PROSPECTS FOR THE DEVELOPMENT OF FINANCE IN THE CONDITIONS OF EUROPEAN INTEGRATION OF UKRAINE

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P.34: PROSPECTS FOR THE DEVELOPMENT OF FINANCE IN THE CONDITIONS OF EUROPEAN INTEGRATION OF UKRAINE

P.34 **Prospects for the development of finance in the conditions of European integration of Ukraine**: monograph / Ptashchenko L., Yehorycheva S., Chychkalo-Kondratska I., Onyshchenko S., Berezhna A. [etc.]; in general ed. Ptashchenko L. Tallin: Estonia, IRETC MTÜ, 2022. 212 p.

The monograph is dedicated to the consideration of the problems of the development of the financial market of Ukraine that are relevant in the context of European integration. Very important issues of today, which are highlighted in the monograph, are the restoration of budgetary stability and debt security of Ukraine in the post-war period, improvement of monetary and budgetary policy aimed at macroeconomic stabilization in the country. The authors emphasize the tools that can ensure anti-crisis regulation of the banking system, financial business management. The monograph examines the issues of ensuring the economic security of the construction industry, directions for improving the accounting policy in the field of business as a whole, and improving the quality of audits.

These and other aspects of the current problems and priority directions of the development of the financial market are devoted to the monograph of the team of authors who carry out up to date researches within the scientific school of the National University "Yuri Kondratyuk Poltava Polytechnic".

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CONCEPTUAL PRINCIPLES OF REFORMING THE TAX SYSTEM OF UKRAINE IN THE CONTEXT OF EUROPEAN INTEGRATION

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Current state and peculiarities of functioning of the tax system of Ukraine in the context of external threats

In recent years, unprecedented risks and threats to the functioning of national economies have emerged. In particular, the specific nature and consequences of the COVID-19 pandemic have necessitated the implementation of measures aimed at supporting aggregate demand, business activity, and stabilizing the financial situation of citizens and business entities [1]. The biggest threat in 2022 for both economic and national security in general was the direct military aggression of the Russian Federation. Support, stabilization, restoration and development of the national economy of Ukraine are possible only if the tax policy of the state is effectively implemented. At the same time, the basis for reforming the tax system is the analysis of its current state and evaluation of the implemented measures.

Before the COVID-19 pandemic, Ukraine was characterized by a stable macroeconomic situation. It is worth noting that in recent years, a low budget deficit of about 2% of GDP was recorded, achieved as a result of eliminating a significant quasi-fiscal deficit of Naftogaz. There was also a reduction in the public debt of Ukraine: in 2016, its value in relation to GDP was 80%, while at the end of 2019 this figure decreased to 50% [2]. In addition, external financing was stabilized, inflation was reduced and stable conditions for the functioning of the business environment were ensured.

The main macroeconomic indicator is the gross domestic product. Its dynamics characterizes the efficiency of the national economy and is presented in Figure 1.

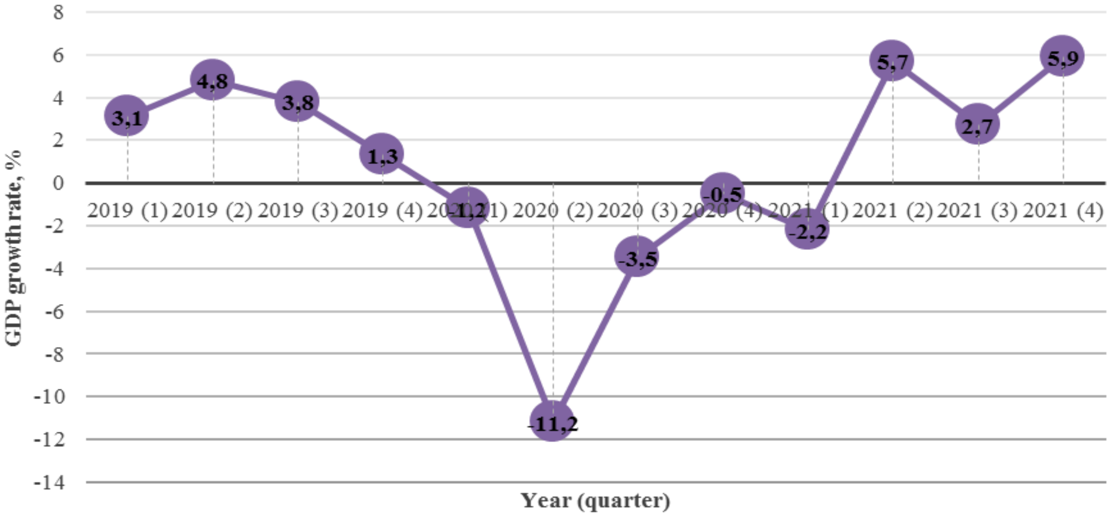


Fig. 1. Change of real GDP of Ukraine during 2019–2021 (in % to the corresponding quarter of the previous year)*

**compiled by the author for [3]*

It is worth noting that the decline in annual GDP growth was observed even before the outbreak of the COVID-19 pandemic. In particular, in the 4th quarter of 2019, the growth was only about 1.3%, and in the 1st quarter of 2020, against the backdrop of the spread of coronavirus disease and a decline in economic activity, it was negative -1.2%. In the 2nd quarter of 2020, due to the introduction of quarantine restrictions, the GDP decline was -11.4%. The prolongation and strengthening of quarantine measures caused a significant deterioration in global commodity markets, narrowing of foreign markets due to high competition. The sharp decline in economic activity as a result of quarantine measures has led to a slowdown in economic development with a projected drop in GDP, a reduction in consumer activity and production in general [4]. Small and medium-sized businesses were the most vulnerable to the transformation of consumer behavior in these conditions, when the main principles of motivation became caution against the background of uncertainty. Due to quarantine restrictions, there was a mass closure of restaurants, cinemas, entertainment centers, hotels and other economic entities in the service sector, which led to job losses, bankruptcy of enterprises with a low level of financial stability. Under these conditions, the use of tax levers to stabilize the macroeconomic situation allowed to reduce the GDP decline to -3.5% in the 3rd quarter of 2020, and to -0.5% in the 4th quarter. At the end of 2021, real GDP growth of 5.9% was achieved. In this regard, it is advisable to analyze the measures taken.

In order to reduce the tax burden on domestic business, maintain the proper level of functioning of the tax system of Ukraine and ensure the implementation of the state budget, a number of draft laws were adopted, in particular:

1. Law of Ukraine of 17.03.2020 No. 530-IX "On Amendments to Certain Legislative Acts of Ukraine Aimed at Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)"[5].
2. Law of Ukraine dated 17.03.2020 No. 533-IX "On Amendments to the Tax Code of Ukraine and Other Laws of Ukraine on Support of Taxpayers for the Period of Measures Aimed at Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)". In particular, for violations of tax legislation committed during the period from 01.03.2020 to 31.05.2020, penalties are not applied, except for sanctions for:

– violation of requirements to long-term life insurance contracts or insurance contracts within the framework of private pension provision, in particular supplementary pension insurance;

– alienation of property that is in tax lien without the consent of the supervisory authority;

– violation of the rules of accounting, production and circulation of fuel or ethyl alcohol in excise warehouses, which are applied on a general basis;

– violation of accrual, declaration and payment of value added tax, excise tax, rent.

During the period from March 1 to May 31, 2020, taxpayers are not charged a penalty, and the penalty accrued but not paid for this period is subject to write-off.

Delayed:

1) increase in the amount of sanctions for violation of the Law on the use of payment transaction registers from October 1, 2020 to January 1, 2021;

2) the entry into force of the Law of Ukraine "On Amendments to the Law of Ukraine "On the Use of Payment Transaction Registers in the Sphere of Trade, Catering and Services" and other laws of Ukraine on the de-shadowing of settlements in the sphere of trade and services by August 1, 2020 (before the proposed amendments, the entry into force was planned from April 19, 2020), and some of its provisions – by January 1, 2021 (instead of October 1, 2020) [6].

3. Law of Ukraine dated 02.04.2020 No. 540-IX "On Amendments to Certain Legislative Acts Aimed at Providing Additional Social and Economic Guarantees in Connection with the Spread of Coronavirus Disease (COVID-2019)", which was aimed at amending 9 Codes of Ukraine and more than 30 laws of Ukraine [7].

4. Law of Ukraine dated 13.04.2020 No. 553-IX "On Amendments to the Law of Ukraine "On the State Budget of Ukraine for 2020". These changes provide for a significant increase in the deficit – from 2.1% to 7.5% of GDP. The need for such changes is primarily due to the revision of the macroeconomic forecast and the need to take measures to counter the spread of the COVID-19 coronavirus, support entrepreneurship and vulnerable groups of the population. The budget deficit is planned to be financed by debt sources, the key role in attracting which will be played by borrowings from the IMF and other official financing [8].

5. Law of Ukraine dated 13.05.2020 No. 591-IX "On Amendments to the Tax Code of Ukraine and Other Laws of Ukraine on Additional Support of Taxpayers for the Period of Measures Aimed at Preventing the Occurrence and Spread of Coronavirus Disease (COVID-19)" [9].

6. Law of Ukraine dated 08.08.2020 No. 786-IX "On the collection and accounting of a single contribution for obligatory state social insurance" as amended:

– individual entrepreneurs, persons engaged in independent professional activities and members of farms are temporarily exempted from the calculation and payment of the unified social tax;

– payers of the single contribution are not charged a penalty, and the accrued penalty for these periods is subject to write-off;

– a moratorium on documentary checks of the correctness of the accrual, calculation and payment of the single contribution has been established [10].

7. Amendments approved by the Cabinet of Ministers of Ukraine dated 14.09.2020 to the Tax Code of Ukraine and some other laws of Ukraine in terms of ensuring the balance of budget revenues. The draft law was developed to increase revenues to the State Budget in 2021.

8. Law of Ukraine dated 17.09.2020 No. 905-IX "On Amendments to the Tax Code of Ukraine regarding the clarification of certain conditions for granting benefits for the payment of tourist tax and real estate tax". The Law defines the right of internally displaced persons not to pay tourist tax for temporary residence in the places indicated in the certificate of registration of internally displaced persons [11].

The mentioned documents introduced, in particular, the following changes to the Tax Code of Ukraine dated 02.12.2010 No. 2755-VI (Tab. 1).

Summarizing the above changes to the tax legislation aimed at supporting the business environment in the context of the pandemic COVID-19, it is right to note the weakening of the fiscal function of taxes through the introduction of benefits and exemption from taxation of transactions for the supply of a number of goods necessary for the localization and elimination of coronavirus disease. The implementation of the control function of taxes was complicated due to the introduction of quarantine measures, so the introduction of a moratorium on tax audits was not a significant relief for business.

Table 1

Amendments to the Tax Code of Ukraine due to the pandemic COVID-19 [12]

Tax	Changes
Single tax	The maximum amount of income for single tax payers of all groups has been increased: Group 1 – 1000000 UAH, Group 2 – UAH 50,000,000 group 3 – UAH 7000000. In 2020, local governments have the right to make decisions to amend the adopted decision on the establishment of local taxes and/or fees to reduce the single tax rates.
Value added tax (VAT)	Operations on the import and supply of goods (including medicines, medical devices and/or medical equipment) necessary for the localization and elimination of the coronavirus pandemic COVID-19 in the customs territory of Ukraine are exempt from VAT.
Corporate income tax	The financial result before taxation will not be increased in accordance with subparagraph 140.5.9 of paragraph 140.5 of Article 140 of the Tax Code of Ukraine during the transfer of funds and goods (medicines, disinfectants, medical devices, medical equipment, personal hygiene products, food, etc.) to public associations, charitable organizations, the Ministry of Health of Ukraine, local state administrations, state or municipal health care institutions.
Property tax	Business entities are exempt from paying land tax and tax on immovable property other than a land plot for March 2020.
Excise Tax	The terms of payment of bills of exchange have been extended until 15.07.2020, the maturity of which falls on the period from 01.03.2020 to 31.05.2020. The procedure for the supply of ethyl alcohol for the production of disinfectants has been simplified. The excise tax rate for ethyl alcohol is temporarily set at UAH 0.00 per liter.
Single social contribution	Individual entrepreneurs and persons engaged in independent professional activities are exempt from accrual and payment for the periods March - April 2020, and such periods will be included in the insurance period.

Tax preferences introduced to support the population and business have affected the size of the state budget deficit. Taking into account the official data of the Ministry of Finance of Ukraine and the forecast indicators defined in the Budget Declaration for 2022–2024, a graphical interpretation of the dynamics of the state budget deficit of Ukraine for the period 2014–2024 is presented (Fig. 2).

In 2020, in order to provide financial resources for measures aimed at combating COVID-19, the state budget deficit was increased to 7.5% of GDP. However, this figure was kept at a much lower level – 5.2% of GDP. This means that the need for debt obligations has been reduced by UAH 81 billion. The Law of Ukraine "On the State Budget of Ukraine for 2021" envisages a deficit of 5.5% of GDP, which is fully consistent with similar indicators of other developing countries.

In order to determine the impact of the COVID-19 pandemic on the tax system and the effectiveness of the implemented regulatory measures, it is necessary to analyze tax revenues for a certain period.

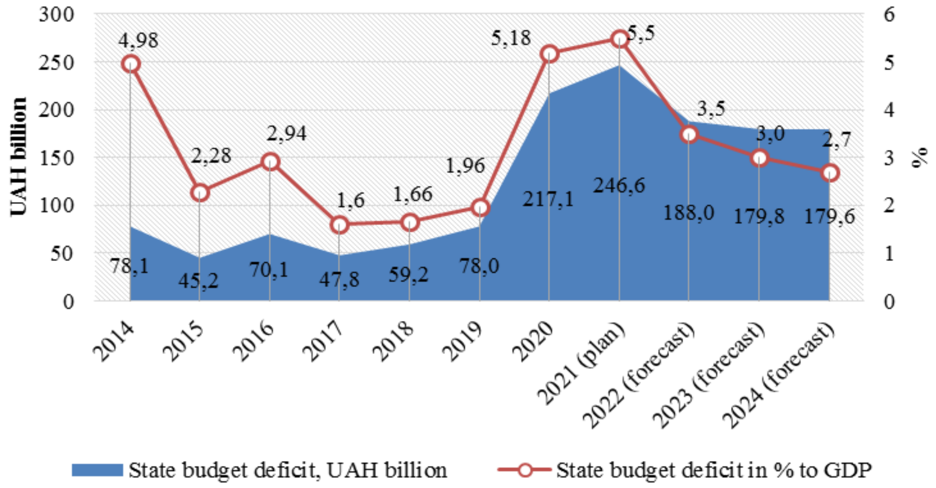


Fig. 2. Dynamics of the state budget deficit of Ukraine in 2014–2024*

**compiled by the author for [13, 14]*

According to official statistics, tax revenues account for about 80% of all sources of the Ukrainian budget. There is a need to research the dynamics and structure of their revenues to the State Budget of Ukraine. Table 2 shows the composition and dynamics of tax revenues to the State Budget of Ukraine in 2018–2021.

Table 2

Structure and dynamics of tax revenues to the State Budget of Ukraine in 2018–2021, UAH million

Tax name	Years				Growth rate	
	2018	2019	2020	2021	2021/ 2018	2021/ 2020
1	2	3	4	5	6	7
Total tax revenues	753815,7	799776,3	851114,9	1107090,4	146,86	130,08
Direct taxes:	233883,6	263786,9	278452,7	366056,8	156,51	131,46
personal income tax	91741,8	109954,0	117281,3	137555,2	149,94	117,29
corporate income tax	96882,3	107086,3	108695,0	147751,7	152,51	135,93
rent payment	45265,7	46746,9	52475,7	80749,4	178,39	153,88
fees for fuel and energy resources	-6,2	-0,3	0,7	0,5	-8,06	71,43
Indirect taxes:	520437,2	532134,1	569356,7	737117,6	141,63	129,46
domestic taxes on goods and services	493360,6	502048,1	538896,2	698940,4	141,67	129,70
taxes on international trade and foreign operations	27076,6	30086,0	30460,5	38177,2	141,00	125,33
Other taxes and fees	-505,1	3855,0	3306,2	3916,5	775,39	118,46

**compiled by the author for [15]*

According to the results of the presented data, it is legitimate to note the increase in the total amount of tax revenues to the State Budget of Ukraine, even in the context of the outlined challenges caused by the pandemic COVID-19. In 2021, total tax revenues amounted to UAH 1107 billion, which is 30.08% more than in the previous year. Direct tax revenues to the state budget increased from UAH 233883.6 million in 2018 to UAH 366056.8 million in 2021, and indirect taxes – from UAH 520437.2 million to UAH 737117.6 million, respectively.

Indirect taxes prevail in the revenues of the State Budget of Ukraine during the period under study, of which the largest share belongs to domestic taxes on goods and services, in particular VAT and excise – about 63% (Fig. 3). Their amount in 2021 amounted to UAH 699 billion, which is 41.67% more than in 2018. Rent revenues show rapid dynamics: in 2018, their amount was UAH 45 billion, and in 2021 it increased 1.8 times and amounted to UAH 81 billion. In 2018 and 2019, there was a shortfall of funds from fees for fuel and energy resources in the amount of UAH 6.2 and 0.3 million, respectively. At the same time, in 2020–2021, there is a positive dynamics of revenues. In 2018, there was also a shortfall of funds from other taxes and fees in the amount of UAH 505.1 million. However, since 2019, revenues have shown a rapid upward trend.

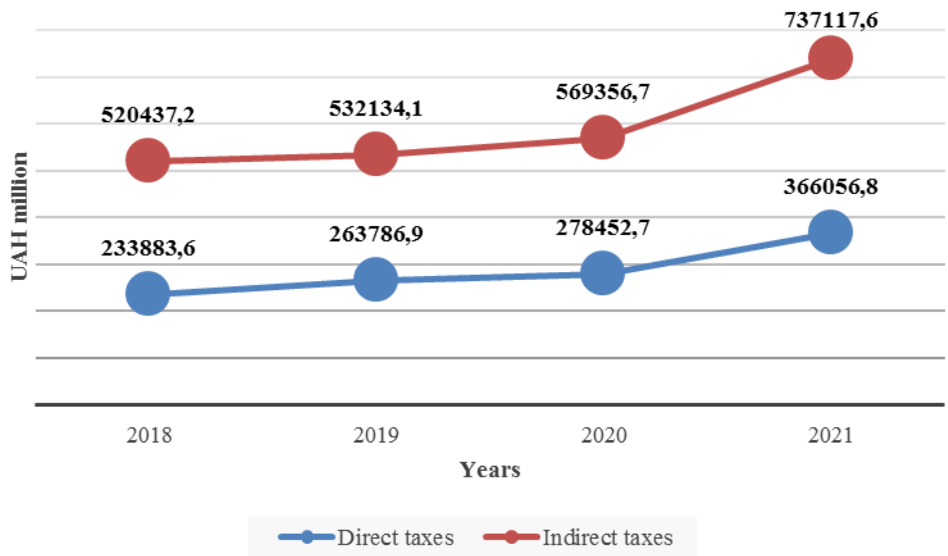


Fig. 3. Dynamics of direct and indirect taxes to the State Budget of Ukraine during 2018–2021*

**compiled by the author for [15]*

The structure of tax revenues to the State Budget of Ukraine for 2021 is presented in Figure 4.

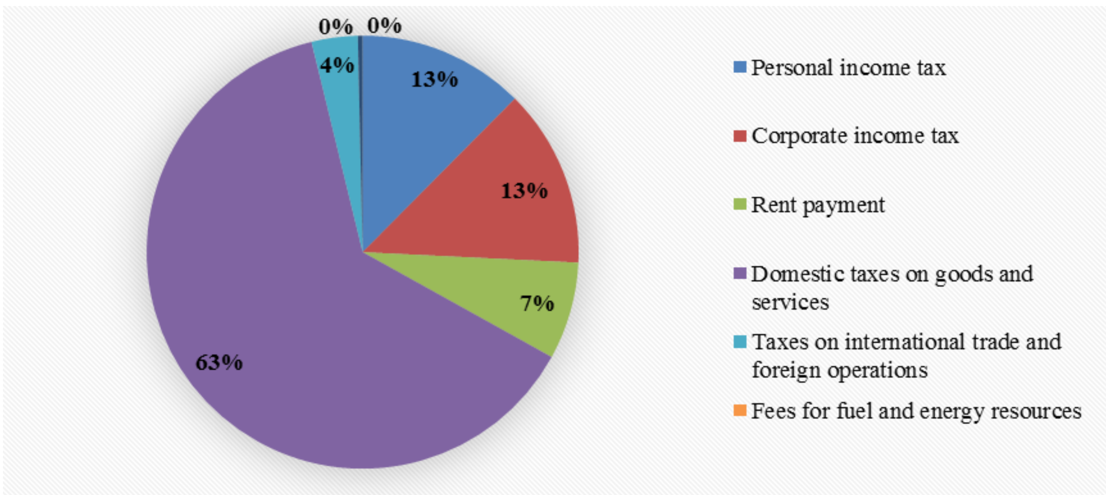


Fig. 4. The structure of tax revenues to the State Budget of Ukraine for 2021, %

**compiled by the author for [15]*

These data confirm the thesis that tax revenues to the state budget are formed mainly from three types of taxes: domestic taxes on goods and services, personal income tax and corporate profit tax. Thus, domestic taxes on goods and services account for 63.13%, personal income tax – 12.42%, and corporate income tax – 13.35%. This group of taxes accounts for about 89% of all tax revenues, so they largely determine the size of tax revenues.

The analysis of tax revenues in 2018–2021 allows us to conclude that the implemented tax instruments to respond to the threats caused by the COVID-19 pandemic were effective and did not have a negative impact on the State Budget of Ukraine. At the same time, local budgets turned out to be more sensitive to the unprecedented challenges of 2019, which was reflected in the indicators of 2020.

The analysis of local budget revenues of Ukraine in 2019–2021 is presented in Table 3.

Table 3

Local budget revenues of Ukraine in 2019–2021, UAH billion

	Year			**Absolute deviation (+/-)**	
	2019	2020	2021	2020/2019	2021/2020
1	2	3	4	5	6
Total revenues including intergovernmental transfers from the state budget	560,5	471,5	580,7	-89,0	109,2
Revenues excluding intergovernmental transfers from the state budget:	300,2	311,3	378,0	11,1	66,7
personal income tax	165,5	177,8	212,2	12,3	34,4
single tax	25,0	27,6	34,8	2,6	7,2
domestic taxes on goods and services	13,7	15,5	17,8	1,8	2,3
land tax on legal entities	11,5	10,8	11,8	-0,7	1,0
rent from legal entities	17,2	16,4	18,9	-0,8	2,5
other taxes and fees	67,3	63,2	82,5	-4,1	19,3
Official transfers	260,3	160,2	202,7	-100,1	42,5

Analyzing the dynamics of revenues to local budgets, it is noticeable that the amount of funds in 2020 decreased by UAH 89 billion compared to the previous year, thus their amount amounted to UAH 471.5 billion. This was due to a decrease in official transfers from the state budget by UAH 100.1 billion due to the allocation of funds to contain the spread of the coronavirus pandemic. In 2020, revenues excluding inter-budget transfers increased by UAH 11.1 billion due to an increase in revenues from personal income tax by UAH 12.3 billion, single tax on individuals by UAH 2.6 billion and domestic taxes on goods and services by UAH 1.8 billion. Revenues from the land tax and rent from legal entities decreased by UAH 0.7 billion and UAH 0.8 billion, respectively, due to the exemption of business entities from paying these types of taxes as part of the tax measures introduced to support businesses during the COVID-19 pandemic. Figure 5 shows the growth rate of actual land tax revenues in 2020 compared to 2019 by regions of Ukraine.

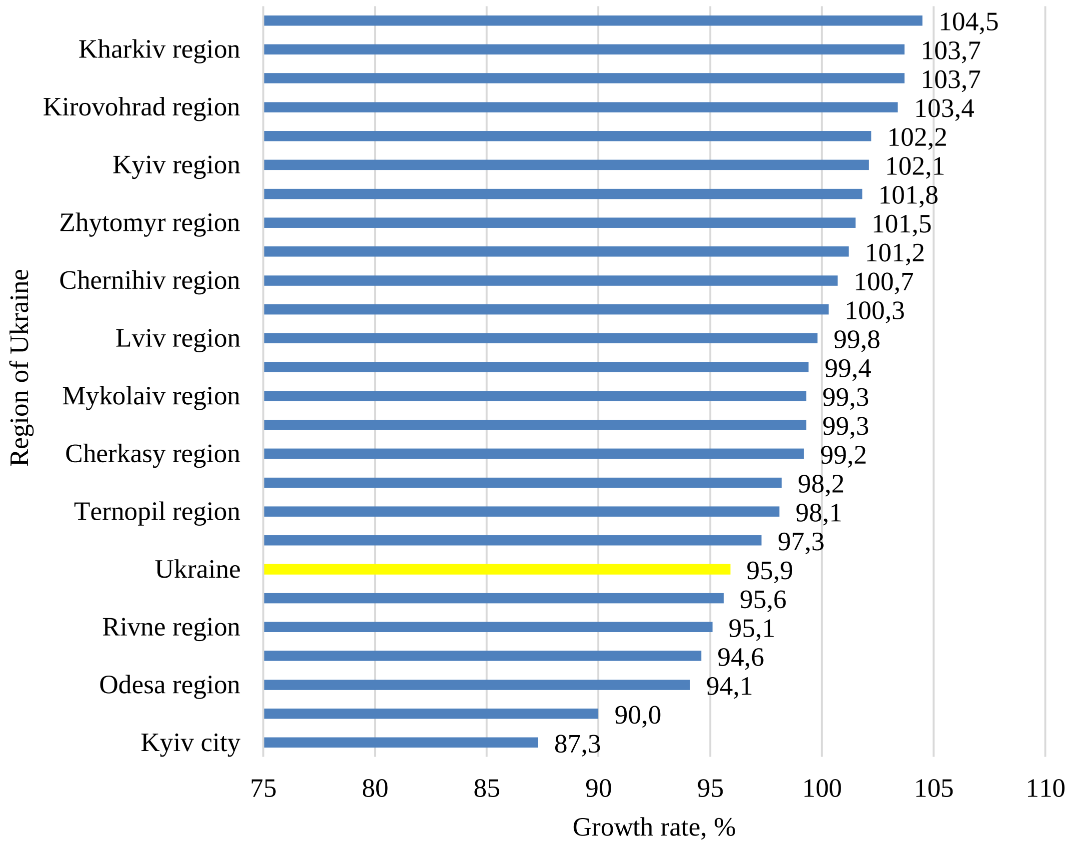


Fig. 5. Growth rates of actual land payment revenues in 2020 compared to 2019 by regions of Ukraine*

**compiled by the author for [3]*

Thus, it can be concluded that the exemption of business entities from paying land tax had a significant impact on local budget revenues in most regions of Ukraine in 2020 compared to 2019. Luhansk region had the highest growth rate – 104.5%, Kharkiv and Khmelnytskyi regions – 103.7%. In 13 regions, the growth rate of land tax revenues did not exceed 100%. In particular, Lviv region – 99.8%, Poltava region – 95.6% and Dnipropetrovsk region – 90%. The lowest value of this indicator is in the city of Kyiv – 87.3%. In general, the average growth rate of land tax revenues in the regions of Ukraine was 95.9%.

In 2021, there is a positive trend towards an increase in revenues of local budgets of Ukraine by UAH 109.2 billion, thus their amount amounted to UAH 580.7 billion. Official transfers increased from UAH 160.2 billion in 2020 to UAH 202.7 billion in 2021. Revenues excluding inter-budget transfers from the state budget also increased by UAH 66.7 billion due to a significant increase in revenues from personal income tax by UAH 34.4 billion, single tax by UAH 7.2 billion and other taxes by UAH 19.3 billion.

Thus, the implemented instruments of tax support for business during the pandemic proved to be effective and allowed to ensure a sufficient level of revenues to the State Budget of Ukraine. At the same time, the digitalization of the tax system has been intensified. They resulted in the creation of an electronic taxpayer's office, the formation of a single tax account, and the functioning of electronic tax reporting services. In the future, the formation and implementation of a digital tax personification program was planned.

However, the beginning of 2022 was marked by a systemic shock for the tax system and the national economy as a whole – the military invasion of the Russian Federation. The unprecedented threat to national security required, among other things, prompt changes in the tax system to support the functioning of the Ukrainian economy.

The war started by the Russian Federation resulted in the loss of a significant part of the state budget of Ukraine in the form of taxes, excise and customs duties. According to the estimates of the Ministry of Economy of Ukraine, direct losses to Ukraine's infrastructure due to the war amount to at least USD 120 billion or almost UAH 3.6 trillion, excluding losses of economic growth. Also, according to the calculations of the National Bank of Ukraine, each week of hostilities "costs" the national economy more than UAH 50 billion [16].

The World Bank experts predict that Ukraine's GDP will decrease by 45% in 2022, the International Monetary Fund predicts a 35% drop in the Ukrainian economy [17, 18]. The reduction of Ukraine's GDP is expected in all components, in particular, private consumption will decrease due to the forced departure of many citizens from the country, unemployment will increase, incomes will decrease and savings on secondary expenses will increase. Due to significant uncertainty and high risks, investment activity will also decline significantly.

According to the International Labour Organization, since the beginning of the aggression of the Russian Federation, 30 to 50% of enterprises have completely ceased their activities, which led to the loss of 4.8 million jobs, and further hostilities will increase their number to 7 million [19]. However, if the hostilities stop immediately, the economic recovery will be accompanied by the return of 3.4 million jobs.

The consequences of a full-scale attack by the Russian Federation will increase inflationary pressures, which are partially contained by the measures of the government and the National Bank of Ukraine. The inflation index in February 2022 was 101.6%, in March it increased to 104.5%, and in October it decreased to 102.5% [20]. The rise in consumer prices is primarily due to the disruption of supply chains and production processes, uneven demand, increased business costs, as well as the physical destruction of assets of many enterprises due to the full-scale attack of the Russian Federation on Ukraine. First of all, the prices for food, pharmaceuticals and fuel have rapidly increased. According to the National Bank of Ukraine, inflationary pressure will continue to persist, primarily due to the consequences of a full-scale war. By the end of 2022, inflation may exceed 20%, but will remain under control. At the same time, price growth will be restrained by measures taken by the National Bank and the Government of Ukraine, among others:

– temporary fixing of the hryvnia exchange rate, which will restrain the probable deterioration of expectations and the rise in prices of imported goods;

– reduction of taxes, including indirect taxation of imports;

– fixing prices for housing and communal services;

– administrative regulation of prices for a number of food products and fuel.

After the first weeks of the full-scale invasion of Ukraine by the Russian Federation, economic activity revived in relatively calm regions. Businesses gradually began to resume their activities, overcoming the challenges of wartime.

Ensuring stable tax revenues to the state budget is a necessary condition for the functioning of the country under martial law. At the same time, in order to support domestic business entities, the Verkhovna Rada of Ukraine has adopted a number of Laws of Ukraine aimed at reducing the tax burden to ensure the adaptation of the national economy to the realities of martial law and rapid recovery after the war.

Today, special taxation conditions are provided by the following Laws of Ukraine:

–No. 2118-IX "On Amendments to the Tax Code of Ukraine and other Legislative Acts of Ukraine regarding the peculiarities of taxation and reporting during the period of martial law";

–No. 2120-IX "On Amendments to the Tax Code of Ukraine and Other Legislative Acts of Ukraine Regarding the Validity of Norms for the Period of Martial Law".

–No. 7190 "On Amendments to the Tax Code of Ukraine and Other Legislative Acts of Ukraine Regarding the Validity of Norms for the Period of Martial Law".

According to the Law No. 2118-IX, which entered into force on March 7, 2022, it provides for the suspension of the terms determined by tax legislation; moratorium on all types of tax audits; exemption from liability for violation of tax legislation [21].

The Law No. 2120-IX, which entered into force on March 17, supplemented and partially clarified the adopted amendments, in particular: some types of tax audits are allowed; benefits from the single tax, land payment are proposed; the peculiarities of applying tax benefits for benefactors are clarified; the peculiarities of tax credit formation and registration of tax invoices are determined, etc. [22].

Individual entrepreneurs, self-employed persons and members of farms from March 1, 2022 until the termination or cancellation of martial law in Ukraine have the right not to accrue, calculate and pay the single social contribution for themselves. Also, employers – individual entrepreneurs, single tax payers of the 2nd and 3rd groups, as well as legal entities belonging to the 3rd group of single tax payers have the right not to pay the single social contribution for employees who were called up for military service. In this case, these employees will be paid from the state budget.

The outlined tax instruments to support individual entrepreneurs were aimed at relocating businesses due to the negative trend of reducing their number. At the beginning of 2022, there were 1997030 individual entrepreneurs in Ukraine, and in January–May 94754 units ceased their activities. The main reasons were identified:

–unfavorable information background;

–new law on the mandatory use of cash registers (registrar of payment transactions, RPT);

–energy crisis - increase in utility and rent payments;

–military aggression of the Russian Federation (physical destruction, reduced demand, logistics problems, etc.)

It should be noted that the largest number of closures falls on February 2022 – 36632 individual entrepreneurs ceased their activities. During January–May, 91803 individual entrepreneurs were registered. Thus, at the beginning of June, 1993358 individual entrepreneurs remained active (Fig. 6).

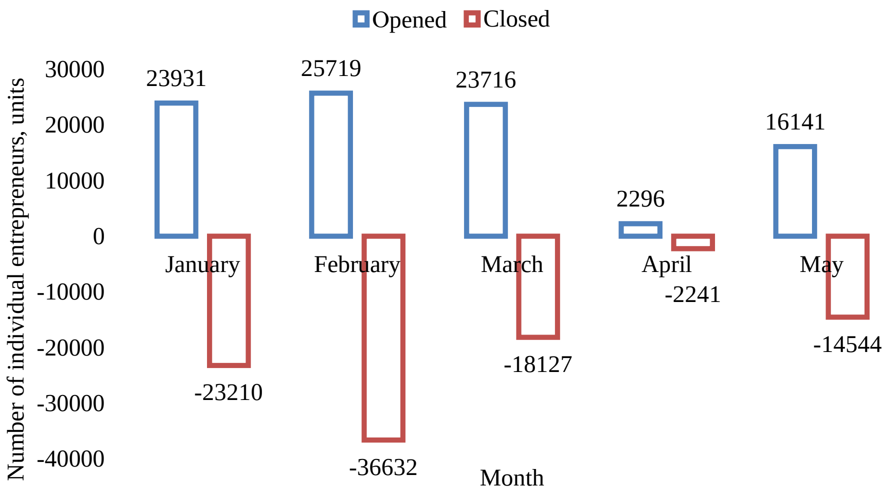


Fig. 6. Dynamics of opening and closing of individual entrepreneurs in January–May 2022*

**compiled by the author for [3]*

The analysis of the single tax revenues to the consolidated budget of Ukraine for 2019-2021 and the calculation of forecast indicators for 2022 are presented in Table 4.

Table 4

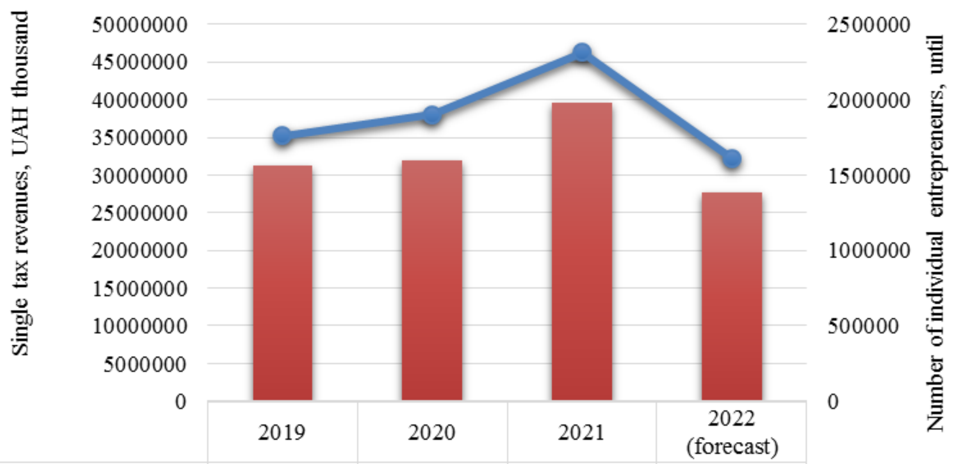
Single tax revenues to the consolidated budget of Ukraine for 2019–2021 and forecast for 2022

Indicator	2019	2020	2021	2022 (forecast)
Single tax revenues, UAH thousand	35270200	38031000	46282400	32214564
Number of individual entrepreneurs	1561028	1599755	1983269	1386494
Single tax revenues from 1 individual entrepreneur (average value), UAH thousand	22,59	23,77	23,34	23,23

After analysis, we can conclude that during 2019–2021, single tax revenues gradually increased from UAH 35270.2 million to UAH 46282.4 million. The number of individual entrepreneurs also increased in 2020 by 38727 units, and in 2021 – by 24% compared to the previous year [3].

According to forecasts, by the end of 2022 the number of individual entrepreneurs will decrease to 1386494, which is primarily due to the military aggression of the Russian Federation (Fig. 7).

Thus, having made calculations, it is legitimate to state that the single tax revenues in 2022 will decrease to UAH 32214.6 million. However, it should be noted that these calculations are based on the tax rates that were in force before martial law. The Law No. 2120-IX establishes a rate of 2% of income for the 3rd group mandatory, and for the 1st and 2nd groups – voluntary, so it is impossible to make a more accurate forecast, but it can be said with certainty that the amount of single tax revenues to the consolidated budget of Ukraine in 2022 will be significantly lower than in previous years.



	2019	2020	2021	2022 (forecast)
Number of individual entrepreneurs	1561028	1599755	1983269	1386494
Single tax revenues, UAH thousand	35270200	38031000	46282400	32214564

Fig. 7. Dynamics of changes in the number of individual entrepreneurs and single tax revenues from them during 2019-2022*

**compiled by the author for [3]*

In addition to supporting small businesses, the Verkhovna Rada of Ukraine has also introduced a number of tax benefits for charitable assistance to state bodies, enterprises, organizations, etc. that encourage citizens to help the state during martial law:

1) humanitarian aid in the form of fuel transferred to the Armed Forces of Ukraine or territorial defense is not subject to VAT;

2) targeted charitable assistance provided to combatants and persons residing in the territory of hostilities or who were forced to leave their place of residence due to hostilities and untargeted charitable assistance provided to persons affected by the armed aggression of the Russian Federation are not subject to personal income tax and military duty;

3) the tax rebate of an individual includes the amount of funds and the value of property donated to non-profit organizations in the amount not exceeding 16% of the annual taxable income of such person. As a general rule, the tax discount is up to 4% of annual taxable income;

4) persons engaged in independent professional activity and individual entrepreneurs on the general taxation system may deduct the entire amount of funds or the value of property transferred as charitable assistance to state bodies, enterprises, organizations, etc. [22].

Thus, the new provisions of the tax legislation are designed not only to reduce the tax burden on business, stabilize important segments of the economy, but also to stimulate charitable assistance to the Armed Forces of Ukraine and other state bodies, enterprises, organizations whose activities are critical during martial law [23]. Generalized tax instruments to support the national economy are presented in Table 5.

At the same time, a reduction in the tax burden inevitably leads to a decrease in tax revenues. Thus, according to the operational data of the State Treasury Service, in October 2022, the general fund of the state budget received UAH 72.8 billion, which is almost 50% less than in September 2022. This situation is due to the fact that for the first time since the beginning of the full-scale invasion of the Russian Federation in Ukraine, the Government did not attract a single hryvnia of grant funds for the month, while in September it managed to accumulate UAH 72.5 billion of nonrepayable financial assistance, and in August UAH 109.7 billion. This may indicate that Ukraine has received the entire amount of grant aid currently allocated.

Table 5

New provisions of the tax legislation of Ukraine introduced in connection with martial law*

Tax	Changes
1	2
Single tax	From April 1, 2022, individual entrepreneurs - single tax payers of groups 1 and 2 have the right not to pay the single tax. Group 3 taxpayers pay the tax at the rate of 2% of income. VAT on transactions with a place of supply in Ukraine and limitation of the number of employees is not applied.
Value added tax (VAT)	Operations on import and supply of special personal protective equipment, other specified defense goods, medicines according to the list of the Cabinet of Ministers of Ukraine are exempt from taxation. Operations on the supply and import into the territory of Ukraine of motor gasoline, heavy distillates and liquefied gas, for which the excise tax rate is set at EUR 0.00 per 1000 liters, as well as oil or oil products under certain codes, are taxed at the rate of 7% VAT.
Corporate income tax	The activities of non-profit organizations on the transfer of property, provision of services, use of income to finance expenditures, if such services are provided, and the funds are transferred to state bodies for the needs of ensuring the defense of Ukraine, and / or funds are transferred to special accounts opened by the National Bank of Ukraine for the collection of funds, are not a violation.
Excise Tax	For gasoline, other petroleum products, heavy distillates, liquefied gas, propane, isobutane, the excise tax rate is set at EUR 0.00 per 1000 liters.
Environmental tax	For the tax year 2022, environmental tax is not paid on objects located in the territories where hostilities are (were) conducted or temporarily occupied by armed formations according to the list determined by the Cabinet of Ministers of Ukraine.
Land tax	From March 2022 to December 31 of the year following the year in which martial law is terminated, no land tax and rent for land plots of state and communal property shall be paid for land and shares located in the territories where hostilities are (were) conducted, in the temporarily occupied territories, the list of which is determined by the Cabinet of Ministers of Ukraine, which are defined as contaminated with explosive objects and/or where there are fortifications. For the tax years 2022 and 2023, the general minimum tax liability for land plots located in the above-mentioned territories shall not be paid.
Personal income tax	The tax rebate of a taxpayer for 2022 includes the amount of funds or the value of property transferred by him in the form of donations or charitable contributions to non-profit organizations in the amount not exceeding 16% of his total annual taxable income. New categories of income that are not included in the total income of taxpayers subject to taxation have been established (in particular, the amount of charitable assistance in favor of combatants, individuals living in settlements where military operations are carried out and/or who were forced to leave their place of residence, in the limit amounts, the amount of charitable assistance provided by certain international charitable organizations).

End Table 5

1	2
Single social contribution	From March 1, 2022, until the termination of martial law, as well as for 1 year after its termination, individual entrepreneurs, persons engaged in independent professional activity, members of farms have the right not to pay a single contribution for themselves. For the period of mobilization, employers - single taxpayers who have chosen the simplified taxation system, individual entrepreneurs belonging to the 2nd and 3rd groups of single taxpayers, as well as legal entities belonging to the 3rd group of single taxpayers, have the right not to pay the single contribution for employees called up for military service in the Armed Forces of Ukraine.

**compiled by the author for [21, 22]*

Among the payments controlled by the tax and customs authorities, the main revenues were received from: value added tax on goods imported into the customs territory of Ukraine - UAH 26.0 billion; value added tax on goods produced in Ukraine – UAH 14.2 billion; income tax and military duty – UAH 12.8 billion; excise tax – UAH 7.8 billion; rent for mineral resources – UAH 3.8 billion; and tax on income from the sale of goods. UAH; personal income tax and military duty – UAH 12.8 billion; excise tax – UAH 7.4 billion; rent for subsoil use – UAH 4.4 billion; corporate income tax – UAH 3.2 billion; import and export duties – UAH 2.6 billion.

Revenues of the single contribution for obligatory state social insurance to the Pension Fund and social insurance funds in October 2022 amounted to UAH 37.9 billion. In general, in January-October 2022, the general fund of the state budget received UAH 575.7 billion [24].

In January–October 2022, the largest share in the payment of taxes, fees and payments to the Consolidated Budget of Ukraine was paid by business entities in the following sectors (Fig. 8).

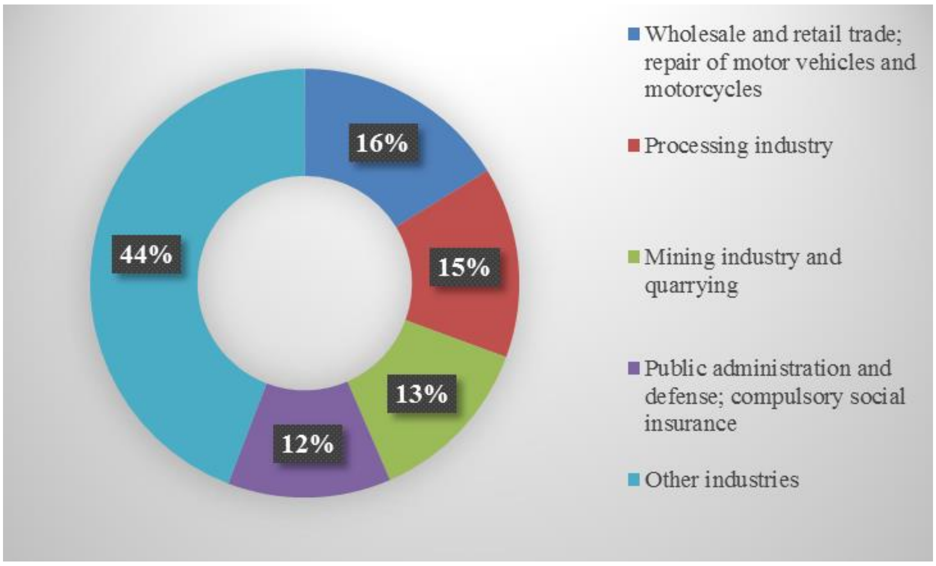


Fig. 8. Structure of revenues of taxes, fees and payments to the Consolidated Budget of Ukraine for January - October 2022 by sectors of the national economy

**compiled by the author for [24, 27]*

The largest increase in payments for 10 months of 2022 compared to 10 months of 2021 occurred in the following sectors: "Public administration and defense; compulsory social insurance" – an increase of 2.2 times, or + UAH 64 billion; "Supply of electricity, gas, steam and air conditioning" – an increase of 1.4 times, or + UAH 19.4 billion; "Financial and insurance activities" – an increase of 1.3 times, or + UAH 12.8 billion; "Wholesale and retail trade; repair of motor vehicles and motorcycles" – an increase of 1.1 times, or + UAH 11.7 billion.

The decrease in payments for 10 months of 2022 compared to 10 months of 2021 occurred in the following industries: "Agriculture, forestry and fisheries" – by 23.7%, or UAH 12.7 billion; "Processing industry" – a decrease of 20.7%, or UAH 35.6 billion; "Transport, warehousing, postal and courier activities" – by 15.4%, or UAH 10.2 billion [24, 27].

Thus, in the conditions of martial law, the national economy has faced an unprecedented challenge: on the one hand, there is a need to strengthen state support for all sectors of the economy, and on the other hand, the need to fill the state budget has increased. Adaptation of the tax system to the realities of today, the use of tax instruments to support business is a necessary condition for ensuring the functioning of the national economy.

Directions of reforming the tax system in the context of European integration processes

Since the signing of the Association Agreement between Ukraine and the European Union, Ukraine has actively started moving towards European integration. As of the end of 2021, the state of implementation of the Association Agreement was estimated at 63%. On February 28, 2022, an application for accession to the European Union was submitted. In 2022, due to the outbreak of a full-scale war of the Russian Federation against Ukraine, the pace of reforms in the framework of the implementation of the Association Agreement slowed down significantly. At the same time, the issue of the efficiency of the tax system and its approximation to European standards has become particularly relevant.

Today, one of the priority tasks for Ukraine is to support the national economy with its further post-war recovery and reconstruction. In this aspect, the tax system plays an important role as an effective lever for maintaining and restoring economic and social stability, provided that the balance between the state's capabilities in terms of providing it with financial resources through the tax mechanism and achieving priority socio-economic goals in the context of the country's European integration is maintained. In order to confirm this thesis, the impact of the tax system on the national economy of Ukraine was assessed, taking into account the main macroeconomic indicators for 2018–2021 (Tab. 6).

Table 6

Main macroeconomic indicators of Ukraine for 2018–2021*

Indicators	2018	2019	2020	2021
Tax revenues, UAH million	986348,5	1070321,8	1136687,2	1453804,1
Consolidated budget revenues, UAH million	1184278,1	1289779,8	1376661,6	1662242,7
Share of tax revenues in the Consolidated Budget, %.	83,29	82,98	82,57	87,46
GDP, UAH million	3083409	3675728	3818456	4363582

**compiled by the author for [3, 27]*

Thus, the main macroeconomic indicators of Ukraine during 2018–2021 show a positive trend. In particular, tax revenues during the analyzed period increased by UAH 467455.6 million. This was due to the expansion of the tax base and effective control over taxpayers. Tax revenues make up the main share of revenues to the consolidated budget. During 2018-2021, they consistently accounted for more than 80% and at the end of the period under review amounted to 87.46% of all revenues.

The revenues of the Consolidated Budget of Ukraine also grew steadily and in 2021 amounted to UAH 1662242.7 million, which is 1.4 times more than in 2018. In general, the growth of consolidated budget revenues was due to an increase in tax revenues [3, 24, 25].

Figure 9 shows the dynamics of the main macroeconomic indicators of Ukraine: GDP, tax revenues and consolidated budget revenues of Ukraine during 2019–2021. The growth rates of all three analyzed indicators are similar in terms of changes: a decrease in the growth rate of tax revenues leads to a decrease in the growth rate of the consolidated budget and total GDP, and vice versa. This indicates a significant impact of tax revenues on the main macroeconomic indicators of Ukraine. Accordingly, the economic recovery and development of the country largely depends on the efficiency of the tax system.

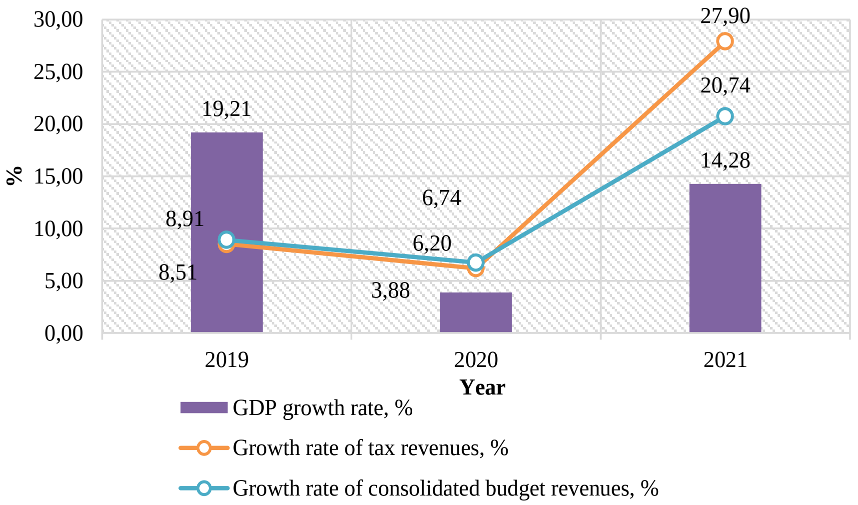


Fig. 9. Dynamics of GDP, tax revenues and consolidated budget revenues of Ukraine during 2019–2021*

**compiled by the author for [3, 24, 25]*

An important fiscal indicator is the tax burden, which characterizes the total impact of taxes on the country's economy as a whole or on individual business entities. In fact, the tax burden is an indicator of the effectiveness of tax policy, which affects the level of state budget revenues, the level of tax revenues in the GDP structure and, accordingly, the share of GDP per capita.

The increase or decrease of the overall tax burden can be carried out not only by adjusting the tax rates, but also by changing the amount of tax benefits for certain business entities. A. Laffer's research confirms that the state must always pursue a moderate policy of tax pressure to ensure stable revenues. This concept is aimed at reducing the burden on taxpayers, and the growth of budget revenues should be carried out by increasing the number of taxpayers and expanding the tax base [28].

At the macro level, the tax burden indicator reflects the effectiveness of tax policy, thus quantifying the aggregate impact of tax payments on the sources of their payment. In economic science, there are several approaches to assessing the level of tax burden, namely:

1) as a ratio of the amount of tax revenues to the budget to the amount of total private sector income;

2) as the difference between the total amount of tax revenues and expenditures and transfers from the budget for the maintenance of the private sector of the economy;

3) as a share of tax budget revenues in gross domestic product.

The analysis of the tax burden in Ukraine during 2018–2021 is presented in Table 7.

The level of tax burden in Ukraine during 2018–2021 fluctuates. In 2019, there was a noticeable decrease from 23.59% to 20.83%, which was due to a significant increase in GDP by UAH 592319 million. Over the next two years, a gradual increase is noticeable: in 2020 – up to 21.41%, and in 2021 – up to 24.41%. This is due to a significant increase in tax revenues by UAH 247649 million compared to last year. This trend may lead to an increase in the shadow economy and a decrease in the level of economic development of the country.

Table 7

Indicators of the tax burden in Ukraine during 2018–2021*

Indicator	Years				Growth rate	
	2018	2019	2020	2021	2021/2018	2021/2020
Total tax revenues, UAH million	727250	765835	817348	1064997	337746	247649
GDP, UAH million	3083409	3675728	3818456	4363582	1280173	545126
The level of tax burden, %	23,59	20,83	21,41	24,41	0,82	3,00
Own income of the pension fund, UAH million	202084	241752	281751	327007	124923	45256
Tax burden on labour, %	6,6	6,6	7,4	7,5	0,94	0,12
Total tax burden coefficient,%	30,14	27,41	28,78	31,90	1,76	3,12

**compiled by the author*

In addition to this indicator is the tax burden on labor, its level in 2018 and 2019 was 6.6%, next year there is a sharp increase to 7.4% and in 2021 – to 7.5%. In order to reduce the tax burden on labor in Ukraine, a pension reform was carried out, according to which the retirement age and the required insurance period for receiving a pension were increased.

The overall tax burden ratio was constantly changing during the study period and reached a maximum value of 31.9% in 2021, which is 3.12% more than in the previous year (Fig. 10).

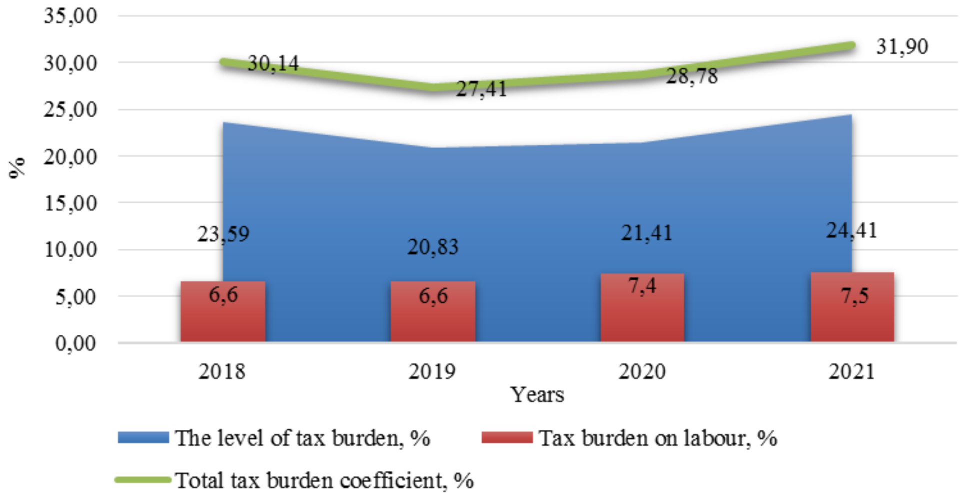


Fig. 10. Dynamics of the tax burden on the economy of Ukraine during 2018–2021*

**compiled by the author*

It should be noted that taxes are the main source of revenues to the State Budget of Ukraine, so there are no significant reserves for the overall reduction of the tax burden. But it is necessary to look for alternative ways and reserves to redistribute the tax burden. This can be achieved, in particular, through the redistribution of taxation of objects and subjects.

In order to assess the tax burden in Ukraine, it is advisable to compare it with other countries of the world. This is especially relevant in the context of European integration processes. It is important for Ukraine to monitor the transformation of the tax system in other European countries, responding to new challenges and threats. The European experience and history of tax reforms, both positive and negative, can be very useful in terms of finding effective tax instruments to improve the macroeconomic situation, balance the state budget and ensure social stability in the country [29].

According to the World Bank Enterprise surveys in 121 countries, the majority of enterprises consider the reduction of tax rates and tax administration time as the first step. Studies have shown that high growth rates of income tax have a negative impact on investment and business environment. In addition, countries with high tax rates have large informal sectors. Also, corporate tax rates can be negatively correlated with economic growth. Another analyzed study showed that an increase of 1 percentage point in the total tax rate leads to a simultaneous increase in the tax evasion rate by 3% [30]. However, taxes significantly increase government revenues, which governments can use to finance social programs and public investment, promote economic growth and develop a proper budget balance. Currently, there is no single proportional level of tax burden in the European Union. The map of tax burden in the world is presented in Figure 11.

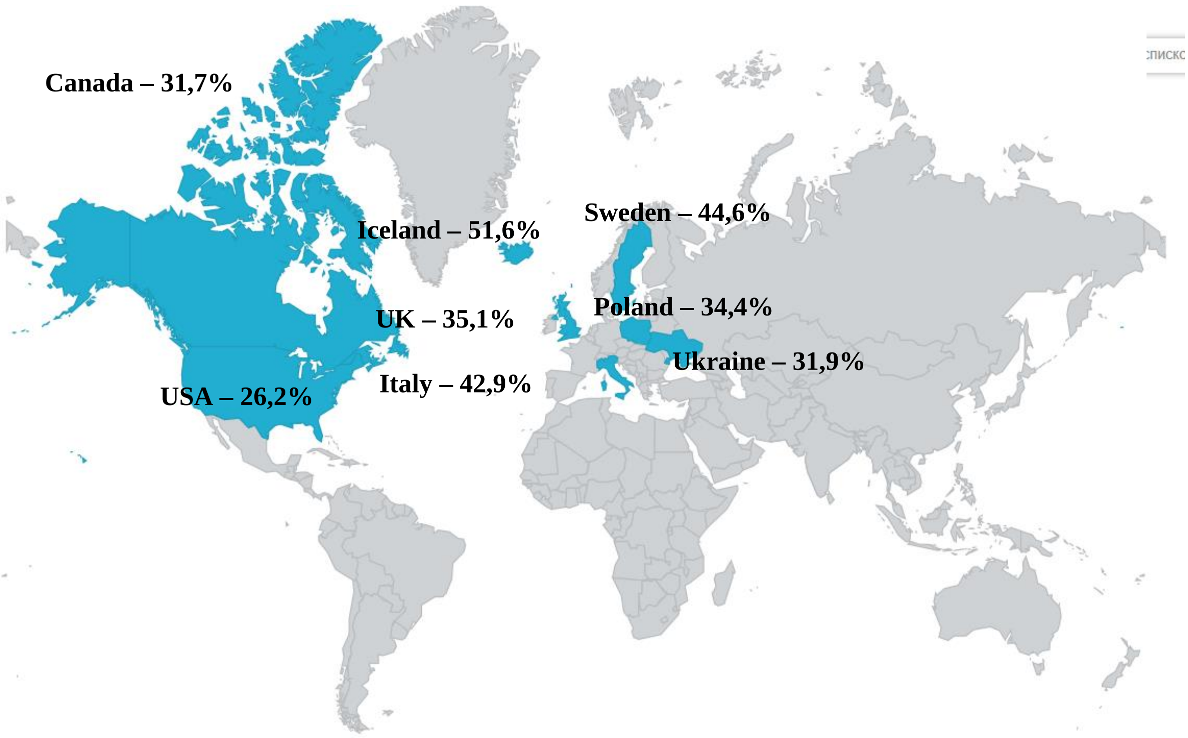


Fig. 11. The level of tax burden in the world in 2021*

**compiled by the author for [31]*

Compared to developed countries, the tax burden of the Ukrainian economy is low – 31.9% of GDP. The average value in European countries is about 40% of GDP and is distributed extremely unevenly: a significant tax burden in Iceland – 51.6% and Sweden – 44.6%. And the lowest tax pressure is in the USA – 26.2% and Ireland – 23%. The level of tax burden in Norway and Germany is about 38% of GDP, in the UK and Poland about 35% [31].

When comparing the tax burden in different countries of the world, it is important to take into account the part of taxes that is returned to the population in the redistribution of budget revenues. Thus, for example, for Scandinavian countries this share of redistributed revenues is approximately 85%, while in Ukraine it is less than 30%. Also, American economists note that the maximum rate of withdrawal to the budget is 30% of the amount of income, and 40–50% of withdrawals of income reduces the company's own funds, promotes disinterest in investment and increases the risk of reducing tax revenues due to the transition of enterprises to the shadow sector [32].

The effectiveness of the state tax policy, the effectiveness of taxation, the effectiveness of the tax system – all this is the reason for the use of various indicators for its quantitative assessment, their ordering, placement.

In the formation of the system of indicators of fiscal efficiency of taxes at the macro level, it is necessary to observe the ratio of the final result, for example, in the form of national income, gross domestic product, the activities of the State Tax Service of Ukraine, and the effect to the attracted resources. The increase of the fiscal efficiency of direct taxes is influenced by such important factors as the level of income of legal entities and individuals, their ability to increase their own capital, the investment climate in the economy as a whole and in various sectors, the level of income and expenditures of the population, the inflation rate in the country, stability and predictability of changes in tax legislation, etc.

The mechanism for assessing the fiscal efficiency of taxes includes the following areas of research:

– analysis of the impact of the tax burden on the country's economy;

– analysis of the efficiency of tax revenue collection, which consists of the analysis of the efficiency of individual types of taxes and the analysis of the efficiency of the State Tax Service of Ukraine;

– analysis of the uniformity of revenues of certain types of taxes to the budget.

The practical purpose of assessing the fiscal efficiency of individual types of taxes is to determine:

1) the ratio of tax revenues to budget revenues and GDP of the country;
2) what are the costs of financial resources for the provision of tax collection services;
3) whether taxpayers (consumers of services) receive satisfaction from their payment (consumption of the product), etc.

In addition, evaluation is a process that requires continuous improvement due to the specificity of its purpose: the ability to obtain objective information, which traces the level of development of the object of evaluation, to identify areas for improving the current state and to make adjustments to the activities and directly to the evaluation system in terms of indicators and criteria. It is important to conduct a systematic evaluation of the budget process, which can be significantly improved by assessing the compliance of the level of services with the expenditure of funds.

The above areas of research involve the use of quantitative and qualitative analysis of the fiscal efficiency of taxes based on relevant indicators [26].

The ratio of indicators can be calculated in different ways. Thus, the analysis of the impact of the tax burden on the state economy involves the calculation and characterization of such indicators:

1) fiscal significance of a particular tax in the state budget – characterizes the fiscal efficiency of tax administration under a certain system of implemented tax decisions, reflects the share of tax revenues in budget revenues and is calculated by the formula:

$$Sf = \frac{Tr_i}{SB} * 100\%, \quad (1)$$

where Sf – fiscal significance of the tax in the State Budget;

Tr_i – tax revenues of the i-th type of tax to the State Budget for the year;

SB – State Budget revenues for the year.

This coefficient helps to determine how the real value of revenues of a particular type of tax has changed.

2) fiscal significance of a particular tax in the state GDP is a quantitative indicator that characterizes the redistribution of GDP through the state budget and is calculated by the formula:

$$Sf = \frac{Tr_i}{GDP} * 100\%, \quad (2)$$

where Sf – fiscal significance of the tax in the GDP of the state;

Tr_i – tax revenues of the i-th type of tax to the State Budget for the year;

GDP – gross domestic product for the year.

The main budget-forming taxes are value added tax, corporate income tax and personal income tax. On the example of these types of taxes we will calculate the system of fiscal efficiency indicators. Let us consider the fiscal significance of value added tax, corporate income tax and personal income tax in the State Budget of Ukraine during 2018–2021 (Tab. 8).

Table 8

Calculation of the fiscal significance of VAT, income tax and personal income tax in the State Budget of Ukraine during 2018–2021*

Indicator	Year			
	2018	2019	2020	2021
1	2	3	4	5
State budget revenues, UAH million	928108,3	998278,9	1076016,7	1296852,9
VAT, UAH million	374508,2	378690,2	400600,1	536489,2
VAT share in state budget revenues	0,40	0,38	0,37	0,41
Fiscal significance of VAT, %	40,35	37,93	37,23	41,37
Income tax, UAH million	96882,2	107086,3	108695	147751,7
Income tax share in state budget revenues	0,10	0,11	0,10	0,11
Fiscal significance of the income tax, %	10,44	10,73	10,10	11,39
Personal income tax, UAH million	91741,8	109954	117281,3	137555,2
Personal income tax share in state budget revenues	0,10	0,11	0,11	0,11
Fiscal significance of the personal income tax, %	9,88	11,01	10,90	10,61

**compiled by the author*

The fiscal significance of value added tax in the budget of Ukraine during 2018–2020 tends to decrease. In 2018, the share of VAT was 40.35%, in 2019 it decreased to 37.93%, and in 2020 – to 37.23%. This indicates that the fiscal efficiency of tax administration in the system of implemented tax decisions is deteriorating, the fiscal significance of VAT in the budget of Ukraine is declining and the real value of tax revenues is decreasing. The deterioration of the situation is primarily due to the COVID-19 pandemic, which has resulted in a decrease in the production and import of goods, as well as a decrease in the solvency of the population. In 2021, there is a noticeable increase in the fiscal significance of VAT to 41.37%.

The value of the fiscal significance of corporate income tax during 2018–2020 ranged from 10.1% to 10.73%, and in 2021 increased to 11.39%, which was due to a sharp increase in revenues from this type of tax by 1.36 times compared to the previous year.

The fiscal significance of personal income tax was the highest in 2019 – 11.01%, which is due to a decrease in the fiscal significance of value added tax. During 2020–2021, the value of this indicator gradually decreased and at the end of the analyzed period amounted to 10.61%.

The indicators of the fiscal significance of value added tax, income tax and personal income tax in the GDP of Ukraine during 2018–2021 are presented in Table 9.

Table 9

Calculation of the fiscal significance of VAT, income tax and personal income tax in the GDP during 2018–2021*

Indicator	Year			
	2018	2019	2020	2021
1	2	3	4	5
GDP (real), UAH million	3083409	3675728	3818456	4363582
VAT, UAH million	374508,2	378690,2	400600,1	536489,2
VAT share in GDP	0,12	0,10	0,10	0,12
Fiscal significance of VAT, %	12,15	10,35	10,49	12,29
Income tax, UAH million	96882,2	107086,3	108695	147751,7
Income tax share in GDP	0,03	0,03	0,03	0,03
Fiscal significance of the income tax, %	3,14	2,91	2,85	3,39
Personal income tax, UAH million	91741,8	109954	117281,3	137555,2
Personal income tax share in GDP	0,03	0,03	0,03	0,03
Fiscal significance of the personal income tax, %	2,98	2,99	3,07	3,15

**compiled by the author*

In order to offset the price factor, the real GDP is used in the calculations, which reflects the market value of final goods and services produced in Ukraine during the year and which is measured in constant prices (money that has constant purchasing power) and is a more accurate indicator of the functioning of the national economy compared to nominal GDP. The fiscal significance of VAT in Ukraine's GDP in 2019 tends to decrease: from 12.15% to 10.35%. In 2020, there is a noticeable increase of 0.19%, and in 2021 – by another 1.8% and amounts to 12.29%. The fiscal significance of corporate income tax has been gradually decreasing: from 3.14% in 2018 to 2.85% in 2021, and in 2021 there is a sharp increase to 3.39%. The fiscal significance of personal income tax increased throughout the study period and amounted to 3.15% in 2021. Since these indicators characterize the redistribution of GDP through the state budget, it can be argued that value added tax, corporate income tax and personal income tax have little fiscal significance.

Analysis of the efficiency of tax revenue collection involves the calculation and characterization of the following indicators:

1) tax collection ratio is a quantitative indicator that characterizes the efficiency of tax administration. The normative value of this indicator is 1.

$$TCR = \frac{Number\ of\ taxes\ actually\ received\ by\ the\ State\ Tax\ Service\ of\ Ukraine}{Number\ of\ planned\ tax\ revenues}, \quad (3)$$

where TCR – tax collection rate for the i-th tax period.

This coefficient allows to estimate the real amount of tax revenues to the budget from the planned revenues. Let us calculate this indicator on the basis of value added tax, income tax and personal income tax (Tab. 10).

Table 10

Calculation of the tax collection ratio of VAT, income tax and personal income tax during 2018–2021*

Year		2018	2019	2020	2021
Value added tax	Actual revenues	374508,2	378690,2	400600,1	536489,2
	Planned revenues	386090,9	416143,1	388932,1	531177,4
Tax collection ratio		0,97	0,91	1,03	1,01
Income tax	Actual revenues	96882,2	107086,3	108695	147751,7
	Planned revenues	81413,6	95612,8	110913,3	146288,8
Tax collection ratio		1,19	1,12	0,98	1,01
Personal income tax	Actual revenues	91741,8	109954	117281,3	137555,2
	Planned revenues	90833,5	105725,0	110642,7	138944,6
Tax collection ratio		1,01	1,04	1,06	0,99

**compiled by the author*

Thus, the value added tax collection ratio during 2018-2019 was less than the normative value, which indicates insufficient revenues from this type of tax and, accordingly, failure to fulfill the budget plan. In 2020, there was a noticeable improvement in the situation and an increase in the coefficient to 1.03, which means that the efficiency of VAT tax administration has increased. In 2021, the collection ratio decreased to 1.01, which is higher than the normative value of 1 and indicates that the budget plan for this type of tax was exceeded by UAH 6920.2 million.

The corporate income tax collection ratio gradually decreased during 2018–2020: from 1.19 to 0.98, which indicates that the budget plan was not fulfilled. The failure to fulfill the plan in 2020 is primarily due to the spread of the pandemic COVID-19 and related quarantine restrictions, which led to a decrease in the number of enterprises, their profits and, accordingly, the tax base. In 2021, there was a noticeable increase to 1.01 – actual revenues exceeded the planned by UAH 1462.9 million.

The personal income tax collection ratio gradually increased during 2018–2020, which indicates that the plan was over fulfilled by 1, 4 and 6%, respectively, but in 2021 there was a noticeable decrease to 0.99, which means that the efficiency of personal income tax administration decreased.

4) expenditures on tax collection per capita is an indicator that characterizes the level of expenditures of each member of society for the maintenance of the State Tax Service of Ukraine:

$$Tcc = \frac{BExpenses\ for\ the\ maintenance\ of\ the\ State\ Tax\ Service\ of\ Ukraine}{Number\ of\ resident\ population}, \quad (4)$$

where TCC – tax collection costs per capita, UAH/person.

This indicator reflects the ratio of funds spent on the maintenance of the State Tax Service of Ukraine to the total population of the country.

5) indicator of the workload per employee of the State Tax Service of Ukraine on the collection of a particular type of tax – characterizes the workload per employee.

$$LF = \frac{Number\ of\ payers\ of\ a\ particular\ type\ of\ tax}{Number\ of\ employees\ actually\ working\ in\ the\ STS\ of\ Ukraine\ in\ the\ i-th\ department}, \quad (5)$$

where LF – load factor on an employee of the State Tax Service of Ukraine.

Indicates the number of taxpayers of a particular type of tax per one tax inspector of the relevant tax collection department and the efficiency of his work – the amount of tax revenues collected.

6) tax efficiency indicator – characterizes the cost of collecting a particular type of tax

$$TE = \frac{Number\ of\ taxes\ actually\ received\ by\ the\ State\ Tax\ Service\ of\ Ukraine}{Costs\ of\ administering\ the\ type\ of\ tax}, \quad (6)$$

This indicator characterizes fiscal efficiency, which is a component of the overall tax efficiency. It shows that minimizing the costs of collecting a particular type of tax and preventing tax evasion will increase fiscal efficiency.

7) tax efficiency ratio in GDP – is defined as the share of revenues of a particular type of tax in GDP divided by the standard rate and is used as a total indicator of the efficiency of a particular type of tax

$$TER = \frac{Tr_i}{GDP} * \frac{100\%}{Tr}, \quad (7)$$

where TER – tax efficiency ratio;

Tr – tax rate.

Although the ratio of tax efficiency to GDP is used as a diagnostic tool to assess a particular tax, the limitations of this tool are significant. The error in the definition of GDP significantly affects the estimate and therefore can complicate comparisons between regions and countries. In addition, such an estimate works only if there is only one tax rate. Efficiency of value added tax, income tax and personal income tax in GDP (Tab. 11).

Table 11

Dynamics of VAT, income tax and personal income tax efficiency ratio in GDP?, 2018–2021*

Indicator	Year			
	2018	2019	2020	2021
GDP (real), UAH million	3083409	3675728	3818456	4363582
VAT, UAH million	374508,2	378690,2	400600,1	536489,2
VAT share in GDP	0,121	0,103	0,105	0,123
Efficiency of VAT revenues	0,607	0,515	0,525	0,615
Income tax, UAH million	96882,2	107086,3	108695	147751,7
Income tax share in GDP	0,031	0,029	0,028	0,034
Efficiency of income tax revenues	0,175	0,162	0,158	0,188
Personal income tax, UAH million	91741,8	109954	117281,3	137555,2
Personal income tax share in GDP	0,030	0,030	0,031	0,032
Efficiency of personal income tax revenues	0,165	0,166	0,171	0,175

**compiled by the author*

In 2019, the efficiency of VAT revenues decreased from 0.607 to 0.515. This indicates a decrease in the share of VAT revenues in real GDP. But in the future, there was a noticeable improvement to 0.525 in 2020 and in 2021 this indicator was 0.615. The share of revenues has increased and the total VAT efficiency indicator is quite significant. The efficiency of income tax revenues gradually decreased during 2018-2020: from 0.175 to 0.158. In 2021, a sharp increase to 0.188 is noticeable, which was due to an increase in revenues from this type of tax by UAH 39056.7 million and, accordingly, the share in Ukraine's GDP. The efficiency of personal income tax revenues increased throughout the analyzed period: from 0.165 in 2018 to 0.175 in 2021, the share of personal income tax in GDP also gradually increased – by 0.001 each year.

8) coefficient of unevenness of tax revenues – characterizes systematic fluctuations in tax revenues

$$\text{Cutr max} = \frac{\text{Max tax revenue for the n–th period}}{\text{Average income}} \tag{8}$$

$$\text{Cutr min} = \frac{\text{Min tax revenue for the n–th period}}{\text{Average income}} \tag{9}$$

This coefficient shows that the actual levels of the dynamic series of tax revenues vary under the influence of various factors, deviating from the main trend of development. The simplest method of assessing systematic fluctuations is to determine these coefficients, which are calculated as the ratio of the maximum and minimum levels of the dynamic series to the average. The greater the irregularity of the process, the greater the difference between the two coefficients. The calculation of the coefficients is given in Table 12.

Table 12

Coefficient of unevenness of VAT, income tax and personal income tax revenues during 2018–2021 years*

Revenues, UAH million	Year				Average annual revenues, UAH million	Cutr max	Cutr min
	2018	2019	2020	2021			
Value added tax	374508,2	378690,2	400600,1	536489,2	422571,9	1,27	0,89
Income tax	96882,2	107086,3	108695	147751,7	115103,8	1,28	0,84
Personal income tax	91741,8	109954	117281,3	137555,2	114133,1	1,21	0,80

**compiled by the author*

The calculations show that tax revenues during the period under study are quite uniform. Practical use of the system of indicators of fiscal efficiency of taxes at the state level involves:

–reorientation of the state to an intensive way of development and achievement of a higher level of efficiency in dynamics;

–study of reserves for further improvement of financial and economic activity of enterprises on the basis of implementation of achievements of scientific and technical progress;

–improvement of technology and production organization;

–creation of an effective mechanism for improving the efficiency of management in the field of taxation.

The result of the analysis of the fiscal efficiency of the value added tax is that during 2018–2020, the tax administration under a certain system of implemented tax decisions is deteriorating and the fiscal significance of the value added tax and corporate income tax in the budget and GDP of the state is decreasing, but in 2021 there is a noticeable improvement in the situation. Assessment of the effectiveness of the value added tax, corporate income tax and value added tax according to the above indicators allows more accurate planning of state budget revenues from these budget-forming taxes. This can become the basis for the development of measures to improve the regulatory and fiscal impact of these types of taxes, eliminate shortcomings in their tax mechanisms, form a rational structure of tax revenues of the budget, and contribute to the development of effective tax policy.

Based on the assessment of the effectiveness of the tax system of Ukraine, taking into account the unprecedented risks and threats, it is legitimate to highlight the following main problematic aspects:

– martial law in Ukraine;

– instability of tax legislation;

– high level of corruption in the country and shadowing of the national economy;

– complicated tax administration process;

– uneven burden on taxpayers;

– low level of tax responsibility and tax culture of citizens and business entities.

Accordingly, the priority areas of reforming the tax system of Ukraine are as follows:

1) further European integration of the relevant legal framework and further implementation of BEPS;

2) development of a comprehensive systemic strategy for combating corruption and the shadow economy;

3) simplification of tax administration;

4) ensuring the correct work of tax and related executive bodies;

5) formation of human resources and tax culture [33, 34].

Thus, in order to create a solid economic foundation for Ukraine's integration into the world economic system, amendments to the tax system are one of the most important European integration steps. The EU tax legislation should be implemented into the Ukrainian legislation, ensuring uniform application of those tax provisions that are harmonized at the EU level [35].

The structure of the EU tax policy is represented by two main components: direct taxation, which remains the exclusive responsibility of the Member States, and indirect taxation, which affects the free movement of goods and the freedom to provide services in the single market. The proper functioning of the tax system is also ensured through administrative cooperation [36].

Indirect taxation provides for the establishment of equal conditions for companies of all Member States, directly in terms of value added tax. The main principles of taxation are described in the Association Agreement between Ukraine and the EU. Separate articles of the Agreement outline the provisions related to the harmonization of VAT and excise tariffs. In particular, the parties to the Agreement shall enhance and strengthen cooperation aimed at improving and developing the tax system and tax authorities of Ukraine, in particular strengthening the collection and control capacities, with an emphasis on VAT refund procedures to avoid the accumulation of arrears, ensuring effective tax collection, strengthening the fight against tax fraud and tax evasion. As regards excise tariffs, the parties develop cooperation and harmonize policies to counteract and combat fraud and smuggling of excisable goods. This cooperation shall include, inter alia, the gradual convergence of excise rates on tobacco products, taking into account the limitations of the regional context, including through dialogue at the regional level and in accordance with the 2003 WHO Framework Convention on Tobacco Control [37].

With the assistance of the EU4PFM project, a comprehensive analysis of the VAT legislation was carried out and only minor inconsistencies with the EU VAT Directive were identified. However, there are directives that are not included in the Association Agreement. They directly relate to the administrative regulation of excise taxes. In particular, the creation of a network of excise warehouses that meet the legal and technical requirements of the EU, but not the establishment of tax rates. This requirement is important in the context of preventing the circulation and production of contraband and counterfeits in the single market.

Direct taxation in the EU is based on a balance between the standards of taxation of individuals and legal entities. A special place is occupied by measures to prevent tax evasion and double taxation.

EU membership does not deprive the country of full independence in decision-making, it requires a certain mutual integration in selected areas. Tax authorities of the EU member states should cooperate in the field of information exchange, in order to carry out joint control measures and facilitate the collection of tax debts. This will be crucial for minimising tax fraud [37].

The implementation of the EU tax and fee administration system requires further amendments to the legislation, in particular in terms of the mandatory collection and provision of certain data by businesses for their further transfer to the competent authorities of the Member States. The list of data will include: information from state registers; information relating to wages and incomes of residents of other member states; data on various operations of payment companies; information coming from electronic platforms relating to the income of sellers.

It should be noted that in order to promptly exchange information on financial accounts, it is necessary to implement certain IT solutions. In particular, the State Tax Service of Ukraine is obliged to join the following networks and systems (Tab. 13).

Table 13

Characteristics of systems and networks necessary for information exchange in accordance with the requirements of EU directives*

System name	Characteristics
Specially secured network CCN/CSI	Common IT platform for the exchange of tax information by the competent EU authorities
IT system of automatic collection and exchange of tax information	Data from state registers on wages and incomes of residents of other member states, data from financial institutions on accounts, data from payment companies on transactions, information from electronic platforms on the income of sellers, etc.
VIES (VAT's information exchange systems)	Confirmation of VAT identification number of economic operators registered in the EU for cross-border transactions
E-commerce та One-StopShop (OSS)	Registration of a VAT payer in electronic form in one Member State (applies to cross-border online sellers)
Excise Movement and Control System (EMCS)	computerised system for monitoring the movement of excise goods (alcohol, tobacco and energy).

**compiled by the author for [33, 35, 36, 37]*

Thus, a non-discriminatory, simple and clear tax system with a mobile and adaptive tax policy is necessary to create favorable conditions for doing business, restoring and developing the national economy. In the context of European integration processes, the reform of the tax system of Ukraine is a priority. In this aspect, it is necessary to adapt the tax legislation of Ukraine to the EU legislation and requirements, as well as to implement a number of measures to build the administrative capacity of the tax administration.

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