REGULATORY POLICY ON ENSURING SUSTAINABILITY OF TAX REVENUES OF EU-28 COUNTRIES

AUTHORSHIP

Alla Abramova

PhD (Economics), Associate Professor, Yuriy Fedkovych Chernivtsi National University, Chernivtsi, Ukraine.

ORCID: https://orcid.org/0000-0003-3364-8316
E-mail: a.abramova@chnu.edu.ua

Anton Chub

D.Sc. (law), Doctoral Student (Economics), IHE «Academician Yuriy Bugay International Scientific and Technical University», Kyiv, Ukraine.

ORCID: https://orcid.org/0000-0002-6900-4865
E-mail: anton.chub2021@gmail.com

Dmytro Kotelevets

PhD (Economics), Doctoral Student (Economics), IHE «Academician Yuriy Bugay International Scientific and Technical University», Kyiv, Ukraine.

ORCID: https://orcid.org/0000-0001-7778-6038
E-mail: d.kotelevets21@gmail.com

Oleksandr Lozychenko

PhD (Economics), Doctoral Student (Economics), IHE «Academician Yuriy Bugay International Scientific and Technical University», Kyiv, Ukraine.

ORCID: https://orcid.org/0000-0003-4623-4227
E-mail: oleksandr.lozychenko@gmail.com

Kateryna Zaichenko

PhD (Economics), Associate Professor, Institute of Business, Economics and Information Technology of Odessa Polytechnic State University, Odessa, Ukraine.

ORCID: https://orcid.org/0000-0002-0975-2175
E-mail: k.s.zaychenko@op.edu.ua

Olga Kupchyshyna

PhD (Economics), Petro Mohyla Black Sea National University, Mykolaiv, Ukraine.

ORCID: https://orcid.org/0000-0003-4240-9464
**E-mail:** persik366@ukr.net

INTRODUCTION

The emergence of trends in the financial deficit of individual countries and growing economic problems in the conditions of the environment uncertainty, exacerbated by the 2020-2021 pandemic, led to fundamental challenges of the EU regulatory policy and the need to revise it in order to ensure sustainability and economic growth.

Current regulatory policy is particularly dynamic, as it is a practical plane of the interaction of public and private interests determined by the need for socio-economic growth based on predictability, planning and stability. By its nature, regulatory policy accumulates a wide range of forms of regulating the activities of economic entities in the form of creating conditions, a variety of permits, mandatory requirements for economic processes and actions, control procedures, restrictions, and mechanisms for forecasting and retrospective assessment of regulatory effectiveness. The requirements for regulatory policy today are the ability to adapt and qualitatively develop its structural components in the context of macroeconomic and foreign economic challenges.

An important role in the components structure of regulatory policy can be confidently delegated to the tax policy as a tool to ensure sustainability of tax revenues/ revenues of the country's budgets in terms of comparability with basic macroeconomic indicator of development. See Fig. 1.

Fig. 1. Structure of regulatory policy
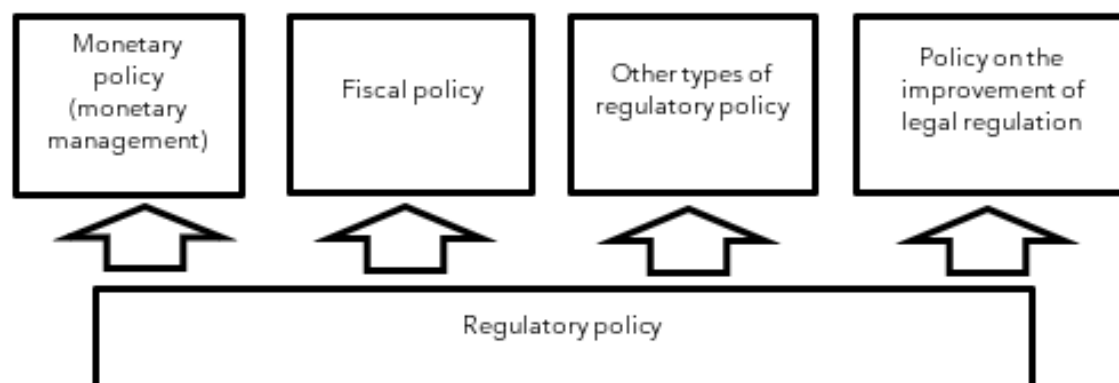
Source: compiled by the authors.

Modern global criteria for the success of regulatory policy are as follows: reduction of administrative barriers, improvement of technical and legal processes, constant monitoring and assessment of regulatory impact by legislative and executive authorities, public consultations using IT solutions, formation and functioning of databases and data platforms for business, citizens, government agencies and subordinate organizations, the use of behavioral economics, as well as synergistic cooperation of governmental and non-governmental entities in the implementation of the principles of regulatory policy.

Examining the peculiarities of tax policy in the regulatory policy system, it is established that it is unable to be fully based on "built-in stabilizers" (which functionality is inherent in the phase of economic growth) and, consequently, requires governmental/regulatory intervention in existing tax mechanisms. There is a need to ensure the global sustainability of tax revenues in the conditions of economic instability in European countries.

Carrying out a systematic approach to the research problem, we consider it appropriate to study sustainability of tax revenues as a special property of the tax system to depend on changes in macroeconomic indicators, the diagnosis of which makes it possible to determine on a specific date thematic indicator, which will become the basis for further improvement of tax policy.

The proposed context of research involves the study and improvement of the mechanisms for stabilizing tax revenues in response to the growing influence of financial and economic factors and adverse effects of external impacts as a tool for effective regulatory influence.

LITERATURE REVIEW

Regulatory policy has been and remains an exceptional means of influencing the performance of each country through the system of national-economic, socio-economic, external and other relations.

As it is noted by Casado M.G., not so long ago, regulatory policy was interpreted exclusively as a system of regulatory support for public administration without understanding and positioning the tools for its implementation (CASADO, 2020). However, fleeting conditions of the world and national economies have necessitated the rethinking of this interpretation, the nature of regulatory policy has gained new expression. We agree with the opinion of Shaposhnykov K. on regulatory policy as a means of implementing regulatory reforms, followed by a definition of their effectiveness and efficiency (SHAPOSHNYKOV et al., 2019).

Specialists in this field pay great theoretical and practical interest to this issue. In particular, Eatwell J. presents an in-depth approach to the interpretation of the concept of regulatory policy as a direction of public policy, which is designed to determine the nature of relations between both national and international sub-economic activity in order to achieve the expected results (EATWELL et al., 2012).

Regulatory policy as a process is defined by a system of norms and principles that are quite deeply researched in the works of Scharff E.A. and others (SCHARFF, 2011; HELMUTH et al., 2000; GECHERT et al., 2018).

The relevance of stimulating and implementing tax policy as a structural component of regulatory policy is defined in the works of Popelo O.V who points to the disputable provision of sustainability of tax revenues as a key task of modern tax policy and tax regulation in particular. (POPELO, 2017).

The issue of sustainability of country's tax revenues was the subject of the study by Ivashchenko A.I. who emphasized that the sustainability of tax revenues is indirectly determined by economic stability, which affects the growth of tax bases that are later converted national revenues by means of the tax mechanism (IVASHCHENKO et al., 2021). Also, the formation of the country's tax policy should be based on indirect structural changes in the national economy, stimulating investment activity, the formation of the competitive market environment, reducing shadowing of economy, and so on.

We agree with the appropriate interpretation, because sustainability of tax revenues is designed to ensure the adaptation and effective development in the conditions of macroeconomic fluctuations. Gonta O.I. legally correctly interprets the concept under the

study, in particular: "sustainability of tax revenues is manifested in the ability of centralized accumulation of a sufficient amount of financial resources to society while maintaining and subsequently stimulating the reproductive process in economy" (GONTA et al., 2016). As it is noted by Dubyna and Balcerzak A. (DUBYNA et al., 2017; BALCERZAK, 2016), these approaches correspond to the main principles of budget and fiscal policy sustainability in the country.

We believe that presented interpretations form a research base as a basis for reforming tax policy in the direction of the achieving planned and effective goals.

The conceptual issue of assessing sustainability of tax revenues, in particular, the coefficients of tax stability and tax stabilization are indirectly discussed in research papers by Markowitz H. (MARKOWITZ, 1952). The level of tax burden and its impact on the development of socio-economic processes is justified by Grosu V. (GROSU, 2021).

Summarizing theoretical approaches to understanding the essence of regulating sustainability of tax revenues, we'd like to note that this system of procedures includes a component of measures aimed at ensuring objective properties of the tax system to ensure the receipt of tax payments in accordance with the business cycle and macroeconomic situation in the country.

METHODOLOGY

Identifying sustainability of tax revenues of the EU-28 countries involves the use of a set of the methods of cognition. Thus, the assessment of trends in taxes and fees of the studied countries is based on the method of the statistical analysis, synthesis and logical generalization. The resource base were the reporting indicators of the European Commission, in particular, the main units of the National Account System of the EU-28.

Sustainability of tax revenues was determined by studying the coefficients of variation, sustainability and stabilization.

The coefficient of variation (CV) is designed to demonstrate relative deviation of tax revenues to average level of their time series:

$$CV = \frac{\sigma(TR)}{TRaver}, \tag{1}$$

Where, σ (TR) – standard deviation of tax revenues,

TRaver – arithmetic mean of tax revenues.

The coefficient of sustainability (CS):

$$CS(TR) = 100\% - CV(TR), \tag{2}$$

According to these indicators, calculations were made on the total amount of tax revenues of the countries and on individual groups of taxes selected for the study. Based on the analysis, it seems possible to rank them according to the criterion of sustainability.

The coefficient of stabilization (RSC) makes it possible to quantify the role of particular tax in ensuring sustainability of tax revenues in total:

$$RSC = CV(TR - TR_i) - CV(TR), \tag{3}$$

Where, CV (TR - TRi) – the coefficient of variation of tax revenues deducting the tax (TRi), which stabilizing/destabilizing impact is being studied.

In order to adapt variable macroeconomic parameters in the study, the coefficients of variation and stabilization were calculated taking into account average values to the trend equation. Based on this trend and in order to establish the relationship between tax revenues fluctuations in indicators of socio-economic development, the coefficient of elasticity (E) was calculated. This indicator creates opportunities to measure the change in the resulting indicator (tax revenues) to the increase in the basic indicator (GDP) for 1%:

$$E = \Delta TR / \Delta GDP, \tag{4}$$

Where, ΔTR – pace of growth of tax revenues, %,

ΔGDP – pace of growth of GDP, %.

Econometric modeling of time series, which assumes a dynamic component and takes into account the action of random factors (inflation, changes in legislation) when changing sustainability, led to the use of regression estimation of the elasticity by instruments of the power function of tax revenues depending on GDP:

$$TR = a * GDP^E \, \varepsilon, \tag{5}$$

Where, TR – tax revenues,

GDP – gross domestic product,

E – coefficient of variation calculated based on the regression analysis,

a – a constant that reflects the impact on the performance of other factors that are not included in the model,

ε – random error.

Transformation into a linear (5) by logarithming its structural elements makes it possible to present the functional dependence of tax revenues of GDP, which is estimated by using the least squares method:

$$\ln TR = \ln a + E * \ln GDP + \ln \varepsilon, \tag{6}$$

Due to the regression analysis, the calculated coefficient of elasticity made it possible to determine potential sustainability of tax revenues in the medium and long term. In particular, this situation is associated with the establishment of the behavior of tax revenues in relation to the impact of macroeconomic indicators in the study of short-term fluctuations.

Existing methods for studying current variability of the environment by their nature are the same as presented above, except that they use the volume of their growth compared to the previous year instead of the absolute values of the original data

$$\Delta \ln TR = \ln a + Eshort * \Delta \ln GDP + \ln \varepsilon, \tag{7}$$

Where, Δ – absolute growth of the studied indicators, %

Eshort – short-term coefficient of elasticity determined by the regression analysis.

The regression equations obtained as a result of estimation are characterized by certain statistical properties, as the tendencies leading to erroneous correlation are excluded from initial data.

The presented research tools are designed to rank tax groups according to sustainability indicators, which generates a scientific basis for selective stabilization of budget revenues in different periods of business activity and economic situation in the implementation of regulatory policy of the studied countries.

RESULTS AND DISCUSSION

The assessment of sustainability of tax revenues was carried out for 2010-2020. This approach ensures the completeness of the analysis and is characterized by the constancy of elements of the EU-28 countries (ABRAMOVA et al., 2021). Changes in tax policy in studied countries were rarely investigated on account of changes of the volumes of taxation levels. This indicates practical comparability of macroeconomic indicators with the indicators of the tax systems functioning of the EU countries. The results of the analysis demonstrate general trends of tax revenues in the EU countries (Fig. 2).

Fig. 2. Dynamics of tax revenues in the EU countries (EU-28)
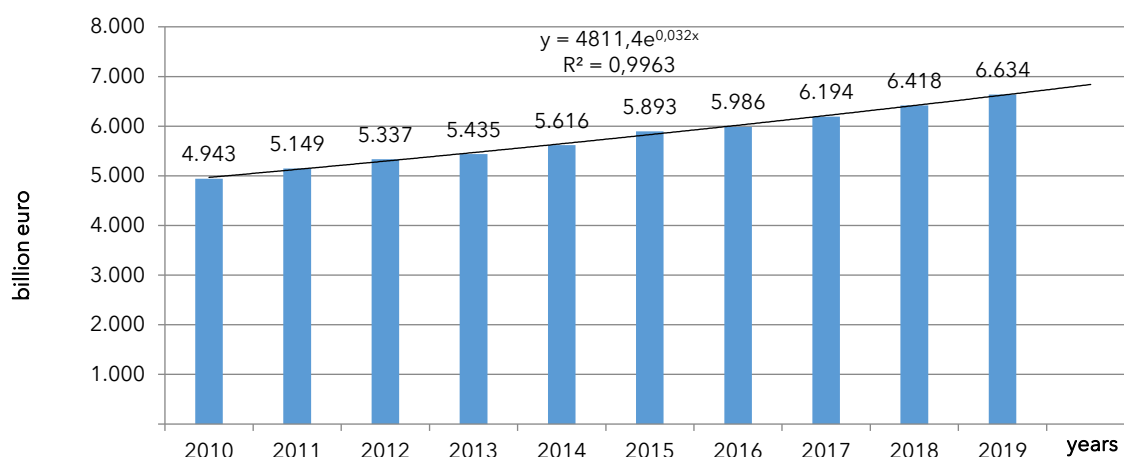
Representative data of Fig. 2 provide an opportunity to argue about positive trends of increasing tax revenues to relevant budgets. Average annual growth made 103,33%, or EUR 187,98 billion. The exponential trend line, which reveals the complex nature of development, with a high degree of reliability testifies to these trends. However, 2020 made significant adjustments to the trends posed by the COVID pandemic, which cannot be fully analyzed due to the lack of key indicators for 2021. The study of structural elements of the set of tax payments is provided by analyzing the dynamics of their revenues for the period under study using functional dependencies on time (Table 1).

Table 1. Trend indicators of tax revenues of the EU countries (EU-28) in 2010-2019

Tax payment	Linear function	R^2	Exponential function	R^2
GDP	T=33880x+828855	0,9787	$T = 841578e^{0,0333x}$	0,9853
Income taxes of citizens	T=49234x+1E+06	0,9858	$T = 1E + 06e^{0,0368x}$	0,9824
Corporate income taxes	T=18354x+260654	0,9753	$T = 270510e^{0,0508x}$	0,9819

Having developed regression models, and, as a consequence, the equations of payment of individual groups of taxes, we can conclude that the best trend is found, which is approximated for personal income taxes. This indicates a slight level of change in their actual values, in particular, their maximum sustainability. A lower coefficient of determination was observed for corporate income taxes, which indicates their tendency to vary over time.

The results of the assessment of tax revenues on a linear trend showed that the change in the annual absolute increase in tax revenues ranges from EUR 18354 million for corporate income taxes to EUR 49234 million – for income taxes of EU citizens. These results demonstrate the differentiation of fiscal capacity of the analyzed tax revenues and their equal role in budget financial provision. In order to assess sustainability of tax revenues of the EU countries, a study of the coefficients of variation, sustainability and stabilization was carried out (Table 2).

Table 2. Coefficients of sustainability and stabilization of tax revenues of the EU in 2010-2019

Tax revenues	Pace of the tax revenues growth, %		Tax burden, % GDP	
	Coefficient of sustainability without tax, %	Coefficient of stabilization, %	Coefficient of sustainability without tax, %	Coefficient of stabilization, %
VAT	29,62	-1,85	207,34	205,90
Personal income taxes	32,95	1,48	252,52	251,07
Corporate income taxes	34,03	2,55	187,40	185,95

Analyzing the presented data in Table 2, it is noticeable that the greatest destructive impact on sustainability of tax revenues in European countries has VAT – as a result of the conditions of its administration, the coefficient of sustainability decreases by 1,85%. Other analyzed taxes have a positive impact, in particular, the largest are corporate income taxes – by 2,55%, they increase sustainability of other revenues. On the other hand, recent payments are highly dependent on the level of business activity and the stage of the economic cycle. Similar trends are characteristic of personal income taxes. Comparison of quantitative indicators of stabilization leads to the conclusion that inflationary fluctuations and the state of the business environment are decisive in stabilization properties of VAT and corporate incomes. In particular, since inflation causes an increase in tax revenues, it provides stabilization of their sustainability in the short term, and, mainly , in the period of economic growth.

Inconsistent results were found for VAT, which in the GDP structure is a stabilizing instrument, which leads to an increase in income sustainability by more than 200%. Corporate income taxes, on the other hand, have reduced sustainability. Such results are argued by a wide range of elements of sustainability and require the use of methods for modeling the coefficients of elasticity of tax revenues on key macroeconomic indicators. Based on this, it will be possible to justify ways to improve the tax policy of the EU countries.

In order to study the trends of sustainability of tax revenues, modeling of future tax changes and direct regulation of sustainability of the tax system, the analysis of its relationship with changes in macroeconomic indicators was carried out. We consider that elasticity of tax revenues to GDP is a key indicator of flexibility of the tax system. That is why the coefficients of elasticity of tax revenues for GDP in the form of stochastic dependencies are calculated (Table 3).

Table 3. Indicators of elasticity of tax revenues for GDP in the EU-28 countries for 2010-2019, un. (E_i)

Coefficient of elasticity	Year									Average meaning
	2010	2011	2012	2013	2014	2015	2016	2017	2018	
VAT	1,01	1,00	1,00	1,01	1,00	1,00	1,01	1,00	1,01	1,01
Personal income taxes	1,01	1,05	1,02	1,01	0,99	0,99	1,01	1,01	1,01	1,01
Corporate income taxes	1,05	1,04	1,00	1,00	1,00	1,08	1,04	1,00	1,00	1,02
In total taxes and fees	1,01	1,02	1,01	1,00	1,00	1,01	1,00	1,00	1,00	1,00

Source: compiled by the authors.

Assessing the level of sensitivity of tax revenues to the fluctuations in GDP in 2010-2019, positive values of all indicators were established, which indicates the fact of a single vector movement of revenues and GDP. However, there are differences in time indicator and types of revenues.

Regarding the coefficient of elasticity of total tax revenues during the studied period of time, its value was within E=1,0 – harmonious interdependence. However, the personal tax ration became both E=1,05, and E=0,99. 2014 and 2015 show a decrease in elasticity and a slightly slower growth rate of tax revenues relative to GDP (excluding corporate income taxes in 2015 – E=1,08). Such tendencies were due to a slightly lower level of investment in the European countries (first sanctions against the Russian Federation). Fiscal stability during 2010-2018 in VAT (E=1,01) and attempts to increase tax revenues of corporate income taxes were noted (in 2015, E=1,08, in 2016 – E=1,04).

Due to the fact that the analysis revealed only the current state of tax administration without in-depth analysis of some factors (variations of legislation and tax bases), at this stage it is problematic to develop measures of state tax regulation to increase sustainability of tax revenues. As a result, the analysis is based on econometric modeling of the coefficient of elasticity using the power function reduced to a linear form by logarthmization (Table 4).

Table 4. Modeling of coefficients of elasticity of tax revenues in the EU-28 countries in 2010-2018.

Tax	Equation of dependence of tax revenue (т) on GDP	Coefficient of determination (R^2)
VAT	lnT=1,195*GDP+0,003	0,99
Personal income taxes	lnT=1,304*GDP+0,001	0,97
Corporate income taxes	lnT=1,803*GDP-4,364	0,97
In total taxes and fees	lnT=1,140*GDP+0,040	0,99

Source: compiled by the authors.

The presented regression equations are characterized by high coefficients of determination, the quantitative value of which indicates that in the analyzed period, GDP determines 97-99% of the variation of total tax revenues: from 97% variation of revenues of personal and corporate taxes to 99% - VAT. Assessing corporate tax revenues, the presence of a statistically significant constant is noted, which indirectly indicates the impact of unaccounted parameters associated with changes in GDP, the negative sign of which in the logarithmic functional equation depends on reducing the impact of the main factor.

All tax revenues during 2010-2019 are characterized by a high level of progressivity, in general, their mobilization is growing faster than GDP. The best result among the studied tax revenues was observed for corporate income taxes, in particular, the average GDP growth of 1% provides a rise in tax revenues by 1,803%. The growing trends in personal income taxes are the result of both the steady increase in wages and other personal income in the EU-28 countries, and the indexation of wages.

It should be noted that positive trends in VAT revenues are determined not only by the results of economic growth of the studied countries, but also by the effectiveness of the functioning of tax authorities in the field of tax administration. In particular, constant automation of control procedures by studying the full cycle of value added, to identify violations of VAT, payment and subsequent reimbursement. Due to the fact that tax revenues are non-stationary time series, they must be reduced to a stationary form by replacing the original data levels with chain absolute increments by the method of successive differences corresponding to the natural logarithms of their values (Table 5).

Table 5. Modeling of the coefficients of elasticity of tax revenues of the EU-28 countries in 2010-2020 by the method of successive differences

Tax	Equation of the dependence of tax revenues (т) from GDP	Coefficient of determination (R^2)
VAT	ΔlnT=1,157*Δln GDP	0,83
Personal income taxes	ΔlnT=0,618*Δln GDP	0,24
Corporate income taxes	ΔlnT=0,054*Δln GDP	0,15
In total taxes and fees	ΔlnT=0,637*Δln GDP	0,77

Source: compiled by the authors.

The presented regression equations, although they indicate a decrease in the coefficient of their determination, but all the parameters of the models are statistically significant, i.e., the chosen approach of the analysis is effective. The difference between coefficients of determination in Table 4 shows the important role of economic factors, the impact of which decreases due to the elimination of the trend factor.

The results of the analytical study indicate that the set of tax revenues of the EU-28 countries is characterized by differences in static and dynamic sustainability of their components, due to both the specifics of their structure and differentiated behavior to change macroeconomic indicators. According to the performance data, the smallest impact of the GDP growth is on

corporate income taxes (15%), the largest impact is on VAT (83%). The high coefficient of elasticity of VAT (the maximum among tax groups) demonstrates the ability of the tax to outpace GDP growth, and, accordingly, to reduce revenues rather rapidly (1,157% - in the medium term, 1,195% - the short term).

According to the analysis, it seems possible to establish the following patterns. There is a discrepancy between fiscal profitability and sustainability of tax revenues, in particular, taxes with high annual growth rates correspond to the maximum coefficients of variation and progressive elasticity of GDP, which reduces tax revenues during a downturn in economic activity. In the studied countries, such taxes provide about 50% of tax revenues.

The assessment of indicators shows that personal income taxes and corporate taxes are less sensitive to fluctuations in GDP in the short term, which does not allow to assert their fiscal capabilities in economic growth, however, stimulates their growth against the background of declining indirect tax payments in economic downturns. We believe that these payments perform the function of "built-in stabilizers". The regressive elasticity of personal income taxes in the short run is further reduced to 0,65%, which reduces their fiscal capacity, but is less affected by external factors.

We believe that taxes in which the coefficient of elasticity in the short term becomes more than one are the most effective tools for automatic market regulation of tax relations, the economic system to change the stages of the business cycle. At the same time, the presence of a high value of elasticity in the long run play a negative role, as it causes a "tax illusion", and, as a consequence, uncontrolled growth of government spending.

Thus, the results of the study of sustainability of tax revenues create the conditions for the formation of principles of the adaptation of the tax policy to external factors based on the ranking of tax revenues by the indicators of their elasticity and sustainability and ultimately ensure the implementation of the tax policy aimed at increasing revenues to their budgets.

We believe that on the basis of analytical research on the implementation of regulatory impact on sustainability of tax revenues in the EU should be based on fundamental principles, namely: predictability (taking into account changes in basic factors of internal and external environment); adaptability (to negative changes); planning (according to plans) and flexibility (proportional increase in tax revenues in terms of economic growth).

Given the analytical conclusions of the state of tax provision in the EU-28 countries, it is safe to say about its sustainability, the adequacy of financing current expenditures. However, their volume in line with the changing challenges of the future seems insufficient.

The tax systems of the EU-28 countries are characterized by a wide range of tools with a unique architecture and different response to changes in tax administration processes (from the efficiency of accounting of tax objects, tax bases and timeliness and completeness of tax payments), the need to expand tax bases except the probability of tax erosion, increasing government spending on the administration of tax revenues, preventing the possibility of illegal minimization, as well as the simplification of methodological principles of calculation of tax payments. An important task of regulatory policy should be diversification, in particular, not the introduction of new payments, but the change of their structure in order to minimize fluctuations in their revenues.

In this regard, it is advisable to develop a structure of tax revenues that would ensure sustainability of tax revenues with the elements of the indicators growth of budget revenues.

However, classic requirements for regulatory policy based on the vectors of the fair tax burden, stimulating the innovation sector, competitiveness, increasing the productivity growth and creating new jobs in today's economy no longer seem effective. This is a completely new view of the tax revenues regulation, caused by challenges of the pandemic and changes in the structure and sectors of market relations, in particular, the shortfall and loss of tax revenue due to tax evasion, as well as deteriorating international tax competition. We are talking about a fundamental global tax reform (Fig. 3).

Fig. 3. Philosophy of the global tax regulation
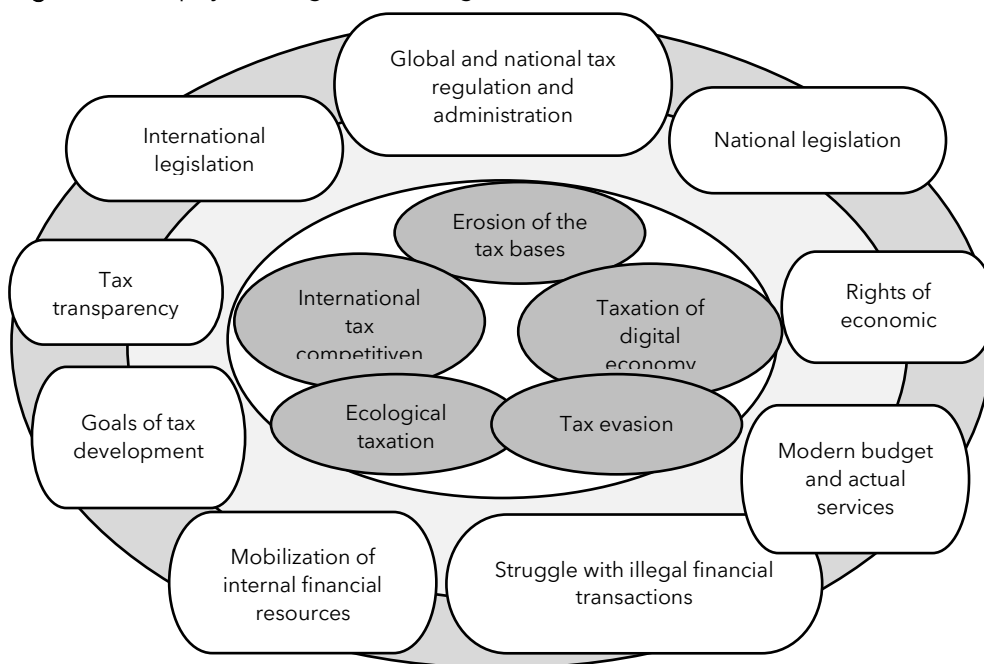
Source: compiled by the authors.

The following trends of the EU regulatory tax policy should become the following ones:

1. Taxation of the labor market, taking into account its transformation as a result of automation and robotization of production processes, increasing polarization in wages. At the same time, new forms of work (platform economy (Alibaba, Amazon, Uber, Airbnb, Baidu) and gig economy (labor relations based on short-term contracts or informal agreements - services Uber, Lyft, TaskRabbit, GrubHub, Postmates) determine the distance nature of fulfilling the tasks and servicing. These trends will determine the reduction of labor income (labor taxes) and will distort in the future possible redistribution of income of individuals through taxation. These circumstances require the development of new rules of tax administration, including the involvement of Internet platforms in the role of tax agents.

2. Globalization processes and the emergence of new business structures (digital business) have raised problems of taxation of their economic activities (in the countries of their official registration and the countries where their services are provided or goods are sold), tax evasion (as a result of increased international tax competition) concerning corporate taxation). All this leads to the renewal of the international corporate tax system, to which there is already a reaction from regulation, in particular, a project was developed under which 135 countries, including the EU, considered the introduction of a minimum corporate income tax rate of 15% in order to minimize tax competition and tax evasion.

3. Rising life expectancy and declining birth rates are leading to the aging of the nation, in particular, the EU. The decrease in the working population is the threat, and an increase in the level of tax burden on the income of individuals, in particular, social contributions. In connection with this problem, the issue on finding alternative bases for personal income taxation remains open.

4. Challenges of the natural environment, in particular, climate change, lead to the expansion of the sources of tax payments, including the revision of the provisions on carbon taxation, the transition to resource-saving technologies and the taxation of economic activity in particular.

Thus, regulatory policy in the field of tax relations should be comprehensive, meeting the

needs of economy of the nineteenth century and the appropriate level of its social development.

CONCLUSION

The need to strengthen the regulatory policy of economic relations in the EU-28 countries in the field of tax relations regulation and the implementation of effective, adapted to the requirements of economic trends of tax policy in order to ensure the sustainability of tax payments. A study of the scientific interpretation of the concept of "sustainability of tax revenues". Based on statistical and econometric modeling methods, an assessment of the actual level of stability and stability of tax revenues in the studied countries. The decisive role of VAT in filling the budget in the short term has been identified, and personal and corporate taxes are more stable in the long run. This is confirmed by the calculated indicators of coefficients of variation and elasticity of the tax burden on GDP.

The author's interpretation of the directions of regulatory tax policy, which are based on traditional and modern requirements of the economic environment, is offered. In particular, attention is paid to the need to revise the system of personal income taxation obtained through economic platforms and gig-economy; profits of legal entities, in particular international corporations in order to minimize international tax competition and tax evasion, as well as the conditions of taxation of economic activity due to the use of natural resources.

REFERENCES

ABRAMOVA, A.; SHAPOSHNYKOV, K.; ZHAVORONOK, A.; LIUTIKOV, P.; SKVIRSKYI, I.; LUKASHEV, O. Ecosystem of VAT Administration in E-Commerce: Case of the Eastern Europe Countries. *Estudios de economía aplicada,* 2021, 39 (5). Available at: http://dx.doi.org/10.25115/eea.v39i5.4909. Access: May 20, 2021.

ALEXANDER, K. International Regulatory Reform and Financial Taxes. *Journal of international economic law*, 2010, 13 (3), p. 893-910. Available at: https://doi.org/10.1093/jiel/jgq036. Access: May 01, 2021.

ALEXANDER, K.; EATWELL, J. International regulatory reform and financial taxes. *Research handbook on international financial regulation*, 2012, p. 397-413.

BALCERZAK, A. Fiscal Burden in the European Union member states. *Economic Annals-XXI,* 2016, 16 (9-10), p. 4-6. Available at: https://doi.org/10.21003/ea.V161-01. Access: June 02, 2021.

BELYAEVA, S.V.; KOBYLATOVA, M.F. Priorities for formation of anti-crisis tax policy. *Turkish online journal of design art and communication*, 2016, 6, p. 2546-2555. Available at: https://doi.org/10.7456/1060NVSE/059. Access: June 30, 2021.

CASADO, M.G. *The effect of fiscal stimulus: Evidence from COVID-19*, 2020. Cambridge, MA: National Bureau of Economic Research. Available at: https://doi.org/10.3386/w27576. Access: June 30, 2021.

COSMULESE, C. G.; GROSU, V.; HLACIUC, E.; ZHAVORONOK, A. The Influences of the Digital Revolution on the Educational System of the EU Countries. *Marketing and Management of Innovations*, 2019, 3, p. 242-254. Available at: http://doi.org/10.21272/mmi.2019.3-18. Access: June 02, 2021.

DUBYNA, M. V.; SHKARLET, S. M.; TARASENKO, A. V. Basic descriptors of the information economy development. *Scientific bulletin of Polissia*, 2017, 3(11), 1, p. 8-15. Available at: https://doi.org/10.25140/2410-9576-2017-1-3(11)-8-15. Access: June 02, 2021.

GECHERT, S.; HORN, G.; PAETZ, C. Long term effects of fiscal stimulus and austerity in Europe. *Oxford Bulletin of Economics and Statistics*, 2018, 3, p. 647-666. Available at: https://doi.org/10.1111/obes.12287. Access: June 30, 2021.

GONTA, O. I.; SHKARLET, S. M.; DUBYNA, M. V. Peculiarities of system approach use to

cognition of economic phenomena. *Scientific bulletin of Polissia*, 2016, (8), p. 9-17.

GRIGORAŞ-ICHIM, C. E.; COSMULESE, C. G.; SAVCHUK, D.; ZHAVORONOK, A. Shaping the perception and vision of economic operators from the Romania – Ukraine – Moldova border area on interim financial reporting. *Economic Annals-XXI*, 2018, 173(9-10), p. 60-67.

GROSU, V.; KHOLIAVKO, N.; SAFONOV, YU.; ZHAVORONOK, A.; COSMULESE, C. G. Quintuple Helix Model: Investment Aspects of Higher Education Impact on Sustainability. *Management Theory and Studies for Rural Business and Infrastructure Development*, 2021, 43(1), p. 111-128. Available at: https://doi.org/10.15544/mts.2021.10. Access: June 02, 2021.

HELMUTH, C.; GAHVARI, F. Tax evasion, fiscal competition and economic integration. *European Economic Review*, 2000, 44 (9), p. 1633-1657.

HODZIC, S.; CELEBI, H. Value-added tax and its efficiency: EU-28 and Turkey. *UTMS Journal of Economics*, 2017, 8 (2), p. 79-90.

IVASHCHENKO, A. I., ORLOVA, N. S. Comparative analysis of some EU and EU associated countries to identify the phenomenon of business development in post-socialist countries. *Economic Annals-XXI*, 2017, 163(1-2(1)), p. 22-25. Available at: https://doi.org/10.21003/ea.V163-04. Access: June 02, 2021.

KHOLIAVKO, N.; DJAKONA, A.; DUBYNA, M.; ZHAVORONOK, A.; LAVROV, R. The higher education adaptability to the digital economy. *Bulletin of the National Academy of Sciences of the Republic of Kazakhstan,* 2020, 4 (386), p. 294-306. Available at: https://doi.org/10.32014/2020.2518-1467.130. Access: June 02, 2021.

KHOLIAVKO, N.; SHKARLET, S.; DUBYNA, M. Information Economy: Management of Educational, Innovation, and Research Determinants. *Marketing and Management of Innovations*, 2019, 3, p. 126-141. Available at: http://doi.org/10.21272/mmi.2019.3-10. Access: June 02, 2021.

KHUDOLEI, V.; BESPALOV, M.; TULCHYNSKA, S.; TULCHINSKY, R.; KHOLIAVKO, N. Fiscal stimulation of spatial development: the EU Countries' cases. *Financial and credit activity: problems of theory and practice*, 2021, 1(36), p. 124-132.

KOVOVA, I.; MALYSHKIN, O.; VICEN, V.; SHULYARENKO, S.; SEMENOVA, S., SHPYRKO, O. Value added tax: effectiveness and legal regulation in Ukraine and the European Union. *Economic Annals-XXI*, 2018, 171(5-6), p. 4-14. Available at: https://doi.org/10.21003/ea.V171-01. Access: May 20, 2021.

LAGOVSKA, O.; ILIN, V.; KOTSUPATRIY, M.; ISHCHENKO, M.; VERBIVSKA, L. Priority directions of tax policy change in the information sphere. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*, 2020, 3, p. 183-190. Available at: https://doi.org/10.33271/nvngu/2020-3/183. Access: June 30, 2021.

MARKOWITZ, H. Portfolio Selection. *The Journal of Finance*. 1952. No 7 (1). p. 77–91.

POPELO, O. V. Methodological approaches to modernization processes of the productive forces in the conditions of Eurointegration. *Scientific Bulletin of Polissia*, 2017, 1 (1(9)), p. 218-224.

POPELO, O.; KYCHKO, I.; TULCHYNSKA, S.; ZHYGALKEVYCH, ZH.; TREITIAK, O. The Impact of Digitalization on the Forms Change of Employment and the Labor Market in the Context of the Information Economy Development. *International journal of computer science and network security*, 2021, 21 (5), p. 160-167. Available at: https://doi.org/10.22937/IJCSNS.2021.21.5.23. Access: June 02, 2021.

SAMIILENKO, H.; POPELO, O.; KHUDOLEI, V.; MASHNENKOV, K.; DERKACHENKO, YU. Transformational processes of clustering in digital economy. *Laplage em Revista*, 2021, 7, p.

691-702. Available at: https://doi.org/10.24115/S2446-622020217Extra-C1106p.691-702.
Access: June 02, 2021.

SCHARFF, E. A. Taxes as regulatory tools: an argument for expanding New York city's taxing authority. *New York University Law Review*, 2011, 86 (5), p. 1556-1589.

SHAPOSHNYKOV, K.; KOCHUBEI, O.; GRYGOR, O.; PROTSENKO, N.; VYSHNEVSKA, O.; DZYUBINA, A. Organizational and Economic Mechanism of Development and Promotion of IT Products in Ukraine. *Estudios de economía aplicada*, 2021, 39 (6). Available at: https://doi.org/10.25115/eea.v39i6.5264. Access: June 30, 2021.

SHAPOSHNYKOV, K.; HOLOVKO, O. Public regulation and administration in the sphere of small business. *Baltic Journal of Economic Studies*, 2019, 5 (4), p. 236-242. Available at: https://doi.org/10.30525/2256-0742/2019-5-4-236-242. Access: May 20, 2021.

SHKARLET S. M.; DUBYNA M. V. Essence and features of information society development. *Scientific bulletin of Polissia*, 2017, 2 (10), 1, p. 152-158. Available at: https://doi.org/10.25140/2410-9576-2017-1-2(10)-152-158. Access: June 02, 2021.

SHKARLET S.; DUBYNA M.; ZHUK, O. Determinants of the financial services market functioning in the era of the informational economy development. *Baltic Journal of Economic Studies*, 2018, 4 (3), p. 349-357.

SYSTEMS OF NATIONAL ACCOUNTS OF THE EU-28 COUNTRIES. Available at: https://ec.europa.eu/taxation_customs/taxation-1/economic-analysis-taxation/data-taxation_en. Access: June 30, 2021.

TOFAN, M. Personal income taxation. Comparative analysis for EU countries. *European Union Financial Regulation and Administrative Area (Eufire 2019),* 2019, p. 757-769.

ZHAVORONOK, A.; KHOLIAVKO N.; SHAPOSHNYKOV K.; KRYLOV D.; MOROZOVA L.; BABIAK N. Integrated Model of the Higher Education Financing Under the Quadruple Helix Concept. *International Journal of Computer Science and Network Security*, 2021, 21 (7), p. 125-132. Available at: https://doi.org/10.22937/IJCSNS.2021.21.7.16. Access: June 02, 2021.

ZYBAREVA, O.; KRAVCHUK, I.; PUSHAK, Y.; VERBIVSKA, L.; MAKEIEVA, O. Economic and Legal Aspects of the Network Readiness of the Enterprises in Ukraine in the Context of Business Improving. *Estudios de economía aplicada*, 2021, 39 (5). Available at: https://doi.org/10.25115/eea.v39i5.4972. Access: June 30, 2021.

Regulatory policy on ensuring sustainability of tax revenues of EU-28 countries

Política regulamentar para garantir a sustentabilidade das receitas fiscais dos países da UE-28

Política reglamentaria para garantizar la sostenibilidad de los ingresos fiscales de los países de la UE-28

Resumo

O objetivo do artigo é desenvolver princípios teóricos e aplicados para o estudo da estabilidade e sustentabilidade das receitas fiscais da UE-28 e a introdução, com base nisso, de um sistema de medidas regulatórias de política tributária. A análise da estabilidade das receitas fiscais dos países estudados é realizada a partir de uma abordagem abrangente, cuja metodologia se baseia na combinação de características estáticas que demonstram seu estado em um dado momento e coeficientes de elasticidade do PIB que determinam a intensidade de sua dinâmica. A abordagem científica para a interpretação do conceito de "sustentabilidade das receitas fiscais" é sistematizada. O estado de estabilidade e estabilidade dos pagamentos de impostos nos países da UE-28 é analisado e as principais tendências são identificadas. Liderada por princípios clássicos e medidas tradicionais de influência na política tributária, em particular, no crescimento das receitas tributárias, propõe-se uma visão atualizada sobre os rumos da implementação da política tributária regulatória nos países estudados.

Abstract

The purpose of the article is to develop theoretical and applied principles for studying the stability and sustainability of tax revenues of the EU-28 and the introduction on this basis of a system of regulatory tax policy measures. The analysis of the stability of tax revenues of the studied countries is carried out due to a comprehensive approach, the methodology of which is based on a combination of static characteristics that demonstrate their state at a given time and GDP elasticity coefficients that determine the intensity of their dynamics. The scientific approach to the interpretation of the concept of "sustainability of tax revenues" is systematized. The state of stability and stability of tax payments in the EU-28 countries is analyzed, the main trends are identified. Led by classical principles and traditional measures of influence on tax policy, in particular, on the growth of tax revenues, an up-to-date view is proposed on the directions of implementation of regulatory tax policy in the studied countries.

Resumen

El objetivo del artículo es desarrollar principios teóricos y aplicados para estudiar la estabilidad y sostenibilidad de los ingresos fiscales de la UE-28 y la introducción sobre esta base de un sistema de medidas de política fiscal reguladora. El análisis de la estabilidad de los ingresos tributarios de los países estudiados se realiza mediante un enfoque integral, cuya metodología se basa en una combinación de características estáticas que demuestran su estado en un momento dado y coeficientes de elasticidad del PIB que determinan la intensidad de su dinámica. Se sistematiza el enfoque científico de la interpretación del concepto de "sostenibilidad de los ingresos tributarios". Se analiza el estado de estabilidad y estabilidad de los pagos de impuestos en los países de la UE-28, se identifican las principales tendencias. Liderados por principios clásicos y medidas tradicionales de influencia sobre la política tributaria, en particular, sobre el crecimiento de los ingresos tributarios, se propone una visión actualizada sobre las direcciones de implementación de la política tributaria regulatoria en los países estudiados.

Palavras-chave: Política regulatória. Política fiscal. Sustentabilidade das receitas fiscais. Carga tributária. Modelagem econométrica.

Keywords: Regulatory policy. Tax policy. Sustainability of tax revenues. Tax burden. Econometric modeling.

Palabras-clave: Política regulatoria. Política fiscal. Sostenibilidad de los ingresos tributarios. Carga fiscal. Modelado econométrico.