profit and capital gains. In the observed period, they showed a constant growth trend and their participation amounts to about 50% in the total ceded revenues. Running and capital transfers, in the structure of ceded revenues, are in second place in terms of generosity in total revenues. Other ceded taxes are also important in the structure of ceded revenues. However, the city collects a significantly smaller amount of funds through them.

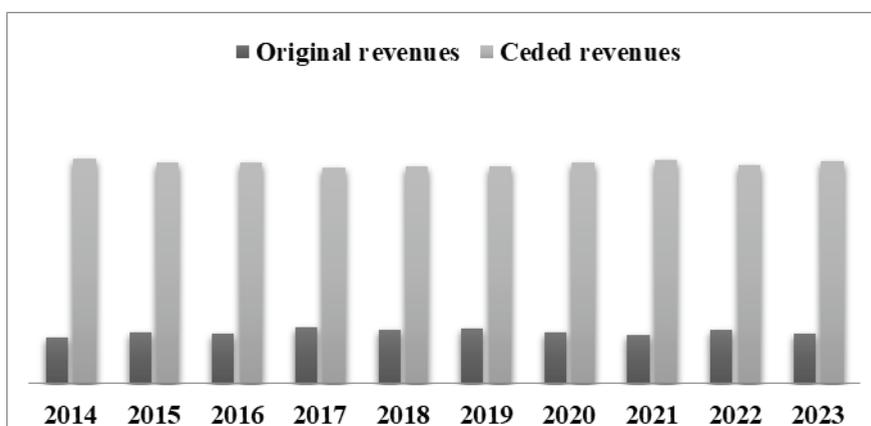
Graph no. 2 Share of individual ceded revenues in total ceded revenues



Source: Budget of the city of Leskovac

Based on the previous analysis of the original and ceded revenues of the budget of the city of Leskovac, their relationship is graphically presented on graph no. 3. It shows us the share of original and ceded revenues of the budget of the city of Leskovac in the total revenues, for a certain period of time. Based on these data, we can conclude that their relationship is unfavorable. Surrendered revenues take a much larger share, around 80%. In contrast to them, the original revenues make up less than 20% of the current (running) revenues of the budget of the city of Leskovac.

Graph no. 3. Share of original and ceded revenues in total current revenues



Source: Budget of the city of Leskovac

In the period from 2019 to 2022, the original revenues showed a tendency to decrease, while the ceded revenues in the same period showed a tendency to increase. In 2022, there will be an increase in original income and a decrease in ceded income, while

in 2023 there will be an increase in ceded income, and original income will decrease compared to the previous year.

The presentation of the research results will be done with descriptive statistics. In table no. 3 shows descriptive statistics related to the share of original and ceded revenues in the total revenues of the budget of the city of Leskovac.

Table No. 3 Descriptive statistics of basic source and ceded revenues of the budget of the city of Leskovac

	N	Minimum	Maximum	Mean	Std. Deviation
<b>ORIGINAL</b>					
<b>Property tax</b>	10	0,37	0,50	0,4370	0,04572
<b>Tax on goods and services</b>	10	0,13	0,18	0,1590	0,01912
<b>Municipal tax</b>	10	0,07	0,11	0,0830	0,01160
<b>Property revenues</b>	10	0,05	0,19	0,1140	0,04452
<b>Revenues from the sale of goods and services</b>	10	0,09	0,13	0,1090	0,01197
<b>Revenues from fines and penalties</b>	10	0,01	0,03	0,0120	0,00632
<b>Mixed and unspecified revenues</b>	10	0,04	0,13	0,0860	0,03748
<b>ASSIGNED (CEDED) REVENUES</b>					
<b>Income tax, profit and capital gains</b>	10	0,44	0,68	0,5390	0,08239
<b>Current (running) and capital transfers</b>	10	0,29	0,52	0,4200	0,07846
<b>Other ceded taxes</b>	10	0,03	0,05	0,0410	0,00738
<b>Valid N (listwise)</b>	10				

Source: Author's calculation

Based on the descriptive statistics, we can conclude that the maximum tax revenues from property tax were achieved in 2019, and the smallest in 2017. In relation to the average share in total source revenues, these are not significant deviations. The second most generous are revenues from taxes on goods and services, which reached their maximum in 2023, and were at their lowest level in 2019. Other incomes also varied, and the biggest deviations can be observed in revenues from property and in the category of mixed and unspecified revenues.

Taxes on income, profit and capital gains varied from 44% of the total ceded revenues of the budget of the city of Leskovac in 2017 to 68% of their participation in 2022. The average share of these revenues in the total ceded revenues of Leskovac

was high in the observed period and amounted to slightly more than half of those revenues. Descriptive statistics showed that current and capital expenditures reached their maximum in 2017, and their minimum in 2022. They are also significant in terms of generosity, because in the structure of ceded revenues they amount to 42% of the total ceded revenues on average over the years of the observed period.

## Conclusion

The field of public finances is a very important area of social and economic relations that take place in every organized state. Local self-government, performing tasks that are within its scope of work, must have its own sources of revenues in order to achieve them. Without funds that can be freely disposed of and without the right to define a certain level of fiscal decentralization, based on the principles of fairness and the rights of local communities, and on the principle of economy of local fiscal policy, is difficult to talk about realizing the idea and concept of realizing the right to purposeful self-government of local communities, how the name itself says it all.

Based on the analysis of the scope and structure of the income of the budget of the city of Leskovac, and on the basis of previous researches, it can be concluded that the ratio of original and ceded revenues in the budgets of local self-governments is unfavorable. The basic idea of categorizing revenues according to their origin, i.e. separating the original from the assigned revenues of the local level of government, is to separate the fiscal competences of the given levels of government in the country by establishing them, create greater financial independence and strength in the financing of public affairs within the framework of the original competences of local self-government units. This should establish a closer connection between the bearers of the tax burden and the benefits that the local authorities will have from the “package of public services”. In the event that the original revenues are not sufficient to provide financing for the performance of public affairs arising from the original scope of competence, the state must also establish additional sources of funds from the budget of local authorities. On the basis of the performed analysis, we could see that within the scope of revenues and receiving budgets of the observed local self-governments, a significantly larger amount of funds is made up of ceded revenues.

The existence of financial dependence on the central level of government speaks of possible political dependence and pressures on the right to self-governance of local communities, who by the nature of things know best (through the procedures of public hearings and other types of communication) what is necessary and what are the priorities in terms of public services and public goods. Arguments that would lead in the direction of fiscal and budgetary (financial) centralization are that with greater decentralization, a certain level of consistency in strategic and short-term planning may be lost due to poor communication or the arbitrariness of local authorities, which would waste scarce resources irrationally. It seems that these arguments are difficult to defend in conditions where, with the help of modern information and communication technologies, it is possible to connect the information systems of all state and local institutions and all relevant factors and interested parties, to monitor plans, procedures, execution and the flow of money. This can establish an effective planning system at the strategic and

operational level, and connect and harmonize long-term, medium-term and short-term planning, as well as reasonable and expedient control of income and expenses. The high share of ceded revenues primarily speaks of a high level of centralization, and not of the generosity of the central authorities.

Apart from the political will, it seems that another problem is to create an operational system that will connect the levels of government, all the necessary institutions and factors that will enable the use of all the advantages of optimal fiscal, financial and budgetary decentralization.

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## ECONOMIC COMPETITIVENESS OF AUTOCHTHONOUS (LOCAL) GRAPEVINE VARIETIES FOR THE PRODUCTION OF WHITE WINES<sup>4</sup>

### Abstract

*Grapevine belongs to the group of essential agro-food products. Moreover, through the presence of autochthonous varieties it could bear the part of cultural and ethnic identity of certain nation or local community. The main goal of the paper is to assess if there is general economic competitiveness for the farm contained in growing autochthonous (local) contrary to widely recognized international grapevine varieties with the purpose of producing white wines. Method used implies calculation of contribution margin, and determination of critical values in grapevine production. Analyzed data set was gained from the producer located in the Tri Morave wine-growing region (PDO), Trstenik wine-growing subregion in central Serbia. Gained results showed that in circumstances of growing demand of white wine better economic competitiveness could be derived from autochthonous (local) than international variety growing. Obtained results could be used in popularization of autochthonous and regional varieties growing at national level.*

**Key words:** grapevine, autochthonous (local) varieties, international varieties, white wine, economic analysis.

**JEL Classification:** Q12, Q13

## ЕКОНОМСКА КОНКУРЕНТНОСТ АУТОХТОНИХ (ЛОКАЛНИХ) СОРТИ ГРОЖЉА ЗА ПРОИЗВОДЊУ БЕЛИХ ВИНА

### Апстракт

*Грожђе спада у групу основних пољопривредно-прехранбених производа. Штавише, присуством аутохтоних сорти оно може носити део културног и етничког идентитета одређене нације или локалне заједнице. Основни циљ рада је процена постојања генералне економске конкурентности за*

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газдинство садржане у гајењу аутохтоних (локалних) сорти грожђа насупрот међународно признатих сорти у циљу производње белих вина. У раду је употребљен методолошки оквир који подразумева израчунавање маржи покрића и одређивање критичних вредности у производњи грожђа. Анализирали подаци добијени су од виноградара лоцираног у виноградарском рејону три мораве (пдо), ближе у трстеничком виногорју у централној србији. Добијени резултати истраживања су показали да се у условима растуће потражње за белим винима боља економска конкурентност газдинства може постићи гајењем аутохтоних (локалних) сорти у односу на интернационалне сорте грожђа. Претходно се може искористити за популаризацију узгоја аутохтоних и регионалних сорти грожђа на националном нивоу.

**Кључне речи:** грожђе, аутохтоне (локалне) сорте, интернационалне сорте, бело вино, економска анализа.

## Introduction

Nowadays, the grapevine growing its usually linked to Eurasian grape (*Vitis vinifera* L.) as it represents globally the most grown, while economically significant fruit crop (Arroyo Garcia et al., 2006). The oldest archaeological proof of grape domestication was found in Egypt and Syria, and refers to 4<sup>th</sup> millennium B.C. (Jacquat, Martinoli, 1999; This et al., 2006). So, *Vitis vinifera*, or generally accepted grapevine, is originated from the southwestern Asia, or more closely from the region of the Caspian Sea. Thanks to wine that was labelled as holy or gods drink in ancient world, some nations additionally spread the wine varieties worldwide, as like Phoenicians to the territories of ancient Greece and Romans, or to south France, while Romans later push the grapevine varieties all over the Europe (Crowther, 1979; Harutyunyan, Malfeito Ferreira, 2022). Discovering America helps further introduction of vine farming in Mexico and California, or in next step in South America and Australia (Vlahović et al., 2012). Currently, besides the Europe, grapevine is well dispersed across the all continents characterized by the continental or Mediterranean, and even subtropical climate, especially in parts of Asia and North America (Terral et al., 2010). According to growing areas and value of production, grapevine belongs to the group of the major fruit crops worldwide (Riaz et al., 2018; Alston, Sambucci, 2019).

Grape is the crop with strong historical, cultural and spiritual connotation within the overall progress of human society (Hannickel, 2013). It's usually divided on table and wine, or red and white, or international and autochthonous grapevine varieties, etc. (Venkitasamy et al., 2019). Globally is described and in use are 6 to 10 thousand grape varieties (Zombardo et al., 2022), while in all growing areas international and local varieties are used in same time, offering fresh or dried grape, or wine and wine products (Kupe et al., 2021).

In Serbia, currently are grown 224 grapevine varieties, both for the commercial production of grapes and wine. Within mentioned group, 31 wine varieties could be considered as local, actually as autochthonous and regional varieties (Jakšić et al., 2024). Grapes are widely used in human nutrition, food and alcoholic beverage industry (mostly for wine production), medicine and cosmetology, etc. (Teixeira et al., 2014).

Nutritional power of grapes is considered in high content carbohydrates, fiber, or various minerals and vitamins, especially K and Mn, or B, C, and K vitamins (Sousa et al., 2014; Zhu et al., 2017). Besides, there are present several bioactive compounds, such as flavonoids, tannins, phenolic acids, anthocyanins, resveratrol, etc., that secure the desirable health status to grapes (Fontana et al., 2013; Dwibedi et al., 2022). So, in line to health benefits, grape has significant impact to human health status. It is good antioxidant and immunity protector (primarily protection against cancer, certain microbes, or viruses). It shows strong anti-inflammatory activities, it is good in preventing cardiovascular, or neuro degenerations, it maintains bones density well, etc. (Yang, Xiao, 2013; Georgiev et al., 2014; Blanton, 2018).

In 2022., there were over the 6.73 million ha under the grapevine worldwide. It has to be mentioned, that overall surfaces have showed small oscillations in last few years. Within the structure of overall areas, Europe dominates with almost 51%, while Asia has significant share too, around 28% (FAO, 2024). According to available areas, among the top five grape growing countries are China, France, USA, SAR, and Italy, while the top five grown grapevine varieties are Cabernet Sauvignon, Merlot, Tempranillo, Airen, Chardonnay, and Syrah (Khan et al., 2020). Some estimation shows that generally exists moderate but positive correlation that links grape and wine production, as in certain countries have been grown grapes, while they have not reported wine production (Stancu, 2015).

Serbia has available favorable climate and other natural conditions for grape growing. Unfortunately, it lags behind the other territorial units with identical conditions (Denda, Denda, 2016). Serbia has on disposal around 20.000 ha (+/- 10%) under the vineyards in last few years (FAO, 2024). Certain level of annual oscillations derives from the replacement of old by new vineyards. Almost 77% of active vineyards are located in Central Serbia. Wine varieties dominate over the table grape varieties (app. 79% : 21%). Over the 13% of agricultural households disposes with vineyards (Trišić et al., 2019). So, larger part of grown grapes is processed into the wine (Dašić et al., 2022). The most of grape producers (over the 60%) are part of the group that have on disposal small size vineyards (0.1-0.5 ha). Current trend in grape growing is turned to rise of number of small farms, or small wine producers, that are more and more introducing the wines of higher quality labeled by geographical indications (Prodanović et al., 2020). Grape growing is usually linked to wine-growing areas. Serbia has on disposal various terroir conditions, dividing the entire wine-growing area (Wine-growing Serbia) in three large wine-growing units, 22 wine-growing regions, and 77 wine-growing sub-regions (Jakšić et al., 2015). As the largest wine-growing region at national level is marked the Tri Morave wine-growing region (Protected Designation of Origin/PDO Tri Morave) in Central Serbia, that spreads along the Zapadna, Južna and Velika Morava rivers. The mentioned region implies the favorable climate and other natural conditions required for vine growing and production of high-quality wines with geographic indications (Tomić et al., 2017; Jakšić et al., 2020).

In previous couple decades, in Serbia has been started with the intensive renewal of old vineyards, implementing the well-recognized or some new commercially more productive grapevine varieties, modern technological solutions and mechanization, striving to achieve sustainability of national wine sector that will be internationally visible (Prodanović et al., 2021). Mentioned transition period transforms big state-

owned vine holdings into the small private, mostly family vine holdings and wineries (Simonović et al., 2019). In line to that, nowadays, in Serbia there are organizing over the 30 manifestations focused on grape or wine (Jević et al., 2016).

According to the Vineyard register, five the most represented wine varieties, per area, in Serbia are Merlot, Cabernet Sauvignon, Chardonnay, Riesling and Sauvignon blanc. Further, five the most represented newly created domestic wine varieties are: Župljanka, Morava, Probus, Sila and Župski Bojadiser, while the five most represented autochthonous and regional wine varieties (local varieties) are: Grašac (although some authors classify it as a widespread regional variety), Frankovka (regional variety), Prokupac, Tamjanika Bela (group of genotypes/sub-varieties - according to some authors, a regional variety) and Smederevka. The five most widely represented table grapevine varieties in Serbia are: Muskat Hamburg, Moldova, Muskat Italia, Victoria and Cardinal (Jakšić, 2019; Jakšić et al., 2024).

Generally, in this moment Serbia is missing sufficient level of vineyard areas, and consequently, Serbia is missing adequate quantities of domestic grapes, wine and wine products, and spirit drinks produced by domestic grapes to provide overall self-sufficiency (Petrović et al., 2024). Besides, out the season table varieties are imported towards the strengthening the offer of fresh grapes in retail. In recent time, intensification in tourism development and establishment of several quite attractive wine routs in Serbia cause the increase in “silent” export of domestic wine sector.

The main goal of the paper is to perceive the economic benefits for the vine growers in Serbia coming from larger implementation of certain autochthonous (local) contrary to international grapevine varieties. So, the main hypothesis of the research is set as: Growing the autochthonous (local) grapevine variety has greater potential of profitability than the international grapevine variety.

## Methodology

Like in some previous research linked to lines of crop's production and processing, used method was based on analytical calculations underlying variable costs (determining the contribution margin), as well as on assessing the critical values of production (Subić et al., 2015; Subić, Jeločnik, 2019; Jeločnik et al., 2019; Nastić et al., 2020). In this way there could be analyzed economic potential of certain grape varieties successfully grown at the national level, and later support the adequate producers' decision related to introduction of the variety that gives better profitability into the vineyard.

Data set required for economic analysis was gained from the Tri Morave wine-growing region, specifically Trstenik wine-growing subregion (widely recognized wine-growing area), while they refer to growing season 2022/23. Analysis assumes the identical, or at least quite a similar production conditions available at the observed farm, i.e. the use of the same fixed assets (land, mechanization, equipment, etc.) and inputs (pesticides, fertilizers, external labor, etc.), in norms that fit the best the specificity of grown variety (except in case when the grown variety requires some special treatment).

Presentation of all derived results is done through the adequate tables, while all results are expressed in EUR. All costs and incomes are assumed for the one hectare of vineyard in full yielding. Development of analysis implies consultation with available

scientific and professional literature focused on vine growing, as well as experts in grape production.

Potential research limitations are recognized in development of analytical calculations just towards the data derived from one growing season and one locality. Also, derived results could differ in line to used technological approach in production, state of mechanization and equipment, as well as level of used mechanization in growing activities, main producers' goal (balance between the quantity and quality of gained yields), etc.

## Results and Discussion

Globally and locally, growing wine varieties are dominating over the table varieties. Towards to mentioned fact, as well as providing the better economic comparability, there are chosen two wine varieties of white wine variety, one international (Chardonnay) and one autochthonous (local), (Tamjanika Bela), mostly grown in Serbian vineyards. It's assumed that applied growing technology and gained yields in both used varieties guarantee later production of high-quality wine. However, it should be borne in mind that the Tamjanika Bela variety is actually a Muscat variety whose wines are increasingly favored by domestic wine consumers.

More closely, Tamjanika Bela represents old local variety with specific muscat taste and aroma after it reaches the full maturity (in October). There are some believes that variety originated from France as a sub-variety of Muscat. It has great vegetative strength, developing semi-massive compact grape cluster. Grape is yellowish or greenish with some rusty color shade. It belongs to semi-yielding variety that prefers warmer regions. Variety is considered as the oldest Serbian autochthonous variety, grown even in the time of Nemanjić dynasty. Tamjanika Bela is usually grown in central, and eastern Serbia (Beslic et al., 2012; Tarailo, Vuksanovic, 2018).

Chardonnay represents green-skinned grapevine variety, dominantly used in white wine production. Although is currently grown worldwide, it is supposed that variety was initially introduced in Burgundy (east part of France). In line to good adaptability to various production conditions, variety could be easily cultivated. Meanwhile, it shows certain difficulties towards the pests and diseases (Carvalho et al., 2013; Singh, Srivastava, 2018). There are some estimations (CVO, 2024) that currently in Serbia is 640 ha under the Chardonnay variety in commercial production (8.5% of overall surfaces of commercial vineyards), contrary to 305 ha under Tamjanika Bela (4.05%).

Following the rise in demand for grapevine varieties used in high quality wines production at local market, grape producer is considering to enlarge his vineyard (from 3 ha to 4 ha). Basically, grape grower could be in same time the small wine producer. Owned winery has potential to further process gained yields, as well as to bottle and store the additional wine quantity until the moment of wine selling. In line to adequate respond to market requests he has to decide what grapevine variety will fit the best previously established business strategy, of course adjusted to his experience and available technological base and knowledge (both varieties have been already involved into the production structure of the farm). Besides all, one of the steps in solving business dilemma, i.e. expanding the vineyard with widely recognized international variety, or

with some autochthonous (local) but well-known and now popular variety, requires economic analysis in order to perceive the current profitability potential of observed solutions (Tables 1. and 2.).

Calculation of expected wine varieties production (Chardonnay and Tamjanika Bela) assumed that the same variety will be grown on the full hectare. Overall yield of gained grape will be in function of wine production, while its value will be assessed according to current purchase price (in moment of harvesting) for a given variety at the local market. The producer uses all types of public support given to plant production, specifically viticulture.

It is assumed that all required inputs are purchased at the local market or through suppliers. In order to simplify and later make it more comparable, incurred costs of mechanization are expressed by the use of pricelist of services of mechanization issued by Cooperative Union of Vojvodina (CUV) for the 2024 (CUV, 2024). Labor costs include engagement of farm members and external workers. Value of working day is expressed in gross price, reflecting the current price of labor at the level of local community for similar jobs. Since the main focus of the farm is production of quality wines, to all activities (especially vine pruning and grape harvesting) are carefully approached in accordance with the method of appliance and compliance with agrotechnical deadlines. So, the imperative of producer is not the quantity but the quality of the grown grapes.

Wherever is possible, the production elements are expressed naturally. Although the irrigation has not been used so often in grape growing of wine varieties, observed farm applied this measure. As the farm is equipped by its own dwell, irrigation costs include just the value of spent energy (there are used low pressure electro-pumps linked to drip irrigation system). The negative impact of climate change on the gained yields and quality of grapes is mitigated by insuring vineyards to the extent of about 10% of the planned value of grape production. Land between the rows are maintained as fallow land, including the annual soil cultivation. The performed calculations are in line to vineyard in full yielding.

Some research focused on impact of climate change to grape growing have been noted that there are already certain adaptation strategies that enable producers to decrease derived negative economic effects (unfortunately they usually require larger short-term costs). Besides, current level of climate changes initiate moving of growing areas closer to the both Poles (Ashenfelter, Storchmann, 2016).

There are no significant differences in technological approach, performed operations and norms of used inputs (they are aligned with the requirements of the grown varieties), as well as at expected yields of observed wine varieties. Based on fact that production year 2022/23 meteorologically was not so favorable to viticulture (unusually colder start of summer, and further unstable weather in later spring and summer months, with often change of heatwaves and heavy rains (RHMO, 2023)), deriving the decrease in expected yields and intensive use of pesticides. In the Trstenik wine-growing sub-region, however, the vineyards used for the analysis in this paper were obtained with high, i.e. average yields and high grape quality. However, it should be emphasized that the Tamjanika Bela variety is genetically a higher yielding variety than Chardonnay, but with a later grape ripening time, it is therefore more exposed to a possible stronger infestation by grape botrytis. The mentioned facts certainly affect the costs, but also the profit.

It is assumed that the additional production of grapes at the farm, but not the purchase of grapes or wine in bulk at the market, would have a better effect on the quality level of the raw material later used in wine production. The determination towards the observed varieties is the fact that Chardonnay is a wine variety that always has a satisfactory demand on the local and regional market, while Tamjanika Bela represents the autochthonous (local) variety that have made a significant increase in demand in recent period, which could ultimately achieve a slightly higher price in conditions of shortage in supply.

There has to be underlined again that produced grape will be later processed at the farm into the wine, while it will be valued at the wholesale (fair-trade) price that could be gained at local market. All inputs required in grape growing are purchased locally. All occurred costs in grape growing will be assessed towards the previous technological experience of the producer. Available mechanization and external labor could be utilized in production at expanded vineyard. Producers' business moto is focused to quality than to quantity of produced grapes.

**Table 1.** Contribution margin in grape growing (in EUR/ha, growing season 2022/2023, variety Chardonnay)

Element	UM	Quantity (per ha)	Price per UM (EUR)	Total (EUR/ha)
<b>I – Value of production</b>				
Grape	kg	10,000	0.85	8,500
Subsidy (annual area-based coupled payment)	set	1	150	150
<b>Total</b>				<b>8,650</b>
<b>II – Costs of production</b>				
Mineral fertilizers				350
Pesticides				1,385
Costs of irrigation (energy)	kwh	600	0.1	60
Binder	kg	6	10	60
Mechanization				850
Crates (wooden - 2 layers, 10 kg)	pcs	250	1	250
Insurance (10%)				850
Labor				1,945
Other costs				100
<b>Total</b>				<b>5,850</b>
<b>Contribution margin (I-II)</b>				<b>2,800</b>

Source: according to authors' calculation

According to results in previous tables (Table 1. and 2.), higher incomes (for over the 40%) in Tamjanika Bela growing derives from higher yields and better selling price at local market. Contrary to that at the cost side, in Chardonnay growing are made for 15% lower costs in observed year. Within the structure of overall variable costs in both productions dominate the costs of labor and applied pesticides. In both varieties

are achieving the positive contribution margins, in extent that secures later satisfying level of profitability. Mineral fertilizers include the NPK and KAN appliance. Used pesticides involves herbicides, insecticides and mainly the fungicides. High labor costs are something as a standard in a grape growing, although in recent time producers much more implement mechanical pruning or grape harvesting, while simultaneously facing the issue of larger costs of lost yields due to mechanical harming of grape kernel (Kurtural et al., 2019; Jobbágy et al., 2021).

Costs of mechanization services covers the following activities: spring and autumn deep ploughing, shallow soil cultivation, pesticides application, basic and additional fertilization, summer pruning, transport of used inputs and harvested grapes, etc. On the other side, costs of labor involve next activities: winter and summer (corrective) pruning, collecting and taking out of cut vine branches, repair of poles and strings straining, binding the branches and young shoots, correction of spring and autumn tilling, shallow land cultivation within the rows, pesticides preparation and appliance (corrective), handling the used inputs in and out the vehicles, grape harvesting, maintaining the farm roads, etc.

**Table 2.** Contribution margin in grape growing (in EUR/ha, growing season 2022/2023, variety Tamjanika Bela)

Element	UM	Quantity (per ha)	Price per UM (EUR)	Total (EUR/ha)
<b>I – Value of production</b>				
Grape	kg	12,000	1	12,000
Subsidy (annual area-based coupled payment)	set	1	150	150
<b>Total</b>				<b>12,150</b>
<b>II – Costs of production</b>				
Mineral fertilizers				385
Pesticides				1,525
Costs of irrigation (energy)	kwh	600	0.1	60
Binder	kg	6	10	60
Mechanization				935
Crates (wooden - 2 layers, 10 kg)	pcs	300	1	300
Insurance (10%)				1,200
Labor				2,140
Other costs				150
<b>Total</b>				<b>6,755</b>
<b>Contribution margin (I-II)</b>				<b>5,395</b>

Source: according to authors' calculation

Higher yielding, but also slightly later time of grape ripening, as a result of which there is a possibility of grape botrytis attack of variety Tamjanika Bela assumes certain costs more expressed contrary to those gained at Chardonnay. Generally, according to economic aspect, gained contribution margins strongly favorize the business decision turned to growing the Tamjanika Bela.

In next table (Table 3.) are defined the critical values of production, i.e. the values that equalize the gained contribution margin with zero (Subić et al., 2017), linked to growing of both varieties. According to gained results, there are standing out the production line of Chardonnay as economically more sensitive to possible production risks.

**Table 3.** Critical values of Chardonnay and Tamjanika Bela grape growing

Description	Grapevine variety	
	Chardonnay (in EUR/ha, EUR/kg)	Tamjanika Bela (in EUR/ha, EUR/kg)
Expected yield (EY)	10,000	12,000
Expected price (EP)	0.85	1.00
Subsidy (s)	150	150
Variable costs (VC)	5,850	6,755
Critical price: $CP = (VC - s) / EY$	0.57	0.55
Critical yield: $CY = (VC - s) / EP$	5,674	6,605
Critical variable costs: $CVC = (EY \times EP) + s$	8,650	12,150

Source: according to authors' calculation

According to economic analysis, growing both grapevine varieties show good potential in profit gaining (contribution margins are positive, while their values represent fine assurance that producer will reach sufficient level of net income, enough even for accumulation and further investments). Better results are obtained at Tamjanika Bela, that could be a first producers' choice in upcoming planting vineyard enlargement. Of course, one of good decisions could be also splitting the newly implemented vineyard surface into the equable parts (or in certain portion) that will involve both varieties. It has to be mentioned that gained research results (positive contribution margin) are generally in line to some previous researches in Serbia and worldwide, providing the evidence that grape growing could be profitable (Filipovic et al., 2017; Milić et al., 2016; Koctürk, Engindeniz, 2009; Pappalardo et al., 2013).

Generally, the main benefits for producer after stepping up the vineyard enlargement are that he could affect the level of grape quality, to avoid certain market instabilities, and at the end through the wine making he could secure better overall profitability for the farm. However, it should be noted that Muscat wine made from grapes of the Tamjanika Bela variety is currently quite popular, so that grapes of this variety have a slightly higher price.

## Conclusion

Serbia has good natural conditions and production potentials for further development of viticulture and winemaking sector. In current structure of grapevine varieties available in vineyards at national level, besides international one, there are present several autochthonous and regional varieties. Paper tried to discuss is there

any economic effect that will trigger producers' decision to planting international or autochthonous (local) grapevine variety with the purpose of producing white wines, in situation when he has already entered process of vineyard enlargement.

In line to obtained data for the production year 2022/23 and Tri Morave wine-growing region (PDO), Trstenik wine-growing subregion, derived research results show that from annual running of one hectare under the predefined wine varieties producer could expect achieving of positive contribution margin (specifically 8,650 EUR/ha by growing the Chardonnay, or 12,150 EUR/ha by growing Tamjanika Bela). According to the level of gained contribution margin and level of production risks (level of calculated critical values), final decision could slightly favorize growing of autochthonous (local) wine variety at the observed locality. In line to previously mentioned, derived results fully agree the initially set research hypothesis.

Performed research could support promotion of growing autochthonous and regional grapevine varieties at national level. Meanwhile, there are certain research limitation that could initiate wrong decision. Before all, any decision based just on one production year in agriculture could be linked to uncertainty (occurrence of specific weather and market conditions). So, in some further research, there could be used average production results derived from three-year period and from same farm or grape producers in other wine-growing area. It is also proposed that priority be given to studies on different grapevine varieties (group of red wine varieties, comparison with table varieties, etc.) in order to support producers and the institutions responsible for implementing agricultural policy measures. Besides, gained results could serve as a good base for next research steps that will advance producers' final decision, as it has to be dispersed to economic analysis of creation value added in wine making with observed varieties, as well as to investment analysis of planed planting vineyard enlargement.

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## SYMBIOSIS OF SUSTAINABLE TOURISM AND BIODIVERSITY PROTECTION WITH REFERENCE TO THE SPECIAL NATURE RESERVE “TIVAT SALINA”<sup>3</sup>

### Abstract

*Sustainable tourism brings economic prosperity while preserving the environment, cultural values and identity of the local community. The aim of the work is to show that through the symbiosis of biodiversity protection and sustainable tourism, nature protected areas can improve the management of natural resources and contribute to the development of tourism at the state and regional level. This paper presents the way of current management of the “Tivat Salina” Special Nature Reserve and opportunities for its improvement, with an emphasis on the development of ecosystem services. In the research, desk research methods were used, for the conclusion of induction and deduction methods, empirical statistical data were analyzed using descriptive statistics methods, and the obtained results were adequately commented. The result of the research showed that the municipality of Tivat represents the most successful green tourist destination in Montenegro, which is consisted with the tourism brand “Montenegro - wild beauty”.*

**Keywords:** sustainable tourism, biodiversity protection, natural resources management, ecosystem services, green tourism destination

**JEL classification:** P28, Q01, Q57, Z32, O13

## СИМБИОЗА ОДРЖИВОГ ТУРИЗМА И ЗАШТИТЕ БИОДИВЕРЗИТЕТА СА ОСВРТОМ НА ПОСЕБНИ РЕЗЕРВАТ ПРИРОДЕ “ТИВАТСКА СОЛИЛА”

### Апстракт

*Одрживи туризам доноси економски просперитет уз очување животне средине, културних вриједности и идентитета локалне заједнице. Циљ рада је да покажемо да симбиозом заштите биодиверзитетa и одрживог туризма заштићена подручја природе унаприједити ће управљање природним ресурсима и да допринесу развоју туризма на државном и регионалном нивоу.*

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*У овом раду је приказан начин тренутног управљања посебним резерватом природе “тиватска солила” и могућностима за његово унапређење, са акцентом на развој екосистемских услуга. У истраживању коришћене су методе деск истраживања, за закључивање методе индукције и дедуције, емпиријски статистички подаци анализирани су применом метода декриптивне статистике, а добијени резултати су адекватно коментарисани. Резултат истраживања показао је да општина тиват представља најуспјешнију зелену туристичку дестинацију у црној гори што је у складу са туристичким брендом “црна гора – дивља љепота”.*

**Кључне ријечи:** одрживи туризам, заштита биодиверзитета, управљање природним ресурсима, екосистемске услуге, зелена туристичка дестинација

## Introduction

Sustainable development of any country implies meeting the needs of present generations without jeopardizing future generations' opportunities for further development (Sarić et al., 2013; Vuković and Grujić, 2020), which can only be achieved with balanced development of economy, society, and environment (Sarić and Grujić, 2018).

“By applying sustainable development methods, permanent foundations are created for the rational use of natural resources and energy, as well as for the improvement of the environment as a whole. Due to the increasing pressure on natural resources, there is a need to plan and control tourism, and the concept of sustainable development of tourism should represent the basis of long-term development within the tourist destination” (Khoja et al., 2021). This applies primarily to the destinations that, without diminishing the importance of the financial and social aspects, prioritize environmental protection. United Nations World Tourism Organization (UN WTO) emphasizes that sustainable tourism development can be applied to different segments of tourism while respecting the principles of sustainability relating to the ecological, economic and socio-cultural aspects and a proper balance must be established between all three dimensions in order to guarantee long-term sustainability (<https://www.unwto.org>). “The essence of the concept of sustainable development is the interaction of economic development and the environment, and the mutual conditionality and complementarity of development policy and environmental protection policy, which respect the laws of ecological systems.” (Milanović, 2009, p.39).

Lane (2018) states that the concept of sustainable tourism has begun to develop in the 1970s and '80s, as a response to the rapid growth of tourism in the post-war period. Tourism as an industry is worth more than a billion dollars, requiring constant financial investments to remain sustainable.

Tourism as an industry is realized by constantly consuming natural resources, which directly affects the environment, ecosystem, economy and other activities (Stukalo et al., 2018). This group of Authors is of an opinion that it is important for the tourist destination to be positioned on a global level so it would be able to constantly generate income in tourism sector. However, mass tourism is affecting the destruction of ecosystems and infrastructure, which makes it necessary to combat the negative effects of tourism.

Nowadays, tourists are looking for tourism products that emphasize environmental friendliness and healthy lifestyle. Thus, tourists choose to turn to sophisticated vacations and with pre-defined interests (Vuković and Grujić, 2020). Project activities in the tourism sector are based, above all, on respecting the principle of sustainability, which applies not only to the environment and the economy, but also to human resources.

“The modern era has brought an increase in the number of human populations, a growing consumption of resources and various negative impacts on the environment” (Čađenović, 2023). The Government of Montenegro has so far adopted two National Strategic Plans for Sustainable Development (NSOR) for period of 2007-2012, and 2016 - 2030. “It is often forgotten that a sustainable development strategy is not just a document adopted by a particular institution (Government, Parliament, or local self-government unit). Sustainable development strategy is equally the process of seeking a vision, as well as solutions for sustainability in the community” (Milutinović, 2012, p.245).

Priority topics of NSOR by the year 2030 are:

- Improving human resources and strengthening social inclusion,
- Supporting the values, norms, and patterns of behavior essential to the society’s sustainability,
- Preservation of natural capital,
- Introducing green economy,
- Management for sustainable development,
- Financing sustainable development.

The key strategic direction for achieving sustainable growth and development in Montenegro, defined in NSOR by year 2030, is the concept of resource efficiency and circular economy. This concept is complementary to the green economy based on the application of sustainable consumption and production as one of the ways to better use the resources that Montenegro successfully adheres to.

“The purpose of sustainable tourism development is to ensure sustainability within the tourism development of certain areas, regardless of their characteristics, and to apply the principle of sustainability to all types of tourism activities, business operations and project management. It ensures the sustainability of both natural and man-made resources” (Vujović et al., 2012, p.66). The development of tourism in modern society also requires the diversification of the tourist product. “For the field of sustainable tourism, both the provisions of Community law dedicated to environmental protection and those regulating the field of tourism are equally relevant” (Joldžić et al., 2018). In order to determine the adequate path towards that goal, Montenegro passed several laws with direct impact on tourism: Tourism and Hospitality Law (Sl. list CG br.2/18,4/18-ispr., 13/18, 25/19, 67/19, 76/20 i 130/21), Tourist Organizations Law (Sl. list RCG br. 11/04, 46/07, Sl.list CG br. 73/10, 40/11, 45/14, 42/17 I 27/19), Residence Tax Law (Sl.list RCG br.11/04, 13/04, Sl.list CG br. 73/10 i 48/15), Mountain Trails Law (Sl.list CG br. 51/08 i 53/11), Ski Resorts Law (Sl.list CG br. 13/07, 40/11 i 21/14), Rafting Law (Sl.list CG br. 53/11 i 57/16). At the same time, laws that have indirect impact on tourism have been passed, such as: Zoning and Construction Law (Sl. list CG br. 64/17,44/18, 63/18, 11/19, 82/20), Nature Protection Law (Sl. list CG br. 54/16 i 18/19), National Parks Law (Sl. list CG br. 28/14 i 39/16) and Environmental Impact Assessment Law (Sl. list CG br. 75/18). We

also highlight important strategies and plans: Tourism Development Strategy for years 2021-2025 with Action Plan, Cultural Tourism Development Program with Action Plan for 2019-2021, Health Tourism Development Program with Action Plan for 2021-2023, Rural Tourism Development Program with Action Plan for 2023-2025.

The most important strategic goal of the Tourism Development Strategy of Montenegro by year 2025 is for tourism in Montenegro to develop on the basis of sustainable, inclusive, green and smart growth and to continuously be a dominant component in the economic development of the country, ensuring the reduction of regional inequality, while respecting the needs Montenegrin population and tourists.

According to Masin et al. (2009), the essence of sustainable planning, organization, and management of tourist areas and centers is to establish balance to the basic directions:

- Tourist accommodation capacities,
- Sports-recreational, cultural, entertainment and other contents of the year-round tourist offer in the area;
- Increasing the accessibility and infrastructural equipping of the tourist areas (by traffic and technical infrastructure, and communal facilities);
- Economic and social development of local communities and preservation of their cultural characteristics and values;
- Protection, sustainable usage, and presentation of natural and cultural heritage;
- Protection and improvement of the environment and landscape.

At a time when climate change and environmental degradation are our present models of sustainable development have been recognized as having the potential to reduce the effects of tourism on specific, vulnerable destinations (Lakićević et al., 2022). Recognizing the importance of the tourism potential of protected areas and their impact on the complete image of Montenegro's tourism destination, the adoption of the Program for the Development of Tourism in Protected Areas in 2025-2027 with the Action Plan was announced.

By adopting the Declaration of the Ecological State on 20<sup>th</sup> of September, 1991, Montenegro became first ecological country in the world. The Declaration defines the country's strategic commitment to adopt and apply the highest standards and norms in the field of environmental protection, while basing the economic development on the principles of ecologically sustainable system. The aforementioned document was presented the following year at the United Nations conference on environmental protection. Thirty years later, by the proclamation in the Official Gazzete of Montenegro (Sl list Crne Gore br. 145/21) published on 31<sup>st</sup> December 2021, Amendment to the Law on State and Other Holidays, 20<sup>th</sup> of September – Ecological State Day was declared a public holiday.

Declared as an ecological state, and significantly tourism-oriented, Montenegro is defining its development path towards a green economy, resource efficiency, sustainable production and consumption with the implementation of ecological standards. Blečić (2016) points out that “The strategic direction of the development of the national economy, through the prominence of tourism, imperatively imposes the obligation to make the process of revitalization of available capacities in the institutional sense simpler, more efficient and more rational.”

Management and protection of natural resources is a multi-layered process from an ecological and economic point of view. This paper will present the sustainable tourism valorization of the Special Nature Reserve “Tivat Salina” and its importance in obtaining the certificate “Green Destination 2021” for Tivat municipality. As stipulated in article 23 paragraph 5 of Nature Protection Law (Sl. list CG br. 54/16, 18/19) “in a special nature reserve, visits may be made for the purpose of monitoring the state of nature, education and tourism on the basis of the approval of the management, provided that wildlife populations are not disturbed and the habitat of wild animals, plants and fungi is not violated”.

## Objective and Methods

The aim of this scientific research is to showcase the possibility of a symbiosis of sustainable tourism and biodiversity protection, and how much of it was achieved in Tivat. Understanding the cause-and-effect relationship between sustainable economic development and environmental protection, as well as its impact on the quality of life of the wider community, represents the driving force towards achieving the stated goal.

This paper will use the methods of scientific description (qualitative and quantitative), analysis and synthesis, as well as the induction-deduction method. The scientific justification of the research is reflected in the deepening and expansion of knowledge, and especially the applicability of the concept of sustainable tourism in our conditions, so that the contribution will be heuristic. The results will be verifiable, confirming scientific knowledge already acquired.

The social relevance of the research topic in this work is at a high level, as it touches the daily lives of all citizens.

The main sources of data used in this paper are: Directorate for Statistic of Montenegro - MONSTAT, Tourist Organization of Tivat and Official Gazzete of Montenegro (for legislative framework descriptions).

## Sustainable Tourism Development in Tivat in period of 2016 - 2022

Tivat is home to internationally protected species of flora and fauna and is the best example of the development of sustainable tourism and environmental protection in Montenegro, and has been working diligently and worthily towards this goal for years. This city is also known for its developed nautical and congress tourism. More than 15 years ago, a luxury yacht marina with a 5-star hotel and exclusive residential units was opened – Porto Montenegro, and since recently there is also Luštica Bay with similar tourist offer. Proximity to the airport, as well as good infrastructural connections with other coastal towns, as well as the mountain region and national parks, completes the tourist offer of Tivat.

A large number of countries around the world are committed to implementing the principles of sustainable tourism development in their strategic plans (Milićević, Momirović, Simonović, 2022). Montenegro has adopted significant national and local strategic plans on this basis. Here, we will focus on municipality of Tivat and list the development documents, such as: Tourism Development Strategy of the Municipality of Tivat for the years 2020-2024 with Action Plan (Sl. list CG br. 53/19), Local Action Plan for Biodiversity from 2018 to 2023,

General Plan of Protection against the Harmful Effects of Water, for water of local significance of the Municipality of Tivat for the period from 2018 to 2023. (Sl. list CG br. 32/18), Local Energy Plan of Municipality of Tivat from 2017 to 2023, i Energy Efficiency Improvement Program for the period 2021-2023. Some of the significant Strategies and Action Plans relate to the period that has passed, but they are still relevant, such as: Local Environmental Protection Plan for the period 2017-2021 (Sl. list CG br. 12/17), Local Municipal and Non-hazardous Construction Waste Management Plan for the period 2017-2020 (Sl. list CG br. 12/17), as they define the future strategic directions for sustainable tourism development.

In the Tourism Development Strategy of the Municipality of Tivat for the period 2020 - 2024 with the Action Plan for 2020 - 2024 (Sl. list Crne Gore br. 53/19) it is stated that in 2018, the total number of beds in hotels was 1,578, while in the remaining collective accommodation there were 142 beds. There are total of 4,016 beds in private accommodation, and 487 beds in apartment blocks.

Data on the number of guests and overnight stays in period of 2016 to 2022 (Table 1) shows that the steady growth has been recorded from year to year. The most successful year in terms of the number of guests was 2019, with an increase of 37,864 guests or 30.7% compared to the previous year, and compared to 2016, the increase was 86,792 guests or 116.7%. The increase in the number of guests in 2017 amounted to 29.6%, and in 2018, compared to the previous year, amounted to 27.9%. As for the number of overnight stays, the most successful year was 2022, which compared to 2016 amounts to an increase of 65.9%, and compared to 2016 the number of overnight stays increased by 37.8%. In March 2020, the first case of Covid-19 virus was recorded and Montenegro introduced restrictive measures for entering the country, and bearing in mind that foreign guests account for over 90% of guests on the territory of the municipality of Tivat, we must emphasize that for these reasons the worst results were achieved in 2020. Thus, the data shows that the number of guests that year was 80.4% less compared to 2019, and in 2021 an increase of 205.8% was achieved. Similar situation happened with the number of overnight stays – decline compared to 2019 was 77.4%, and increase in 2021 amounted to 234.4%.

*Table 1: Number of guests and overnight stays in Tivat for 2016-2022*

Year	Guests -Total	Index level of 2016 = 100	Percentage of change (%)	Overnight stays - Total	Index level of 2016 = 100	Percentage of change (%)
<b>2016</b>	74,361	100	-	733,542	100	-
<b>2017</b>	96,384	129.6	29.6	869,542	118.5	18.5
<b>2018</b>	123,289	165.8	27.9	926,574	126.3	6.6
<b>2019</b>	161,153	216.7	30.7	1,167,092	159.1	26
<b>2020</b>	31,595	42.5	-80.4	264,200	36	-77.4
<b>2021</b>	96,604	129.9	205.8	883,359	120.4	234.4
<b>2022</b>	139,048	187	44	1,217,218	165.9	37.8

*Source: Author's estimate calculated using data from <https://www.monstat.me> (accessed April 1<sup>st</sup>, 2023.)*

Following trends in the number of guests over the seven-year period, we see that in the period from 2016 to 2019 (a record year for the entire observed period) the increase

ranged from 27.9% to 30.7% on an annual basis. Excluding year 2020 and 2021, an interannual growth of 44% was recorded in 2022. As for the number of overnight stays, there was a slightly smaller increase compared to the number of guests. Namely, in 2017, compared to previous year, an increase of 18.5% was recorded, in 2019 an increase of 26%, and the least increase (6.6%) was recorded in 2018. After a large drop in number of guests of 80.4% and overnight stays of 77.4% in 2020, during 2021 an increase of over 200% was achieved, compared to previous year; compared to 2016, that increase amounts to 29.9% for the number of guests and 20.4% for number of overnight stays. In 2022 the number of overnight stays increased by 37.8% compared to the previous year.

Analyzing the trend in the number of guests and overnight stays in the seven-year period, i.e. from 2016 to 2022, a big drop is visible in 2020, but we have previously explained the objective reasons for such a situation in tourism not only in Tivat, but we must emphasize in the whole of Montenegro, where tourism is the main economic branch. However, the recovery came soon. In 2021, the number of overnight stays was slightly higher than in 2017, and in 2022 an increase was recorded compared to the record year 2019. Comparing the number of overnight stays in 2022. to the initial year (2016), we see that there was an increase of 65.9%, and the number of guests increased by 87%, which represents a very significant progress.

If we single out the two most challenging years for tourism in recent history - 2020 and 2021, we will see that in those years the number of guests and overnight stays recorded an evident decline, but still we see that in 2021 due to the relaxation of the prescribed measures - conditions for entry into the country, much better results were achieved. Worldwide, the declaration of a pandemic dealt a major blow to the tourism sector. This has particularly affected countries that are primarily tourist-oriented, such as Montenegro. However, there are noticeably more tourists in 2021, heralding a recovery and new momentum in the development of the tourist destination.

In following table (Table 2) the main indicators of the descriptive statistics of the observed variables over the analyzed seven-year period are presented.

*Table 2: Descriptive statistics of the total number of guests and overnight stays in Tivat from 2016 to 2022*

Year	Guests - total	Overnight stays - total
Average	103,204.9	865,932.4
Min	31,595	264,200
Max	161,153	1,217,218
Std. Dev	43,004.1	315,621.6
Cv (%)	41.7	36.4
PGSP	11	8.8

Source: Author's calculation based on data from <https://www.monstat.me>

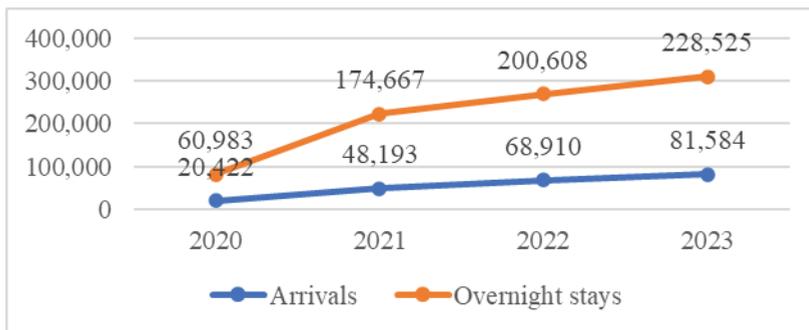
Based on the data shown in the table above, we came to the following conclusions:

- the average number of guests and overnight stays is at a satisfactory level, given that the analyzed period includes two pandemic years (2020 and 2021);
- the lowest numbers of guests and overnight stays was achieved in 2020;
- the highest number of guests was recorded in 2019, while the highest number of

- overnight stays was recorded in 2022;
- the average deviation from the total number of guests is 43,004.1, and for the number of overnight stays is 315,621.6;
- moderate variability in the number of guests and overnight stays was recorded in the observed period,
- in the period analyzed, the total number of guests increased on average by 11% per year and the number of overnight stays by 8.8%.

If we single out the two most challenging years for tourism in recent history - 2020 and 2021, we will see that in those years the number of guests and overnight stays recorded an evident decline, but still we see that in 2021 due to the relaxation of the prescribed measures - conditions for entry into the country, much better results were achieved. Worldwide, the declaration of a pandemic dealt a major blow to the tourism sector. This has particularly affected countries that are primarily tourist-oriented, such as Montenegro. However, there are noticeably more tourists in 2021, heralding a recovery and new momentum in the development of the tourist destination. Constant growth is expected in the coming period, and in graph no. 1 we will show the number of overnight stays and arrivals in collective accommodation (hotels, motels, hostels, resorts) in the municipality of Tivat from 2020 to 2023 (Graph. 1.).

*Graph. 1: Overnight stays and arrivals in collective accommodation in the municipality of Tivat from 2020 to 2023*



*Source: Autor's graf based on data from <https://monstat.org>*

For several years now, Montenegro's promotional tourism slogan has been "In the company of nature" with the already recognizable brand "Montenegro - Wild Beauty". Particular attention is paid to online promotions and recommendations complete with beautiful photos and videos of the natural beauty of Montenegro. "If online recommendations contain more photos and visual information, it is more likely that tourist consumers are going to chose a travel destination based on it" (Marić et al,2022).

## Green Tourism Destination - Tivat

At the Berlin Tourism Fair, at the ceremony “Green Destinations Story Award 2021” Tivat was declared a winner in the category “Nature and Ecotourism” for the story of good practice: Restoration of natural values through management of the Special Nature Reserve “Tivat Salina / Tivatska solila”. Second place in this category went to the city of Kočevje (Slovenia), and third to Saba (Caribbean Netherlands). At the end of September 2022, the Tourism Organization of Tivat participated in the annual congress “Green Destinations 2022 - Future of Tourism Summit”, together with representatives from over 40 countries. A panel “Sustainable tourism in the Balkans” was also held - organized by the Balkan Green group which currently includes Montenegro, Bosnia and Herzegovina, Albania, North Macedonia and Slovenia. Balkan Green platform was created for the purpose of connecting business professionals and businesses with the aim of driving further sustainable development. These activities are supported by USAID- EDGE regional project. During the summit, a contract was signed between Green Destinations and Balkan Green group for exclusive regional representation. Tivat was awarded the 2022 Bronze Medal by Green Destinations, as it passed the evaluation and audit process, although the auditor’s opinion was that in the next two years, intensive work should be done on the Action Plan and the roadmap for sustainability. Tivat is the first destination in the Western Balkans to reach this level (Data taken from <https://www.tivat.travel>).

On web page of Touristic Organization of Tivat (<https://www.tivat.travel>) a prominent place is held by “green Tivat” where sustainable tourism is promoted through the introduction of the winners of “Green Key” certificate, who are meeting the conditions of environmental protection and sustainable development. Certificates are awarded to hotels, travel agencies, and individual accommodation renters who have met the prescribed criteria.

Municipality of Tivat and Touristic Organization of Tivat have provided two locations within the project “On the Paths of Sustainability” where tourists and residents of Tivat can inspect their bicycles and remove any malfunctions. Also, since 2019, the first electric vehicle charging station has been installed, and three more locations of e-charging stations are currently available.

National Touristic Organization of Montenegro in July 2022 has, together with TO Tivat, TO Bar and TO Podgorica, Public Company “Morsko dobro” and Travel Agency “Monticola” (founded by Center for Protection and Study of Birds) presented the offer of Montenegro as a new birdwatching destination at the “Global Bird Fair” which was held in Oakham (Great Britain). This large fair brings together exhibitors and bird-watching enthusiasts from around the world. Birdwatching tourism attracts mostly tourists from Great Britain, Germany and the Netherlands. Great Interest has been shown for the offers of Tivat Salina, Nacional Park “Skadar Lake” and other localities in Montenegro that can meet the demands of this category of tourists (<https://www.montenegro.travel>).

In 2023, TO Tivat continued on the path of development and retention of the achieved goals, such as the re-certification “Green Destination”. In addition to the development of birdwatching tourism, incentives are planned for cultural, nautical and sports tourism. The results achieved in the first seven months of 2023 bring a constant increase in the number of guests and overnight stays, which confirms the good development path of the tourist destination of the municipality of Tivat.

## Special Nature Reserve “Tivat Salina”

According to historical data, the exploitation of salt in the area of today’s Tivat Salina dates back to 1425. During Ottoman Empire occupation in the 17<sup>th</sup> century, almost 81% of the population of Luštica, Đurašević, and Kotor has earned income from the salt production. Similarly, during the 1960s an attempt was made to organize the salt factory, but the project was abandoned after two seasons. Therefore, in 2007, this area was protected as a special nature reserve for the conservation of plant and animal species, especially ornithofauna (<https://www.bokanews.me>).

Special nature reserve “Tivat Salina” is situated in the marshy part of Tivat bay (between Tivat Airport and Luštica peninsula) and covers an area of 150 ha; and since 2013 it has been registered with RAMSAR list (list of internationally significant wetland habitats) as a special reserve of flora and fauna. In accordance with Bern Conference this location has been made a part of Emerald network, and it has also been declared an IBA (Important Bird Area). 114 species of birds have been registered, out of which more than 109 enjoys a protected species status. The system of shallow salt pools and canals creates a unique ecosystem that can only be seen in one other place in Montenegro – Nature Park “Ulcinj Salina”.

Public Company “Morsko dobro Crne Gore” is managing Special Nature Reserve “Tivat Salina” since 2011, in cooperation with the Municipality of Tivat, TO Tivat and the Center for the Protection and Study of Birds (CZIP). In the document - Information on the conservation status and activities in the Special Nature Reserve “Tivat Salina” from December 2021, the following activities are listed (<https://www.gov.me>):

- a) There were 114 species of birds registered, in 2020 this number is 185 (improvement);
- b) Extended deadline to four years for giving a final assessment of the state of phyto and zooplankton;
- c) Furnishing and equipping (installation of awnings, fencing the boundaries of the reserve, installation of galvanized boards, information boards, road signs, new rest areas);
- d) Educational and touristic activities (organized visits of schools, university students, and NGOs, press visits, social networks promotions);
- e) Collaboration with other institutions:
  - TO Tivat (Green Destination Story Award 2021 for story of good practice of managing Special Nature Reserve “Tivat Salinas”)
  - Realization of project “e-PATH - Endemic Pathways” – IPA regional project (Montenegro, Bosnia and Hercegovina, and Croatia) which will include an info center with multimedia and birdwatching equipment,
  - TO Tivat and TO Herceg Novi have initiated activities on the development of a panoramic route on the Luštica peninsula.

By applying good management practices to protected areas of European and global significance, the protection of biodiversity will not be jeopardized by tourist valorization, if maintained at a sustainable level. The sites that are on IBA and RAMSAR list (internationally significant wetland habitats) have great potential to develop into a birdwatching tourist destination (Bird watching tourism). Raising awareness of the local population about the importance of natural resources for the tourist offer of the entire destination is very important.

Using the example of establishing Nature Park “Vrmac, which is intended to protect the peninsula – hill that connects Kotor and Tivat, it has caused great resistance from local population who feared that they will be denied the use of natural resources in that area. Education on the responsible management of natural resources is set as a priority for achieving sustainable green development, which is the basis of all strategic plans in Montenegro.

In the final pages of the document - Information on the conservation status and activities in the Special Nature Reserve “Tivat Salina /Tivatska Solila” from December 2021, conclusion has been made: “that this reserve has maintained the state of conservation and protection from the time it was placed under protection (2008), as well as that the state of the reserve has been improved through active management”. The public has also been informed that the illegal activities within the reserve (fishing with nets, disposal of materials, and illegal hunting) have been reported to the competent inspection authorities. The great help in the management, organization of educational and promotional activities from the Tivat Tourist Organization and the NGO “Center for the Protection and Study of Birds” - Podgorica was emphasized.

Taking into consideration that the Public Company “Morsko dobro” is managing reserve since 2011, actual achievement in the course of the decade long work are admittedly small. Perhaps the cause of this is the insufficient financial resources allocated for this purpose, insufficiently skilled human resources (without the help of NGO “Center for the Protection and Study of Birds” adequate monitoring and protection of biodiversity would not be possible), lack of vision for untapped potentials that would affect not only Tivat, but the country as a whole in the future; nevertheless, the results could have been much better.

Image 1 shows one of new wooden rest areas for visitors, that has placed in Special Reserve “Tivat Salina”. Natural materials have been used, and care has been taken not to damage the ecosystem and the natural environment. Same material has been used to make wooden awnings and road signs.

Image 2 shows natural salt pools. Salt pools provide habitat for a host of protected species of flora and fauna, especially birds. Maintaining this type of habitat requires a serious continuous professional work plan, in order to conserve this ecosystem.

*Image 1: Tivat Salina – wooden rest area for visitors*



*Image 2: Salt pools – Tivat Salina*



*Source: Photographs by the paper's author*

Educational-recreational visits of educational institutions, non-governmental organizations and experts are outlined in the Local Action Plans of the Tivat's Municipality. This type of activity represents the basis for the development of environmental awareness and a responsible attitude towards natural resources from the youngest age of the local population to the promotion of scientific and research work of interested professionals.

Proximity to protected water areas listed on RAMSAR List – NP Skadar Lake only 67 km away and the Nature Park “Ulcinj Salina” 90 km away (with also Bojana river Delta - 10km further), creates a good platform for organizing joint tours for birdwatching tourists. Travel Agency “Monticola” currently offers birdwatching tours for individual nature parks or national parks.

The promotion of sustainable and birdwatching tourism carried out by TO Tivat represents a good basis for adequate financial valorization of the potential of the Tivat salt flats, not forgetting the importance of protecting the biodiversity of the protected area. Nevertheless, we must emphasize the weak development of ecosystem services, which would significantly improve the responsible management of the reserve, and the well-being of both people and nature.

## **Ecosystem Services**

In June 2020, the European Commission adopted the Biodiversity Protection Strategy by 2030, defining it as “a comprehensive, ambitious and long-term plan for nature protection and ecosystem degradation”. This strategy is one of the key elements underpinning both the European Green Plan and the Green Agenda for the Western Balkans. Montenegro is late with the adoption of the new strategies, the latest being the National Biodiversity Strategy 2016-2020.

In the light of the recommendations of these Strategies, the importance of ecosystem services in protected natural areas is highlighted. The concept of ecosystem services emphasizes the connection between man and nature, and their loss affects nature, the economy and the well-being of people. The institution's support to local producers and tourism service providers in recognizing the importance of biodiversity conservation for the promotion of their products is very significant. Eco certificates of tourist accommodation and various products are recognized by an increasing number of providers of these services as a prerequisite for a responsible attitude towards natural resources.

Non-material ecosystem services are very important for the promotion of a tourist destination. The necessity of linking the promotion of the cultural heritage, which represents the immeasurable richness of this climate, with the biodiversity and representation of endemic species, is recognized as a key determinant of branding a distinctive unique tourist destination.

The National Biodiversity Strategy 2016-2020 researched the possibilities of valorizing ecosystem services and reported that in 2011, the gross value of total production amounted to 5.24 billion euros, the gross value of ecosystem services amounted to almost a fifth of this value. It has been estimated that the value of ecosystem services could be much higher if all potentials are harnessed. This assessment is still valid today, and can be applied both to the Special Nature Reserve “Tivat Salina” and to all other protected areas in Montenegro.

Bearing in mind that sustainable tourism is a form of tourism development that has a balanced impact on natural, economic, cultural, and social values it is necessary to highlight the fact that tourism has emerged as a factor in the revitalization and development of underdeveloped areas (Raičević et al., 2021). If we all adopted this way of thinking, planning and acting, we would succeed in achieving a symbiosis of sustainable tourism and biodiversity conservation.

## Conclusion

The first steps on the path to the development of sustainable tourism and the protection of biodiversity is the adoption of a legislative and planning framework at the state level. We have seen that Montenegro's legal compliance with European standards has been achieved almost completely, but their implementation is either delayed or inadequate. In the coming period, the Municipality of Tivat plans to reduce the identified pressures on biodiversity, establish a manager for all their nature resources, adequate waste management and environmental education of population.

Tivat is the most positive example and has certainly reached the furthest on the path of sustainable tourism development with the international Green Tourism Destination Award. Special Nature Reserve "Tivat Salina" is part of the green sustainable development story of Tivat. For a decade, Public Company "Morsko dobro" has been managing it, maintaining the level of biodiversity conservation, but with very little development and economic valorization. Tourist Organization of Tivat is involved in the promotional activities (since last year with an emphasis on the promotion of birdwatching tourism) and the organization of educational visits together with CZIP (NGO "Center for the Protection and Study of Birds").

The development of a protected natural area as a tourist destination is very important, but this must be approached with extreme caution by planning well for the protection of biodiversity, creating sustainable development without the degradation of ecosystems. The inclusion and adequate valorization of ecosystem services is necessary and desirable in protected natural areas. Monitoring the condition and introducing the control is mandatory for responsible management of natural resources and sustainable development.

In the coming period, attention should be paid to linking the tourism valorization of protected areas in Montenegro, as well as the possibility of cross-border cooperation with neighboring countries. If we connect the tourist offer according to e.g. the desire of tourists to observe birds, we are able to offer the National Park "Skadar Lake", the Special Nature Reserve "Tivat Salina" and the Nature Park "Ulcinj Solina", which are very close and represent a roadmap for further development of a joint tourist presentation.

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## REMITTANCES AS A SOURCE OF EXTERNAL FINANCING -GLOBAL AND REGIONAL TRENDS

### Abstract

Remittances are an important source of external financing for developing countries. Migration movements of the population from less developed to developed countries, in addition to a strong migration base, created the conditions for rising global remittance inflows. When it comes to developing countries, the above is particularly important, given that remittances represent a relatively stable source of inflow of foreign currency funds that partly improves the external imbalances in these countries. Also, these funds are of non-refundable nature, which means they do not increase the external indebtedness. The Western Balkan countries are the largest recipients of remittances among the developing countries in Europe. In addition, the share of remittances inflows in GDP is much higher in the Western Balkan countries compared to the EU member countries. The subject of research in this study is based on identifying the role of remittances as a source of external financing in developing countries. According to the subject of research, the aim is to establish the importance of remittances compared to other sources of external financing (foreign direct investment and official development assistance), with a special focus on the Western Balkan countries.

**Key words:** *remittances, external financing, developing countries, foreign direct investments*

**JEL classification:** *F 24, F32*

## ДОЗНАКЕ КАО ИЗВОР ЕКСТЕРНОГ ФИНАНСИРАЊА – ГЛОБАЛНИ И РЕГИОНАЛНИ ТРЕНДОВИ

### Апстракт

*Дознаке (лични трансфери) представљају веома значајан извор екстерног финансирања за земље у развоју. Миграциона кретања становништва из мање развијених ка развијеним земљама, поред јаке емиграционе базе створила су услове за растући прилив дознака у глобалним оквирима. Из перспективе земаља у развоју наведено је посебно битно, обзиром да дознаке представљају*

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*релативно стабилан извор девизног прилива који обезбеђује финансирање екстерне неравнотеже. Такође, реч је о бесповратним средствима, која не генеришу пораст спољне задужености. Земље Западног Балкана се налазе међу највећим примаоцима дознака када је реч о европским економијама у развоју. Поред тога, учешће прилива дознака у бруто домаћем производу је далеко веће у земљама Западног Балкана у поређењу са осталим европским економијама укључујући и земље Европске уније. Предмет истраживања у овом раду базира се на идентификовању улоге дознака као извора екстерног финансирања у земљама у развоју. Сагласно предмету истраживања, циљ истраживања је да се установи важност дознака у поређењу са другим изворима екстерног финансирања (страним директним инвестицијама и званичном развојном помоћи) са посебним освртом на земље Западног Балкана.*

**Кључне речи:** дознаке, екстерно финансирање, земље у развоју, стране директне инвестиције

## Introduction

The limited productive capacities of developing countries, exhibited in insufficient home capital accumulation, created the need for the external sources of finance. The persistent gap between savings and investments, that is, production and consumption, has been replaced by the import of foreign capital. However, finding the suitable source of financing abroad is a very delicate task. Foreign borrowing is the most frequently used external financing mechanism in case of developing countries. The primary shortcoming of this source of financing is reflected in the fact that it cannot be used indefinitely, since it increases the external debt of the country. The rising and uncontrolled foreign borrowing can lead to a debt crisis. The restricted borrowing could be desirable from the development point of view, in case funds are distributed to their productive uses. On the other hand, if borrowing is used to finance consumption or pay off mounting debts, the aforementioned could worsen the country's external macroeconomic position.

The business internationalization and the global capital mobility have placed the foreign direct investments (FDIs) as a significant external financing source for developing countries. During the last two decades, FDIs have had an important role in financing the external imbalance of the underdeveloped economies. The FDI inflows do not generate an increase in external indebtedness, but they can trigger an increase in the outflow of income abroad, due to the profit repatriation. Also, FDIs are characterized by very high level of volatility, especially during economic crisis. The experiences of developing countries during the first two decades of the 21<sup>st</sup> century imply that the excessive reliance of these countries on the FDI inflows during the economic crisis was counterproductive when compared to the periods of regular economic conditions.

Unlike FDIs, remittances (personal transfers) are more constant source of external financing. These are the funds that the migrants send to their home countries and include workers' remittances, pensions and social benefits, aid and gifts sent to individuals (relatives). Migration movements during the second half of the 20<sup>th</sup> century, as well as the rise of the globalization, have influenced remittances to become one of the most important sources

of external financing at the global level. From the developing countries point of view, it is important to note that these are non-refundable funds which, combined with their low variability, makes them an attractive source of external financing.

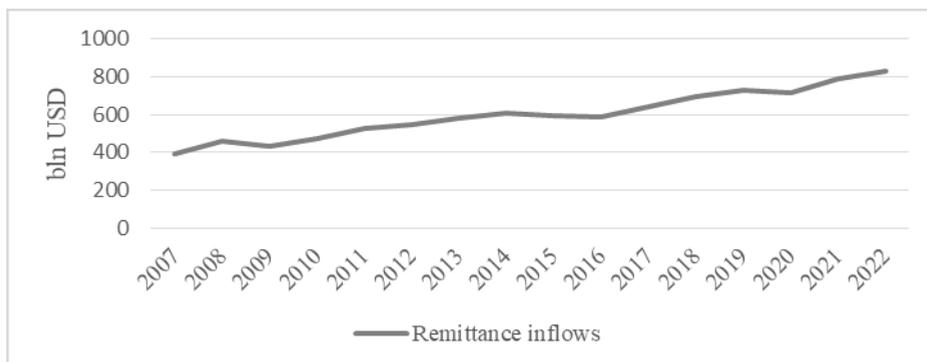
The paper deals with the identification of global and regional trends in remittance flows. The primary goal is to determine the level of importance of remittances as a source of external financing for developing countries in global context. On the other hand, the secondary research goal is to analyse the remittance flows in the Western Balkan countries as a way to carry out a comparison with other sources of external financing, primarily FDIs. The paper consist of four parts. The first part deals with the role of remittances as a source of external financing in developing countries. In the second part an analysis of remittance flows from a global perspective is carried out. The third part examines the role of remittances as a source of external financing in the Western Balkan countries.

### **The role of remittances in external financing of developing countries**

The global expansion of remittances during the last two decades of the 20<sup>th</sup> century resulted in the fact that in many developing countries they represent the largest single source of foreign currency, exceeding export flows, official development assistance, FDIs and other types of private capital inflows (World Bank, 2017). The main causes can be found in high poverty rates in developing countries, large disparities in income and wealth in those societies and the development gap between them and developed countries. Due to all of the above, remittances proved to be a more stable source of foreign currency income compared to FDIs and the other private capital inflows (Stojanov et al., 2019). One of the reasons for the lower variability of remittance flows at the global level is the geographical dispersion of the source countries. Although the role of remittances in economic development has not yet been sufficiently studied, several significant positive effects on poverty reduction, consumption, investments, exchange rate movements and exports can be distinguished (Nikolić, 2006). On the other hand, there are some studies that proved that remittances can have negative effects on economic activity (Perez-Saiz et al., 2019; Hien et al., 2020).

The globalization created conditions for greater mobility of factors of production, including labor. The low standard of living and political and socioeconomic instability in developing countries have encouraged population migration towards developed economies. Furthermore, intensive migration flows since the second half of the 20th century have positioned remittances as one of the most important sources of financing for developing countries. From a global perspective, a rising trend of remittance inflows is evident. As can be seen from Figure 1, remittance inflows have more than doubled in 2007-2022 period, from 395 to 831 billion dollars. The continuous increase in the remittance inflows was briefly interrupted during 2009 and 2020, due to Global financial crisis and the Covid-19 pandemic. The absence of fluctuations in the remittance inflows in the observed period implies that it is a source of financing resilient to global economic shocks (EMN, 2020).

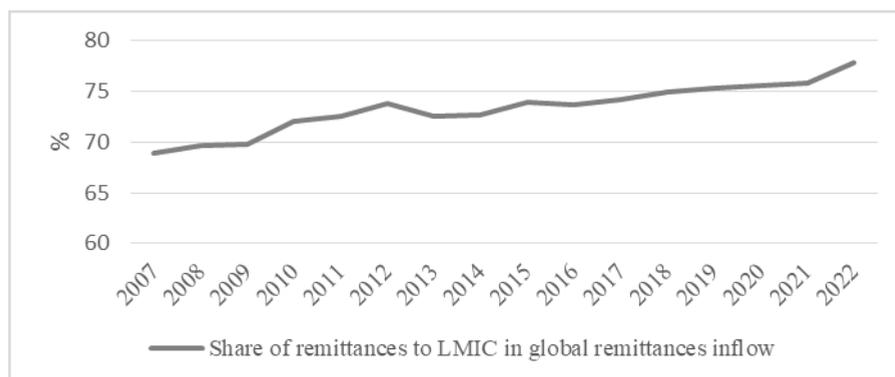
Figure 1. Remittance inflows, 2007-2022 (in USD billions)



Source: World Bank – Knomad (2023)

However, high transaction costs of sending remittances (around 5 to 10 percents of the amount sent), long payment periods, foreign currency restrictions and burdensome administrative procedures contributed to the fact that a large part of these transactions took place through informal channels in the past, which made the task of gathering relevant information and examining the remittance effects difficult (Freund & Spatafora, 2008; Ahmed et al., 2020). On the other hand, lowering of long-distance remittance transfer costs triggered by technological innovations in the banking sector enabled the inclusion of previously unregistered money transfers in the official statistics and banking flows (Nikolić, 2006). These statements coupled with the non-refundable nature of remittances confirm their importance in terms of developing countries financing (Yoshino et al., 2020). After all, this group of countries accounts for the the largest share of remittance inflows, as can be seen in Figure 2. Approximately two thirds of the global remittance inflows are directed to low- and middle-income countries (LMIC). Also, an increase in the share of developing countries in the global remittance inflows is recorded in the observed period, from 68.9% in 2007 to 77.9% in 2022.

Figure 2. The share of remittance inflows in LMIC in global remittances (in %)

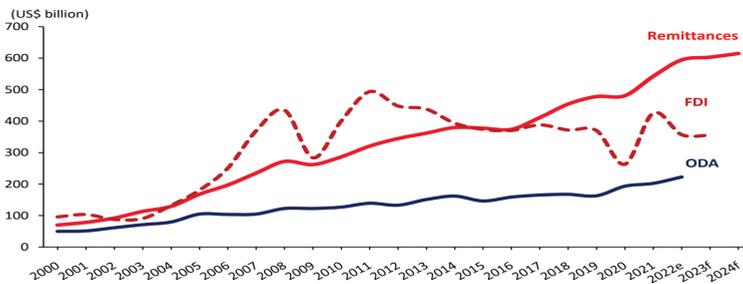


Source: Authors' calculation

As previously mentioned, developing countries mainly rely on external sources of financing, due to insufficient home savings. The gap between high investment demand and low domestic savings must be compensated by the import of foreign capital, including foreign borrowing. However, over the past few years, FDIs have become an attractive source of external financing for developing countries for several reasons (Saurav & Kuo, 2020). From the maturity aspect, they are labeled as the long-term inflows, so country's external imbalance is financed by long-term sources, which creates positive implications for its sustainability. Additionally, FDIs do not trigger the rise of the external indebtedness, since no increase in external financial obligations occurs. Also, FDIs improve the technological intensity of exports, and if they are directed towards the tradable goods sectors, conditions for the exports growth and the additional foreign currency inflows could be created, which contributes to the external imbalance reduction (Kutan & Vukšić, 2007; Popovici, 2018). However, the positive effects would not materialize if major part of FDI inflows is routed to non-tradable goods sectors, which limits the possibility of increasing exports and reducing external imbalances.

Despite the positive effects of FDI inflows, remittances have become the most important source of external financing of developing countries in the last few years. At the same time, if China is excluded from the group of developing countries, since it accounts for the largest share in FDI inflows, the role of remittances as a source of external financing is further highlighted. By looking at Figure 3, it can be concluded that since 2017 developing countries (except China) have recorded a far greater remittance inflows than the FDI inflows. Also, the remittance inflows and the official development assistance (ODA) fluctuates much less in the observed period compared to the FDI inflows which experienced frequent ups and downs. This confirms the greater stability of remittances as a source of financing compared to FDIs.

Figure 3. Remittances, FDI and ODA flows to LMIC (excluding China) (in USD billions)



Source: World Bank – Knomad (2023)

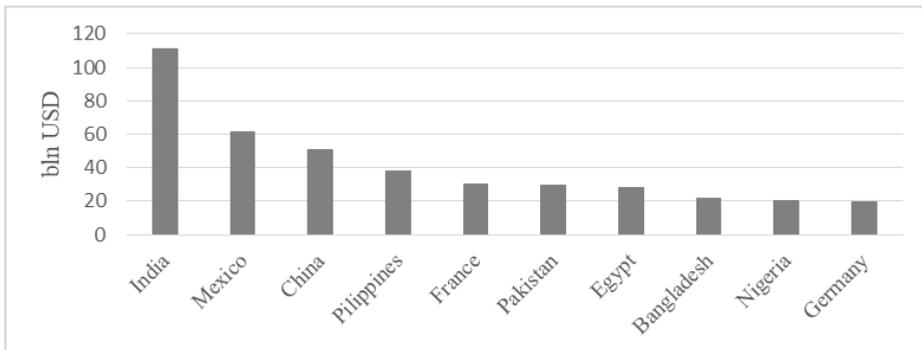
When comparing remittances and FDIs as sources of external financing, it is important to note that the net effect of FDIs can differ significantly from the size of their inflows, while this is not the case with remittances. By starting a business activity in home country market, foreign investors seek to make profit. Some portion of the profit is reinvested in the home country, while the remaining part is repatriated abroad, to foreign parent company. The developing countries experience shows that an increase

in FDI inflows also leads to the increase in the FDI income outflows, which worsens the balance of primary income account and creates pressure on the external imbalance (Kovačević, 2022). The above does not pose a problem as long as the FDI inflows are greater than the FDI income outflows. However, the question arises about the ability of the developing country to continuously achieve the increase in the FDI inflows, in order to avoid the situation where the annual FDI income outflows exceed the annual FDI inflows. In such circumstances, FDIs are no longer a source of external financing, but rather create additional pressure on the country's balance of payments position. With remittances, this possibility is excluded.

### Global trends in remittance flows

By looking at the geographic structure of remittance inflows in Figure 4, it can be observed that the largest remittance recipients in 2022 were developing countries, mostly Asian economies, while the list also includes two European developed countries, France and Germany. India is the largest remittance recipient in the world, followed by Mexico and China. It is interesting to note that India reported almost an identical value of remittance inflows in 2022 as China and Mexico combined. For most of the observed economies, the United States is the most important source of remittance inflows (Solimano, 2003; Chovdhuri, 2011; Abbas et al., 2017).

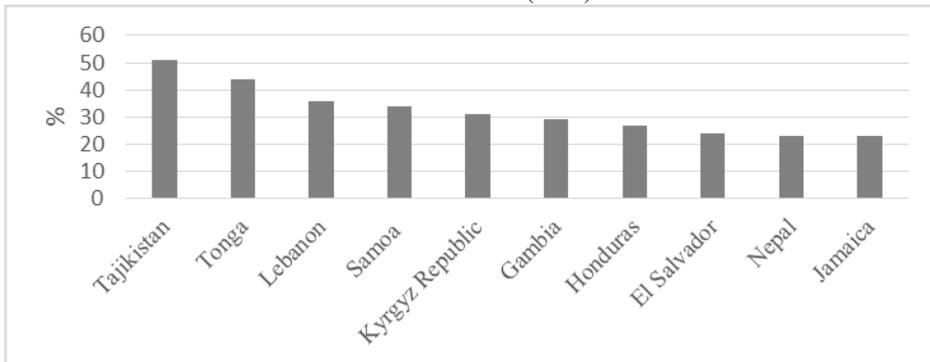
Figure 4. The top ten remittance recipients in the world in 2022 (in USD billions)



Source: World Bank – Knomad (2023)

Besides the absolute value of remittance inflows, the share of remittance inflows in GDP can also serve to highlight their importance in developing countries. As can be seen from Figure 5, Tajikistan is the country with the largest share of remittance inflows in GDP, approximately 51%, followed by Tonga and Lebanon. In the rest of the observed countries, the share of remittance inflows in GDP is smaller, but certainly significant, in the interval from 25% to 33%. These high values can be attributed to the fact that these are very small economies with low absolute values of GDP.

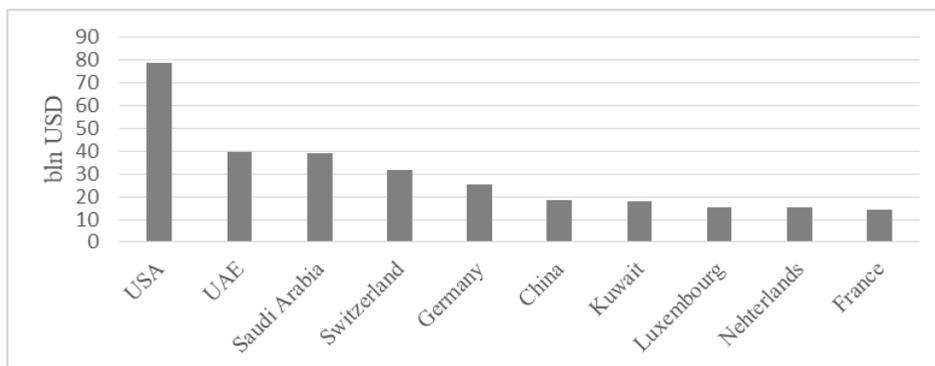
Figure 5. The top ten countries with the largest share of remittance inflows in GDP in 2022 (in %)



Source: World Bank – Knomad (2023)

On the other hand, the United States stands out as the most important remittance source country in the world. As can be seen from Figure 6, in 2022, remittances worth approximately USD 79 billion were sent from the US to the rest of the world. Rising remittance income outflows and the fact that the United States achieve ten times greater outflows than the remittance inflows, result in a negative secondary income account balance. However, from the macroeconomic point of view, this is not an economic growth limitation since the remittance income outflows account for a very small share in GDP (0.3% in 2022). The United Arab Emirates are in the second position as the major remittance source for Asian economies (India, Pakistan, Bangladesh and the Philippines) and Egypt (Khan, 2024). Also, regarding the Asian economies, the list of ten largest sources of remittances also includes Saudi Arabia, China and Kuwait. The remittances from China were primarily distributed to South Korea, the Philippines and Brazil. The positioning of Saudi Arabia among the largest sources of remittances in the world can be explained by the reliance of its economy on foreign labor. At the same time, the dynamics of remittance income outflows from Saudi Arabia are mainly determined by developments in the oil industry (Javid & Hasanov, 2023). Among the most important sources of remittances in the world half of the countries are developed European economies. Switzerland and Germany are the 4th and 5th most important providers of remittances in the world, respectively, and the most important sources of remittance inflows for European transition economies and Turkey (Rossel et al., 2023). On the other hand, the largest part of remittances from France is routed to Belgium, Spain and Portugal, and its former colonies, Morocco and Algeria (Kalantaryan & McMahon, 2021).

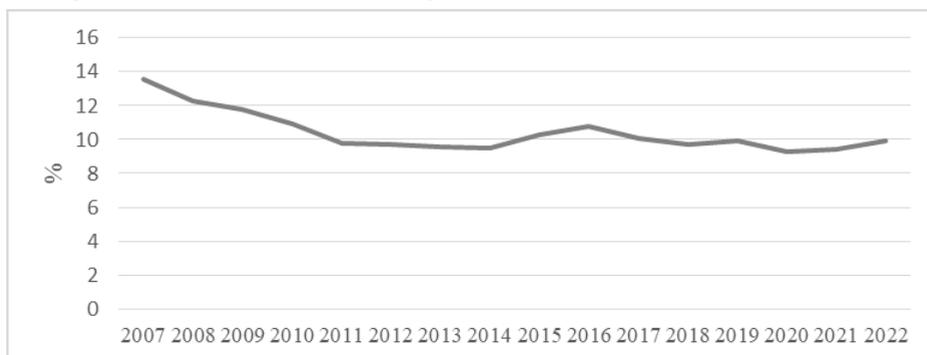
Figure 6. Countries with the highest levels of remittance outflows in 2022 (in USD billion)



Source: World Bank – Knomad (2023)

The United States is the most significant source of remittance for many countries (Bidawi et al., 2022). During the 2007-2022 period, the major part of global remittances were sent from the United States to other countries (Figure 7). This can be explained by the large migrant population living in the United States. At the beginning of the observed period, the share of the United States in total remittance flows was in double digits and ranged between 11% and 14%. However, in the years that followed, the share decreased, as a result of a slower growth rate of remittance income outflows compared to other economies, such as the United Arab Emirates, Saudi Arabia, Switzerland and China (Khan, et al., 2021; Islam & Alhamad, 2023). At the end of the observed period, the outflows of remittances from the United States accounted for almost 10% of the global remittance inflows. Put differently, a tenth of sent remittances worldwide still originates from the United States.

Figure 7. The United States as a major source of remittances, 2007-2022 (in %)



Source: Authors' calculation

The dynamic increase in the remittance outflows sparked a debate in the oil exporting countries and the United States concerning taxing remittances sent by migrants

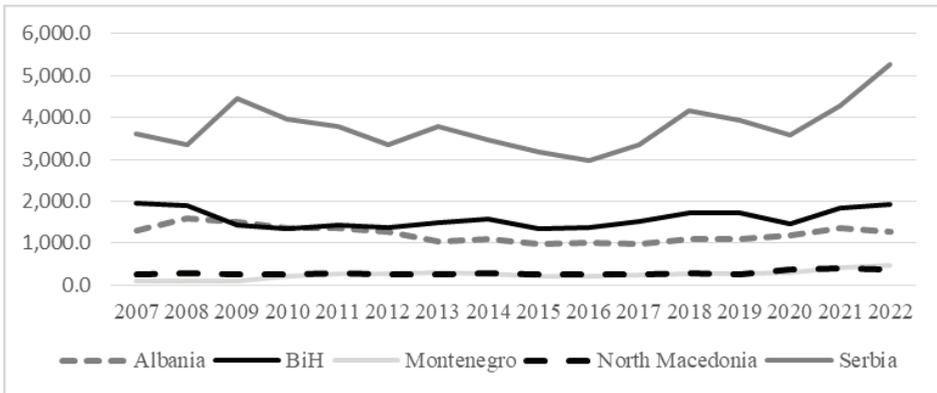
to their home countries (Malit & Naufal, 2016). The aim of this action would be to increase tax revenues and reduce illegal migration. Also, the proposed measures could contribute to the improvement of the balance of payments position of these countries, mainly by reducing the secondary income account deficit. A taxation model has already been developed in Oklahoma, where it is not a traditional tax but rather a 1% fee paid by the sender of funds. This model has prompted other US states, such as Georgia, Iowa and Kansas to introduce similar fees. In 2018, Kuwait's Parliamentary Committee on Financial and Economic Affairs approved bills to impose taxes on expatriate remittances. The initial proposal was to introduce progressive tax rates ranging from 1% for remittances up to 99 Kuwaiti dinars to 5% for amounts above 500 Kuwaiti dinars (Marmore, 2018). World Bank officials state that taxing remittances is not a good idea for several reasons. Firstly, a problem of double taxation occurs, since the migrants have already paid income tax in the country they are working in. The taxation would especially affect the poorest groups within the population of the developing countries, thus creating an additional increase in economic inequalities between developed and underdeveloped economies (World Bank - Knomad, 2017). Ultimately, taxing remittances could encourage the informal channel transfers, while the ultimate revenues side effects of the proposed measures would be highly questionable. Hence, the redirection of remittance transfers from informal channels to formal channels should be based on incentives rather than discouraging remittance senders and receivers, by taxing remittances (Nikolić, 2006).

### **Remittance trends in the Western Balkan countries**

The events during the last decade of the 20th century and the breakup of Yugoslavia accelerated the migration flows from the successor states. The migration movements in the second half of the 20th century created a strong migration base abroad, mainly in the Western Europe countries and the United States. The rising migration outflows created the conditions for remittances to become a significant source of external financing for Western Balkan countries. The importance of remittances is particularly evident if their balances of payments are analyzed. High and stable inflows of funds from this source contribute to surpluses on the secondary income account that partly offset the deficit of the other components of the overall balance of payments (Đukić & Bodroža, 2022). Simultaneously, remittances cover a significant part of the trade deficit, as a key generator of balance of payments imbalance in the observed countries.

Among the Western Balkan countries, the highest remittance inflows in 2007-2022 period was recorded in Serbia, while all the other countries recorded lower inflows (Figure 8). The remittance inflows in Serbia were highest in 2022 (USD 5.26 billion), an increase of USD 1.6 billion compared to the beginning of the observed period. The rise of remittance inflows, albeit of a more modest intensity, was recorded in Montenegro and North Macedonia, while Albania and Bosnia and Herzegovina recorded a slight decrease in the remittance inflows

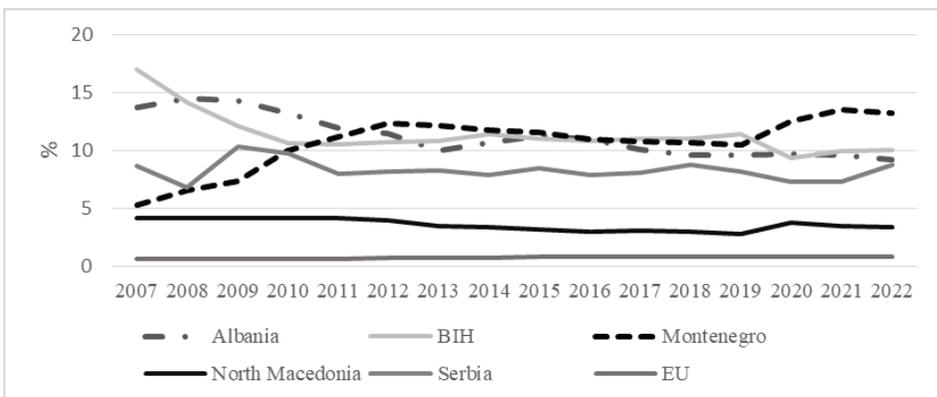
Figure 8. Remittance inflows in Western Balkan countries (in USD millions)



Source: IMF (2023)

The importance of remittances for the Western Balkan countries can be shown by looking at the share of remittance inflows in GDP (Figure 9). In this case, somewhat different conclusions can be drawn. In the initial years of the observed period, the largest share of remittances in GDP was recorded in Bosnia and Herzegovina and Albania (14.2% and 13.7%, respectively). However, both countries recorded a decline in the share of remittances in GDP at the end of the observed period. Since 2012, Montenegro had been continuously recording the largest share of remittances in GDP. Although Serbia recorded a slight increase in the share of remittances in GDP, only North Macedonia had a smaller share of remittances in GDP among the observed countries. Also, the share of the remittance inflows in GDP for all the Western Balkan countries is higher than for the EU (Figure 9).

Figure 9. Remittance inflows in Western Balkan countries and EU, as a share in GDP (in %)

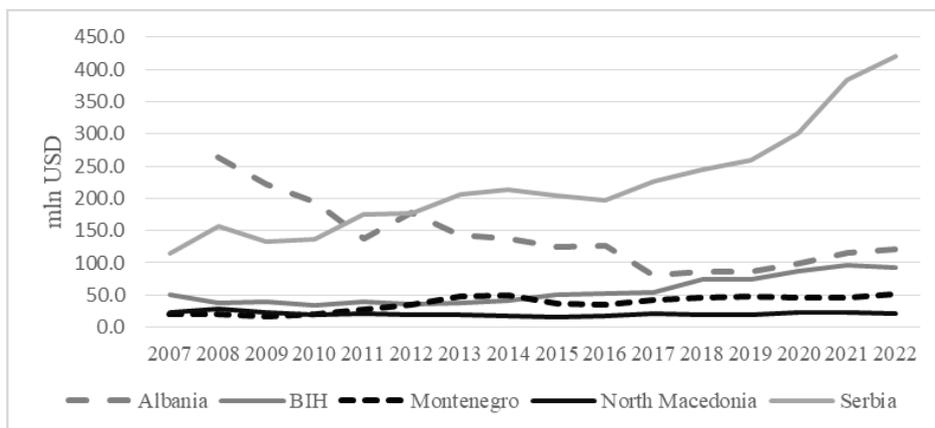


Source: World Bank (2023)

Remittance outflows are much lower than the remittance inflows in all of the observed countries. Although remittance outflows show a slight growth in most Western

Balkan countries, their absolute values are far smaller than the remittance inflows, which leads to secondary income surpluses. An increase in the remittance outflows was recorded in Serbia, Montenegro and Bosnia and Herzegovina, while Albania and North Macedonia reported decrease in the remittance outflows (Figure 10).

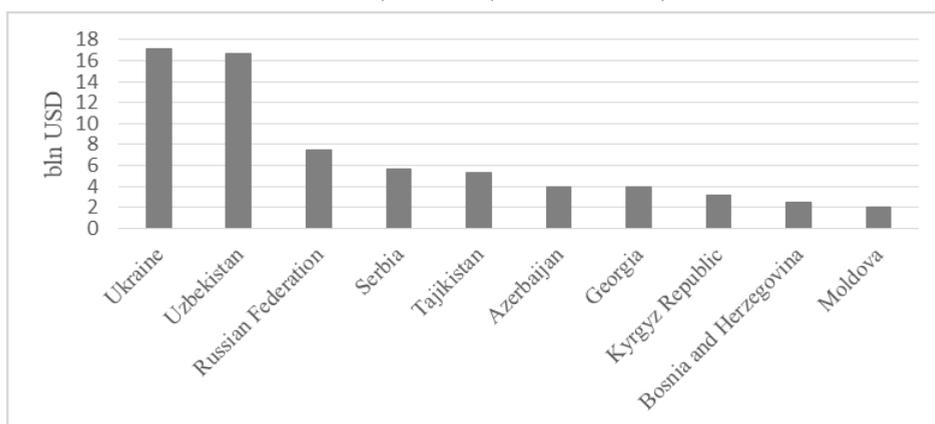
Figure 10. Remittance outflows in Western Balkan countries (in USD millions)



Source: IMF (2023)

By making the comparison with other developing Eurasian countries, it can be stated that the Western Balkan countries are among the largest recipients of remittances. As shown in Figure 11, Serbia was fourth on the list of the largest recipients of remittances among the Eurasian developing countries in 2022, while Bosnia and Herzegovina was ninth. On the other hand, if the share of remittance inflows in GDP is considered, Montenegro (seventh position) and Bosnia and Herzegovina (eighth position) are placed among the top ten Eurasian developing countries (KNOMAD, 2022).

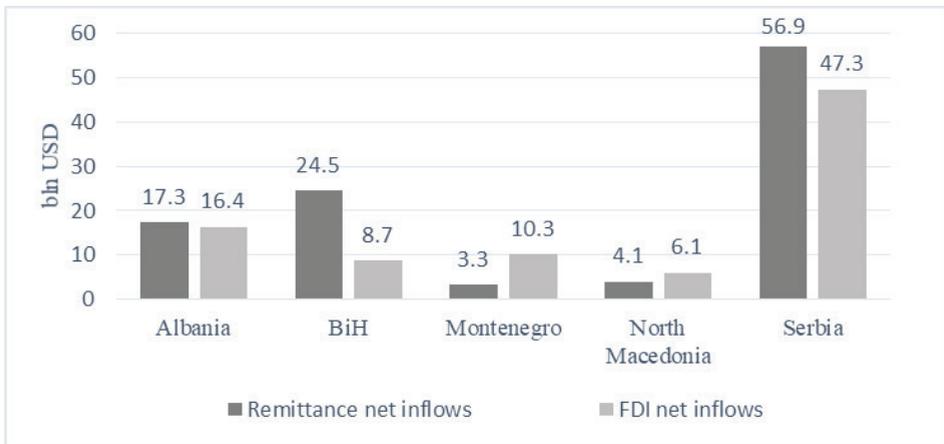
Figure 11. Top ten remittance recipients in Europe and Central Asia (developing countries) in 2022 (in USD billions)



Source: World Bank – Knomad (2023)

During the observed period, Western Balkan countries recorded USD 106.1 billion net remittance inflows. More than half of these funds (56.9 billion) were directed to Serbia, which is by far the largest regional recipient of remittances. More precisely, the value of the net remittance inflows in Serbia is higher than in all other Western Balkan countries together (Figure 12). The importance of remittances as an external source of financing for Western Balkan countries can be seen by comparing them with FDIs. In 2007-2022 period, the total net FDI inflows in all Western Balkan countries amounted to USD 88.7 billion, which is lower than remittance inflows by USD 17.4 billion. Remittances are more important source of external financing in Bosnia and Herzegovina and Serbia, while in Montenegro and North Macedonia FDIs prevail. The smallest difference between the levels of these two sources of external financing is reported in Albania.

Figure 12. Remittance and FDI net inflows in Western Balkan countries, 2007-2022 (in USD billions)



Source: Authors 'calculation based on IMF (2023)

Based on the above, it can be said that remittance inflows are significant source of external financing for the Western Balkan countries (Jushi et al., 2021). High net remittance inflows, apart from the fact that they contribute to the secondary income surplus, partly offset the external imbalance in these countries. However, despite high inflows, a small part of these funds is directed to investment activities. Remittances are mostly used to finance consumption, which can significantly reduce the positive effects of such a high inflows (Bukvić, 2016). An additional problem arises if funds based on remittances are used to finance the consumption of imported goods, which would not only affect the deterioration of the exchange rate but also deepen the external imbalance (Trokić, 2009; Čakajac et al., 2023). Stable inflows in the observed period confirmed the role of remittances as a reliable source of external financing in Western Balkans. However, the future of this way of reasoning remains questionable, given the demographic trends in the Western Balkan countries and the fact that their populations are getting older. The aging trend could reduce the potential of these countries to provide source of labor force for the developed Western Europe countries in the future (Kovačević, 2017).

## Conclusion

Globally, remittances are among the most important sources of external financing for developing countries. Migration movements since the second half of the 20th century, globalization and the improvements in the payment processing infrastructure have contributed to the continuous increase in the remittance inflows. The importance of remittances as an external source of financing for developing countries (except China) has become evident since 2017, when total remittance inflows exceeded the FDI inflows, which positioned remittances as the most significant source of external financing for these countries.

In comparison with FDIs, remittances have proven to be a far more stable source of external financing. The above was especially evident during crisis periods when the remittance inflows to developing countries fluctuated less than FDI inflows. In addition to stability, the main advantage of remittances is reflected in the fact that they are non-refundable funds that do not increase foreign financial obligations. However, the excessive reliance on remittance inflows can produce negative effects on the overall economic development.

Remittances are an important source of external financing in Western Balkan countries. During 2007-2022 period, these countries recorded higher remittance inflows compared to the FDI inflows, despite significant efforts to attract foreign investors. This is particularly evident in Bosnia and Herzegovina and Serbia, where remittances are larger than FDIs. At the same time, from a regional perspective, disparities can be observed regarding the inflow of external sources of financing since more than half of the sum of FDI inflows and remittance inflows was directed towards Serbia (53%), more than all the other Western Balkan countries together.

Compared to previous research, the main contribution of this paper reflects in emphasizing the role of remittances as the most significant source of external financing for developing countries both from a global perspective and from the perspective of Western Balkan countries. Also, the research results should also be viewed from the perspective of certain limitations. The main research limitation lies in the fact that data on remittance flows only cover formal channel transactions. It is undeniable that a large part of remittances to developing countries is still transferred through informal channels. However, the role and importance of remittances as an external source of financing can be viewed from alternative perspectives, through the implementation of more sophisticated statistical models and methods. The above provides solid grounds for future research.

Furthermore, the research results can be useful to economic policy makers, primarily in the Western Balkan countries. Given the annual levels and the stability of the remittance inflows in the observed period, it seems desirable to create an institutional framework through which the investment potential of remittance inflows could be channelled. The current situation indicates that the investment use of inflow of funds is low, since the remittances are mostly used to finance consumption. Additionally, given the role and importance they hold in developing countries, policymakers should endeavor to facilitate remittance transfers and enhance their effective utilization in the future. This can be achieved by reducing transfer costs, promoting financial inclusion, and providing support for the development of digital money transfer platforms.

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## AGRICULTURAL BUDGET AS A SOURCE OF FINANCING RURAL DEVELOPMENT IN THE REPUBLIC OF SERBIA<sup>2</sup>

### Abstract

*Incentives to support rural development are an important segment of the agricultural budget considering that, among others, they include incentives for investments aimed at developing and achieving competitiveness of sustainable agricultural production, as well as the development of non-agricultural activities, which can be a significant incentive for rural development. The aim of the paper is to present the participation of planned incentives for rural development measures in the agricultural budget of the Republic of Serbia in the last decade, as well as to show the qualitative changes in the agricultural policy, regarding the structure of these incentives, in the analyzed period (2017-2023). The research is realized out on the basis of planning documents – regulations on the distribution of incentives in agriculture and rural development, which are analyzed for each year in the period 2013-2023. The author concludes that incentives for rural development measures did not have quantitative and qualitative stability and sufficiency in the analyzed period, which is necessary in order to achieve the full effects of these incentives.*

**Keywords:** agricultural financing, agricultural budget, agricultural policy, measures of rural development, Republic of Serbia

**JEL Classification:** Q14, Q18, R51

## АГРАРНИ БУЏЕТ КАО ИЗВОР ФИНАНСИРАЊА РУРАЛНОГ РАЗВОЈА У РЕПУБЛИЦИ СРБИЈИ

### Апстракт

*Подстицаји за подршку руралном развоју су важан сегмент аграрног буџета с обзиром на то да, између осталих, обухватају и подстицаје за инвестиције у циљу развоја и постизања конкурентности одрживе пољопривредне производње, као и развоја непољопривредних активности, које могу да буду значајан подстрек руралном развоју. Циљ рада је да се представи учешће подстицаја за мере руралног развоја у аграрном буџету Републике Србије у последњој деценији, као и да се прикажу квалитативне измене у аграрној политици, у погледу структуре ових подстицаја, у анализираном периоду. Истраживање се реализује на основу планских докумената – уредби о*

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*расподели подстицаја у пољопривреди и руралном развоју, које се анализирају за сваку годину у периоду 2013-2023. година. Ауторка закључује да подстицаји за мере руралног развоја нису имали квантитативну и квалитативну стабилност у анализираном периоду, а која је неопходна у циљу постизања пуних ефеката ових подстицаја.*

**Кључне речи:** *финансирање пољопривреде, аграрни буџет, аграрна политика, мере руралног развоја, Република Србија*

## Introduction

Financing of agriculture with the support of the state in the Republic of Serbia, until 1994, was realized from the primary issue of the National Bank of Serbia. With the reconstruction of the monetary system, which was adopted by the competent institutions on January 24, 1994, this privileged way of financing farmers was abolished. Specifically, it was lending to agricultural entities at low (privileged) interest rates. These loans were considered by some authors to be the main cause of the hyperinflation recorded in the Republic of Serbia in 1993. During 1994 and 1995, it was not possible to finance agricultural entities with state support. This method of financing agriculture has only been possible since January 1, 1996, when the agricultural budget was constituted as a unified method of state financial support for agriculture (Radović, 2009).

The agricultural budget, as an integral part of the state budget of the Republic of Serbia, has been a secure, favorable, but also insufficient source of financing for agriculture since its establishment in 1996, until today. Since its establishment, the agricultural budget has contained subsidies for rural development, but these agricultural policy measures have changed over time in name and content, as well as quantitative participation in the agricultural budget. For example, rural development support measures accounted for 1/5 of the agricultural budget in 2004, and in the following year their share in the agricultural budget was reduced by around 70% (Radović, 2014). This inconsistency of the agricultural policy was one of the most significant causes of the crisis and problems of the domestic agricultural sector (Pejanović, 2016).

The funds of the agricultural budget were not a sufficient source of financing agriculture in the Republic of Serbia during all the years of its existence. Agricultural entities that had opportunities used their own sources (accumulation) for financing, and commercial bank loans were reluctant to decide, because they were an unfavorable source of agricultural financing. First of all, due to high interest rates, inconsistency of annuity maturities with the seasonal nature of agricultural production, expensive bank guarantees as a means of securing loans, etc. Some authors (Grujić-Vučkovski, 2022) conclude on the basis of their research that agricultural producers are insecure about the marketing of their products, and are afraid of taking on loan. The lack of favorable sources of financing influenced the reduction of the volume of agricultural production, the reduction of investments in the technological modernization of production, and thus the lag in the development of the domestic agricultural sector.

The CAP accounts for 33.1% of the 2021 EU-27 budget (European Parliament, 2023). In order to finance rural development in the member states of the Union, the European

Agricultural Fund for Rural Development was established (EAFRD). The Common Agricultural Policy of the European Union (CAP) is adopted for a ten-year period. This is very important, because it allows agricultural subjects to have a stable and predictable source of financing their production.

The aim of the paper is to present the participation of planned incentives for rural development measures in the agricultural budget of the Republic of Serbia in the last decade, as well as to show the qualitative changes in the agricultural policy, regarding the structure of these incentives, in the analyzed period (2017-2023). The research is realized out on the basis of planning documents – regulations on the distribution of incentives in agriculture and rural development, which are analyzed for each year in the period 2013-2023. The paper uses desk research, analysis, synthesis and descriptive methods. The data sources are the current normative framework (Law on Incentives in Agriculture and Rural Development and Laws on the Budget of the Republic of Serbia), as well as data available on the website of the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia – Directorate for Agrarian Payments (rules and regulations, which defined agricultural policy measures in the analyzed period).

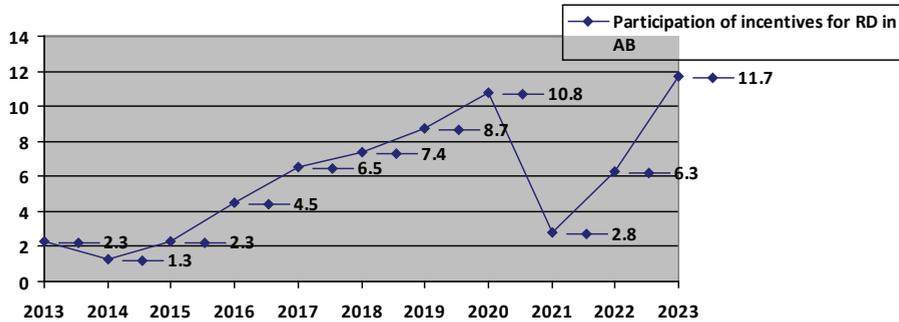
## **Research results and discussions**

Within the Law on Incentives in Agriculture and Rural Development are defined the types of incentives. This law also defines the method of using incentives, the Register of incentives, as well as the conditions for exercising the right to incentives. The Government of the Republic of Serbia for each budget year, in accordance with the Law on Incentives in Agriculture and Rural Development and the Law on the Budget, determines the total amount of funds, as well as the types and maximum amounts of individual incentives, which are defined by regulations on incentives in agriculture and rural development.

The percentage share of the amount of planned incentives for rural development measures in the agricultural budget, in the last decade, is shown in Graph 1. Analyzing the presented data, it is noted that the participation of these incentives in the agricultural budget increased by about five times in 2023, the last year of the analyzed period, compared to the initial year, 2013. Also, it can be noted that the amounts of these incentives were very uneven by individual years. The most pronounced change was recorded in 2021, when the share of planned incentives for rural development (RD) measures in the agricultural budget (AB) fell to only 2.8%, from 10.8%, which was in 2020.

Types of incentives for rural development (RD) defined by the Law on Incentives in Agriculture and Rural Development in the Republic of Serbia (LIARDS). These are incentives for: improving competitiveness, preserving and improving the environment and natural resources, diversifying income and improving the quality of life in rural areas, preparing and implementing local strategies for rural development, and incentives for improving the system of creation and transfer of knowledge (LIARDS, clause 34).

Graph 1. Graphic representation of the percentage participation of planned incentives for RD in the AB 2013-2023



Source: Based on LIARDRS 2013-2023 and RDIARDRS 2013-2023.  
 Edited by the author.

In the structure of planned incentives for rural development (PIRD), planned incentives for improving competitiveness (PIIC) had the largest share in the entire analyzed period. Other types of incentives had a highly variable relative participation (planned incentives for improvement and preservation of the environment and natural resources – PIIPENR and planned incentives for improvement of the system of creation and transfer of knowledge – PIISCTK). Some, although prescribed by the LIARDRS, were not represented at all in the agricultural policy measures in certain years. This was the case with planned incentives for diversifying income and improving the quality of life in rural areas (PIDIIQLRA), which were not represented in the agricultural policy measures in 2023. The same was the case with planned incentives for the preparation and implementation of local rural development strategies (PIPILRDS) in 2018, 2021 and 2023 (Table 1).

Table 1. Structure of PIRD 2017-2023 (in %)

Year	2017	2018	2019	2020	2021	2022	2023
	Participation in TI (in %)						
Incentives ...							
- PIIC	73.2	61.8	77.6	66.3	44.3	61.2	80.7
- PIIPENR	5.7	7.8	4.9	8.3	11.7	10.6	11.5
- PIDIIQLRA	6.7	18.5	8.6	12.8	0.1	9.5	-
- PIPILRDS	0.4	-	0.7	0.2	-	0.7	-
- PIISCTK	14.0	11.9	8.2	12.4	43.9	18.0	7.8
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Based on RDIARDRS 2017-2023. Edited by the author.

Planned incentives for investments in physical assets of agricultural holdings (PIIPAAH) had a dominant share in the structure of planned incentives for improving

competitiveness (PIIC) in the entire analyzed period (Table 2). PIIPAAH had a very heterogeneous structure, and the purpose of certain incentives within this group was defined by individual regulations. For example, in the Rulebook on incentives for investments in physical assets of agricultural holdings for the acquisition of quality breeding cows for the improvement of primary livestock agricultural production (Rulebook b), it is defined that the incentives apply to the procurement of heads of cattle, sheep, goats, pigs and bee queens. According to research results (Ivanović et al., 2020), productivity in livestock production is related closely to the number of heads, and the best results in production are achieved by farms with close to 30 dairy cows and around 45 head of cattle. In the Rulebook on incentives for investments in physical assets of the agricultural farm for the purchase of a new tractor (Rulebook a) it is defined that incentives are approved for the purchase of a new tractor with an engine power of up to 60 kilowatts (kW).

Table 2. Structure of PIIC 2017-2023 (in %)

Year Incentives ...	2017	2018	2019	2020	2021	2022	2023
	Participation in TI						
	(in %)						
- PIIPPAH	70.1	87.7	80.9	69.1	99.3	68.65	73.5
- PIIPMAFFP	8.3	4.9	2.7	13.5	0.7	31.22	-
- PIIRM	21.6	7.4	16.4	17.4	-	0.12	26.5
- PISOAPA	-	-	-	-	-	0.01	-
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Based on RDIARDRS 2017-2023. Edited by the author.

In the Rulebook on incentives for investments in physical assets of agricultural farms for the acquisition of new machines and equipment for improving the primary production of plant crops, incentives are defined for investments in equipment for the production of all types of plants, as well as for investments in equipment for land cultivation, protection of plants from diseases and the hail, as well as for fertilizing and irrigating plant crops (Rulebook c). In the Rulebook on incentives for investments in physical assets of agricultural holdings through support for the establishment of perennial production plantations of fruit trees and hops, as well as in the Rulebook on incentives for investments in physical assets of agricultural holdings through support for the establishment of perennial production plantations of grapevines, it is defined that incentives are approved for the purchase new seedlings, as well as supports for planting, soil preparation and cultivation, as well as for chemical soil analysis (Rulebook d, Rulebook e). On the basis of the above, it is noted that the goal of incentives is to increase the volume of agricultural production, as well as to improve the technology of this production.

Planned incentives for investments in the processing and marketing of agricultural, food and fishery products (PIIPMAFFP) are also defined by individual regulations. The

main goal of these incentives is to stimulate agricultural entities to process their products and invest in marketing, in order to sell them on the market at higher prices, in relation to the sale of primary agricultural products. The goal of planned incentives for investments in risk management (PIIRM) is that agricultural entities apply more economic protection of their production. All the mentioned incentives, combined, affect the increase in the competitiveness of agricultural and food products produced in Serbia. Planned incentives for stimulating the organization of agricultural producers in associations (PISOAPA) were at a low level in the analyzed period. However, these incentives are also an important factor for the growth of the competitiveness of domestic agriculture. These incentives were present in the structure of the agricultural budget only in 2022, and in a minimal amount.

Table 3. Structure of PIIPENR 2017-2023 (in %)

Year	2017	2018	2019	2020	2021	2022	2023
	Participation in TI (in %)						
Incentives ...							
- PIOP	55.2	43.3	46.6	69.4	99.99	71.69	70.0
- PIPPAGR	39.9	56.7	53.4	30.6	0.01	28.30	30.0
- for agroecological measures and good agricultural practice	4.9	-	-	-	-	-	-
- for sustainable use of forest resources	-	-	-	-	-	0.01	-
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Based on RDIARDRS 2017-2023. Edited by the author.

In the structure of planned incentives for the improvement and preservation of the environment and natural resources (PIIPENR), in the analyzed period, only planned incentives for organic plant (PIOP), planned incentives for livestock production (PILP) and planned incentives for the preservation of plant and animal genetic resources (PIPPAGR) were continuously represented (Table 3). However, despite the existence of these incentives, which were paid continuously in the analyzed period, organic agricultural production in Serbia has not been enough developed. For example, in 2019, only 21,265 ha were under organic plant production, and about 7,000 registered agricultural farms were engaged in it (Radović & Jeločnik, 2021).

In the structure of planned incentives for diversifying income and improving the quality of life in rural areas (PIDIQLRA), planned incentives for supporting young people in rural areas (PISYPRA) had a dominant share in the analyzed period. However, even this measure of agrarian policy was not present continuously (it did not exist in 2022 and 2023). Planned incentives for the development of non-agricultural activities in rural areas (PIDNAARA) also did not have a stable share in the agricultural budget in the period 2017-2023. Within this measure, there are very significant investments in the development of rural tourism, as a non-agricultural activity, which can realize the fastest diversification of rural economies, and thus encourage rural development (Radović, 2015).

Table 4. Structure of PIDIIQLRA 2017-2023 (in %)

Year Incentives ...	2017	2018	2019	2020	2021	2022	2023
	Participation in TI (in %)						
- PIDNAARA	10.5	0.08	27.2	19.4	25.0	10.5	-
- PISYPRA	63.2	82.58	49.4	77.4	25.0	-	-
- PICOPPDGO	26.3	17.34	23.4	3.2	50.0	5.3	-
- PIIRS	-	-	-	-	-	84.2	-
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	-

Source: Based on RDIARDRS 2017-2023. Edited by the author.

Planned incentives for the certification of organic products and products with a designation of geographical origin (PICOPPDGO) are very important in order to achieve a higher selling price of agricultural and food products on the domestic and international markets. The planned participation of these incentives in the agricultural budget in the analyzed period was variable, one could say unstable, given that in 2023 they did not exist at all as a measure of agricultural policy. Planned incentives for investments in the rural structure (PIIRS) existed in the structure of rural development measures only in 2022, although it is a very important agricultural policy measure for the development of rural areas (Table 4).

Table 5. Structure of PIPILRDS 2017-2023 (in %)

Year Incentives ...	2017	2018	2019	2020	2021	2022	2023
	Participation in TI (in %)						
- preparation of local rural development strategies	60.0	50.0	97.1	99.99	50.0	23.5	-
- implementation of local rural development strategies	40.0	50.0	2.9	0.01	50.0	76.5	-
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	-

Source: Based on RDIARDRS 2017-2023. Edited by the author.

Planned incentives for preparation and incentives for implementing local rural development strategies (PIPILRDS) had approximately equal participation in the structure of incentives shown in Table 5, in almost all years of the analyzed period. However, in 2023, no funds were allocated at all from the agricultural budget for these incentives.

Both types of planned incentives for improving the system of creation and transfer of knowledge (PIISCTK) were present in all years of the period (2017-2023). Planned incentives for support in providing advice to agricultural subjects (PISPAAS) had a

dominant share in these structure (Table 6). It is an important agricultural policy measure that finances the work of agricultural expert and advisory services, which are primarily responsible for supporting the development of production in agriculture.

Table 6. Structure of PIISCTK 2017-2023 (in %)

Year Incentives ...	2017	2018	2019	2020	2021	2022	2023
	Participation in TI (in %)						
- PISPAAS	85.0	89.7	89.7	69.6	73.3	67.0	92.2
- PIDTTADIPARD	15.0	10.3	10.3	30.4	26.7	33.0	7.8
TOTAL INCENTIVES (TI) (in %)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Based on RDIARDRS 2017-2023. Edited by the author.

Planned incentives for the development of technical-technological, applied, developmental and innovative projects in agriculture and rural development (PIDTTADIPARD) had a significantly smaller share in the structure of total incentives (Table 6). However, it is significant that this agrarian policy measure is present continuously, considering its important impact on the modernization of agricultural production.

### Conclusion and recommendations

Based on the conducted research, it can be concluded that planned incentives for rural development measures did not have a stable quantitative share in the agricultural budget in the last decade (2013-2023). Also, their structure was variable. Rural development is negatively affected when some of the primary incentives in this area are not paid continuously, or there are large differences in their amounts in two consecutive years. In the analyzed period, this was the case with incentives for diversifying income and improving the quality of life in rural areas, as well as with incentives for the preparation and implementation of local rural development strategies.

In order to achieve the full effects that incentives for rural development measures should have, their quantitative and qualitative stability and sufficiency is needed. Stability could be achieved if agricultural policy measures were defined in advance for a longer period in the Republic of Serbia, as is the practice in the European Union.

In future research, it would be useful to analyze the amounts of incentives paid for rural development measures, their structure and participation in the total budget for agriculture in the Republic of Serbia.

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