

Environmental Taxation: Ukrainian Realities and European Practice

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Abstract: Environmental protection is a necessary element of the state strategy of sustainable development. Taxes are an effective tool of environmental policy in many countries of the world. The level of environmental protection in Ukraine is low. According to the ecological component of sustainable development, Ukraine ranks 109 out of 180 countries in the world in 2020. Therefore, taxation is not a sufficiently effective tool of environmental policy in Ukraine. Ukraine's international obligations regarding environmental protection and promotion of long-term goals of sustainable development determine the need to improve the system of environmental taxation in Ukraine. In modern economic conditions the issue of restoration of natural resources and redistribution of environmental tax between the relevant budgets is becoming increasingly important. Environmental taxes as a tool of environmental policy should not just fill the state budget, but stimulate the payer to have a positive and responsible attitude towards the natural environment. The funds received can be used to stimulate environmental protection, state programs for the development and import of resource-saving technologies, waste disposal, etc. Reserves for reducing the load on the surrounding natural environment can be quickly exhausted, therefore it is important to find ways to give economic growth a new quality, so that the recovery of the economy and the growth of industrial production are accompanied by the introduction of effective environmental protection technologies. As a result of the study, the main types of environmental taxes are identified. It is established that the ecological tax is an important lever for counteracting negative changes in the environment. A comparative analysis of environmental tax revenues in the EU and Ukraine was conducted. In the process of research scientific methods were used: economic and statistical - to assess the dynamics of the payment of environmental tax; analysis and synthesis - to find out the reasons that cause changes in the amount of payment. The result of the study is clearly defined trends in the flow of funds to the relevant budgets.

Keywords: budget revenues, environmental taxation, international taxation, tax system, tax control, taxes.

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1 Introduction

In modern conditions, the state of the environment and the exhaustion of natural resources are problems that require urgent solutions both in Ukraine and in the whole world. This is primarily due to the lack of financial resources needed to implement environmental measures. Therefore, one of the main sources of raising funds to address environmental issues is to reform tax legislation in order to achieve environmental safety of the state.

In the world, the issue of environmental security is very important, Western European countries were among the first to intensively use tax instruments to stimulate environmental measures since the 80-90s of the twentieth century. The European Union has adopted a number of basic directives that set minimum energy tax rates and introduce a system of quotas for greenhouse gas emissions. Environmental issues are still relevant in Europe, and there is

constant talk of increasing tax pressure to protect the environment.

Taking into account the practice of developed countries, Ukraine needs to improve fiscal policy in order to stimulate the filling of the budget and solving the issues of efficient use of natural resources.

2 Analysis of the Latest Research and Publications

Substantial changes in environmental taxation, in order to solve the priority issues of environmental protection, require the establishment of a process of effective management, by introducing a variety of their types and analyzing the results of their implementation. Issues that are urgent for Ukraine, regarding environmental taxation, are almost

indistinguishable from the world, so it is advisable to study global trends and the variety of taxes in order to implement them in the current economic conditions of Ukraine.

For the first time, studies of the problems of environmental taxation are found in the writings of A. Pigou, he first defined environmental costs and formulated an understanding of the need to introduce a tax that would compensate for the losses of society and contribute to the restoration of the ecological situation [19]. Followers of Pigou's teachings, in particular G. Tullock and P. Ekins [9], [25], claim in their research that environmental taxation can replace traditional taxation and play a significant role in the formation of the state budget. This will contribute to the simultaneous filling of the budget and prevent environmental damage [8]. A number of foreign scientists in their writings suggest introducing special taxes to correct negative external effects, including in the form of ecological damage to the environment, and compensation in the form of subsidies for entities that improve the environment [1], [6].

Many studies of domestic and foreign scientists have been devoted to the issue of efficiency and optimality of environmental taxation in the tax system. In particular, researchers [3], [7], [13] in their studies claim that the optimal tax rate for emissions of polluting substances should be lower than equal to the marginal environmental damage. In the case of production of goods with a very high elasticity of demand, a significant impact on the environment can be achieved with a low rate of environmental tax, and vice versa, when the elasticity of demand is low, the impact on the environment can be very small, even with a high tax rate [16], [21]. It is important to note the contribution of scientists [14], [20], [22] who studied the reform of environmental taxation in the EU countries, as well as the possibility of introducing these taxes in the conditions of an imperfect market economy. The study of the problems of the current system of environmental taxation in Ukraine, as well as the possibilities of harmonizing domestic tax legislation with European legislation in terms of environmental taxation, is devoted to the work of I.S. Varlamova [26], O.O. Veklich [27], O.N. Garkushenko [11]. Quite important are the works of scientists devoted to the issues of the role of environmental taxation in the system of tools of "green" finance, as well as the possibility of practical implementation of effective environmental taxation [15], [28].

Despite a wide range of studies, many problems remain unresolved and require constant monitoring

in the context of existing changes. Therefore, a detailed analysis of the current situation in the world and Ukraine, on increasing the role of environmental taxation in order to preserve the environment, is timely and relevant.

The purpose of the article is to study the theoretical and practical foundations of environmental taxation in Ukraine and develop proposals for its improvement, taking into account global trends.

The methodological basis of the research is a systematic approach to determining the main provisions of the theory of environmental taxation as one of the determining factors for the efficiency of the use of natural resources. The study uses an organic fusion of methods: dialectical and abstract-logical when conducting theoretical and methodological generalizations; statistical-economic to analyze tax revenues to the relevant budget and their impact on the environmental situation in the country.

3 The Research Results

In modern economic conditions, the development of principles of rational use of natural resources and promotion of environmental protection is particularly relevant. Environmental taxation plays a significant role in creating alternative sources of financing for environmental protection activities in Ukraine.

Analysis of foreign experience shows that the introduction of an effective tax mechanism, simultaneously with increasing the requirements for environmental standards, plays a leading role in improving the condition of natural objects.

The history of the formation of environmental taxation in the world is quite long. For the first time, the idea of environmental taxation was highlighted in the works of A. K. Pigou, who proposed to consider taxes as a tool for influencing the behavior of "pollutants" of the environment, on the one hand, and as an incentive to environmental activities through subsidies, on the other [18].

These postulates were laid down and further developed in the European Union's program of action for the protection of the natural environment (1973), which provided for the consolidation and formation of environmental legislation for almost all elements of the environment.

Environmental taxation is one of the decisive factors for rational use of natural resources. A prerequisite for the introduction of environmental taxes was to provide compensation for environmental pollution, in particular, to establish a direct relationship

between the amount of tax deductions and the degree of negative impact as a result of activities. The conducted research clearly shows that in the leading countries of the world, environmental taxation performs three main functions: environmental, incentive and fiscal. In Ukraine, however, the role of environmental taxes is limited only to ensuring the fiscal sufficiency of the system of collecting payments for environmental pollution [2], [5].

If we talk about the economic essence of an environmental tax, then it should be understood as

compensation for the negative consequences that were caused to the natural environment in the process of carrying out a certain type of activity. This compensation is obliged to fully finance the activities that are necessary for the restoration of the surrounding natural environment. However, the value of this tax implies that there is no negative impact on the environment. If in the EU countries, this tax performs its main functions, then in Ukraine its value is insignificant.

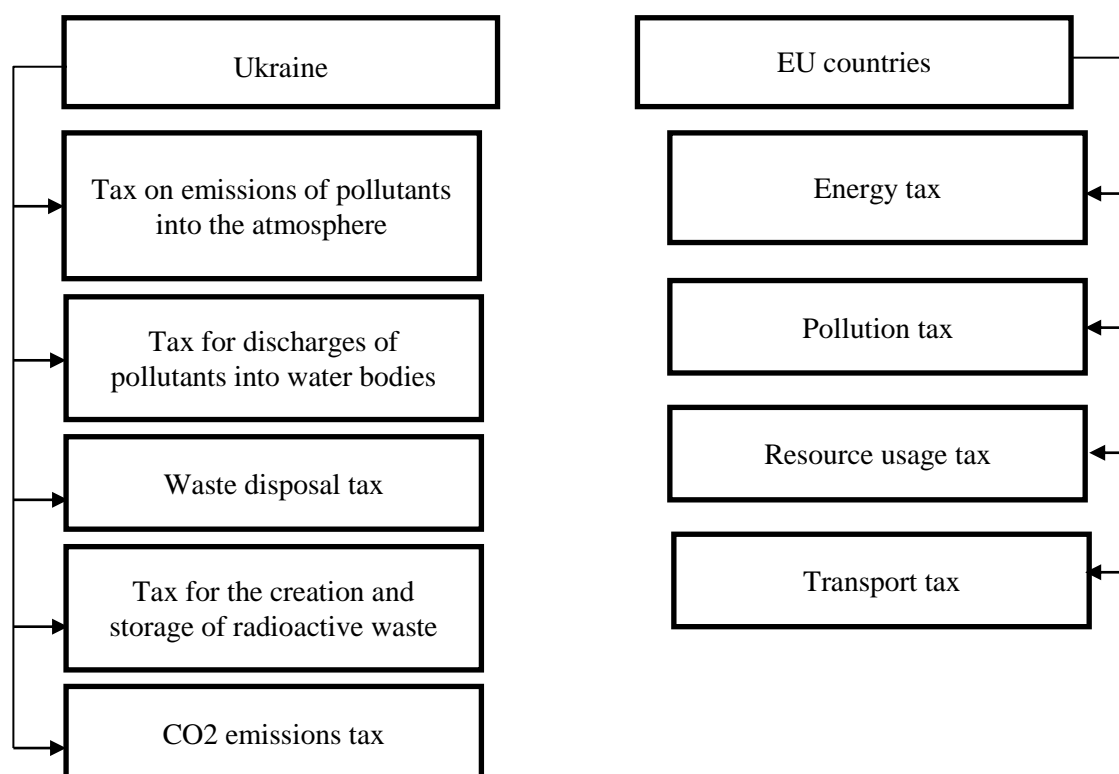


Fig. 1: Comparison of types of environmental taxes in Ukraine and European countries
Source: Built by the author according [19], [23].

According to Ukrainian legislation, the environmental tax is a national mandatory payment levied on the actual volume of emissions into the atmosphere, discharges into water bodies of pollutants, waste disposal, the actual volume of radioactive waste temporarily stored by their producers, the actual volume of generated radioactive waste and the actual volume of radioactive waste accumulated before April 1, 2009 [24].

Yale University research conducted by the Center for Environmental Policy and law shows that Ukraine ranked 60th in the environmental efficiency rating among 180 countries in 2019, losing 35 points over the past five years and gaining only 49.5 points. In the countries of the European Union, the

issue of solving environmental problems is one of the most urgent, since environmental pollution negatively affects people's lives and is one of the causes of increased mortality [19]. The basis of this policy is to ensure compliance with environmental standards in the course of business entities' activities [4]. The environmental tax is one of the main tools of the state in protecting the natural environment.

The purpose of the tax is to encourage business entities to reduce the volume of emissions/discharges of pollutants into atmospheric air/water bodies, to establish a direct dependence of the amount of tax deductions on the degree of negative impact on the environment, to mobilize funds to budgets of various levels in order to finance

the costs of protection and rational use of natural resources [20].

The classification of environmental taxes in the EU and Ukraine has significant differences. So, in European countries, the environmental tax includes:

- 1) energy taxes-responsible for 3/4 of revenues from environmental taxes;
- 2) transport taxes account for 1/5 of revenues;
- 3) taxes on pollution and taxes on the use of Natural Resources – Account for only 3% of revenues from

environmental taxes (fig.1). In Ukraine, environmental taxation plays a rather indirect role, and is an inefficient regulatory tool [12].

A comparative analysis of environmental tax revenues in the EU and Ukraine shows that the share of this tax in Ukraine is rather insignificant and during the study period amounted to less than 1% of GDP (fig. 2).

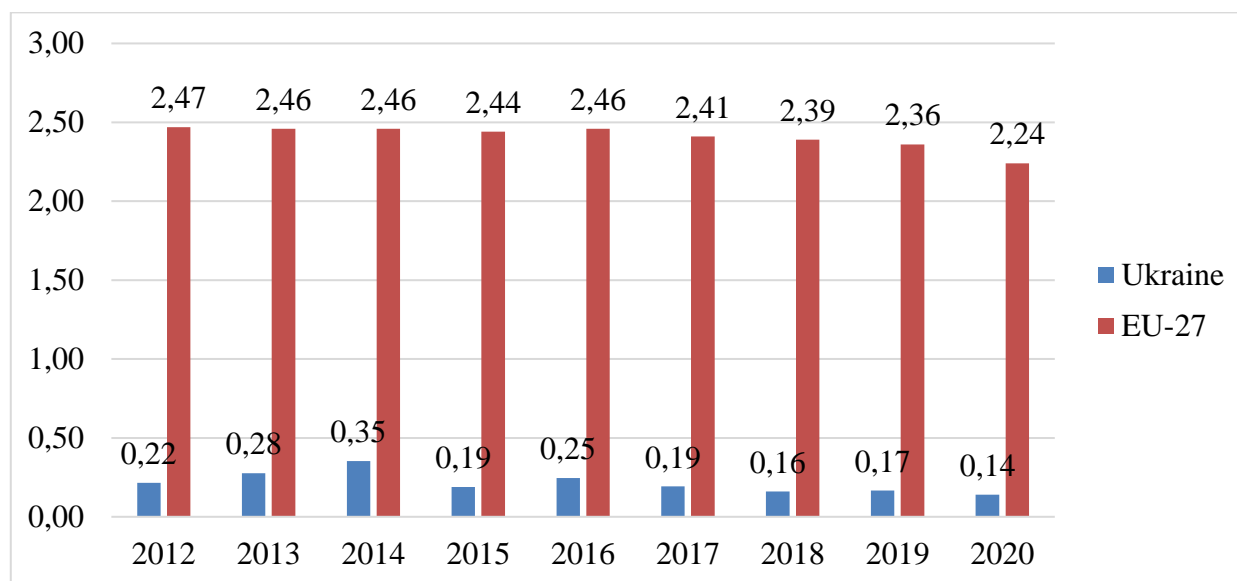


Fig. 2: Dynamics of environmental tax revenues in the EU and Ukraine in% of GDP

Source: Built by the author according [10], [17].

In addition, according to the data, the share of this tax began to decrease starting from 2017 and in 2020 amounted to only 0.14%. In the EU countries, the situation is slightly different, the share of this tax ranges from 2.3-2.5%. This situation is primarily explained by the small amounts of payment of this tax in Ukraine. The largest share of environmental taxes in Ukraine is the tax levied on emissions of pollutants into the atmosphere by stationary sources of pollution (excluding emissions of carbon dioxide into the atmosphere), about 59% in 2020. The second step is divided by revenue from the placement of waste in specially designated places or facilities (20,6% in 2020) and the environmental tax, which is paid for the generation of radioactive waste (17,6% in 2020). We also see a sharp decrease in revenues in 2015 against the background of military actions and the exclusion from the revenue part of revenues from the importation of fuel into the customs territory of Ukraine by tax agents and revenues from trade in the customs

territory of Ukraine with fuel of own production and/or produced from raw materials by tax agents.

The tax reform implemented in 2010 did not bypass taxes on pollution. Thus, with the adoption of the Tax Code, the tax rates on pollution were increased in terms of: emissions of pollutants by stationary and mobile sources - by 1,2 times, discharges of certain pollutants into water bodies - by 1,3; discharges of pollutants into water bodies depending on their concentration – 1,7; of placed waste 80 depending on the hazard class and their level of danger – 2,0. There was also an expansion of the list of payers of the specified payment at the expense of natural persons, vehicle owners who buy fuel, and the tax base at the expense of emissions of polluting substances by air transport. This expansion made it possible to increase the income of the environmental tax by almost 20% only in the first year of operation of the mentioned innovations.

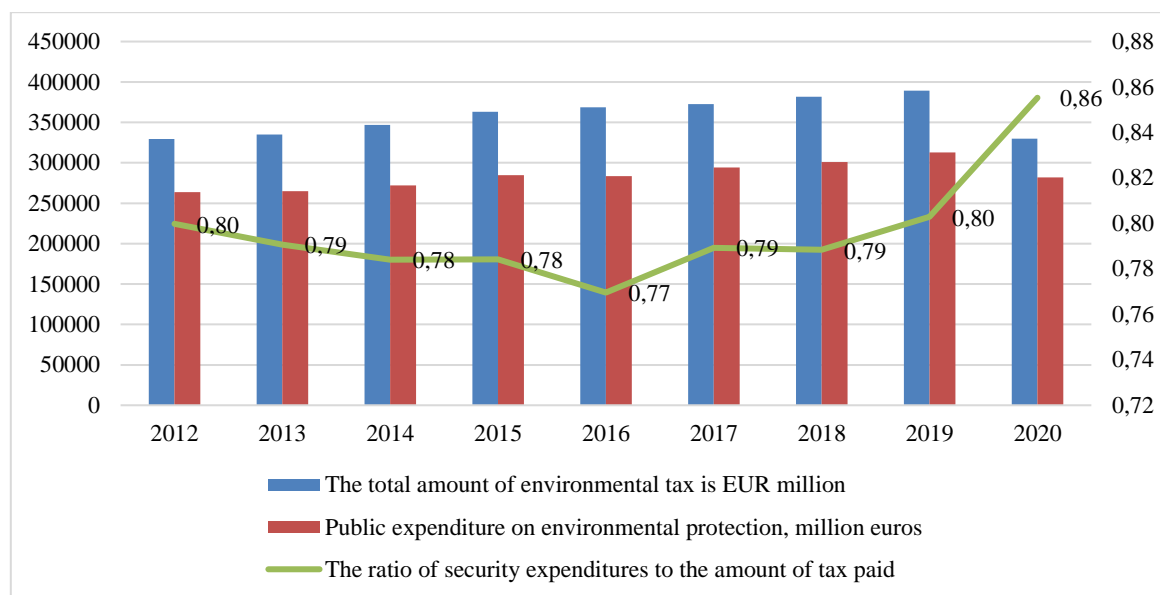


Fig. 3: Efficiency of EU environmental taxation

Source: Built according [10].

At the European level, environmental tax statistics are based on legislation in the field of environmental accounts and in the field of national accounts. Regulation (EC) No. 691/2011 of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts provides a framework for the development of different types of environmental accounts (also called modules). Environmental taxes by type of economic activity is one of the three modules currently included in the Regulation. The other two modules are air emissions accounts and economy-wide cash flow accounts. Statistics on environmental taxes by type of economic activity provide data from the point of view of tax payers in a way that is fully compatible with the ESA. When analyzing the effectiveness of environmental taxation, it is important to analyze the ratio of revenues from this tax and expenses for the

protection of the natural environment. It is worth noting that in the EU countries the ratio of expenses for environmental protection measures and the amount of tax paid was more than 0,75 during the studied period, in recent years the growth of this indicator has been observed to 0,86 in 2020, which indicates the significant role of this tax in financing measures related to environmental restoration (Fig. 3).

In Ukraine, the share of expenses for environmental protection significantly exceeds the income from the payment of the environmental tax, since the amount of the tax paid is insignificant compared to the needs for the restoration of the natural environment. In addition, there is a low fiscal efficiency of this tax in comparison with pan-European trends. That is, we can conclude that Ukraine does not pay enough attention to the collection of this tax and environmental problems in general (Fig. 4)

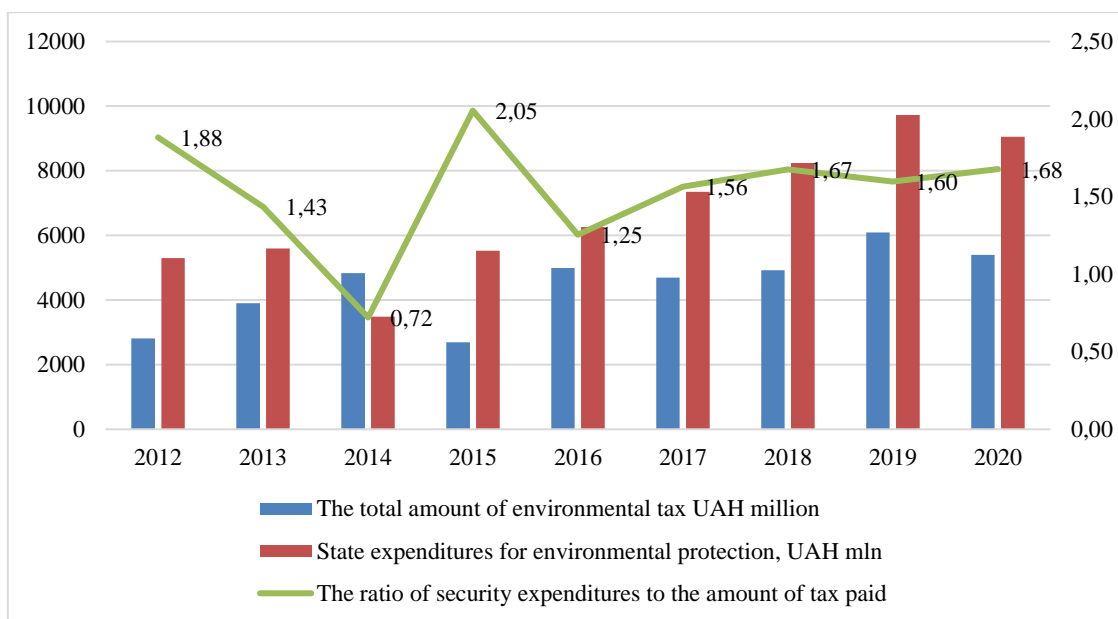


Fig. 4: Efficiency of environmental taxation in Ukraine

Source: Built according [17].

The conducted studies clearly show that in Ukraine, spending on environmental protection is ten times lower than in European countries and their share in GDP is very insignificant during the study period and tends to decrease. So, in 2012 they amounted to 0.4% of GDP, and in 2019 they decreased to 0.27%. The pan-European indicator has an almost unchanged trend and ranges from 1.9-2% of GDP.

4 Conclusion

So, we can conclude that in the EU countries, the environmental tax is of great regulatory importance and is one of the main sources of funding for environmental protection measures. It is worth noting that the European experience of environmental taxation testifies to its effectiveness, in particular, its high tax rates force enterprises to implement measures aimed at minimizing environmental pollution. A comparative analysis of environmental tax collection in Ukraine and the EU has demonstrated low fiscal efficiency in Ukraine. In addition, our country does not pay enough attention to the administration of this tax and stimulating the solution of major environmental problems in general. In the EU countries, environmental taxation is one of the most effective mechanisms for implementing environmental policy, which Ukraine should take into account when developing environmental measures and consider the environmental tax as one of the main sources of their financing. By introducing appropriate changes to the tax legislation, it is

possible to solve a number of environmental problems with the least losses for the country's economy.

The conducted studies indicate the need to take additional measures to demonstrate the dynamic effectiveness of the environmental tax, in particular, the use of other tax and administrative tools in conjunction with this tax to increase the attractiveness of the implementation of environmental innovations for economic agents. Thus, it is possible to draw conclusions about the significant transaction costs for the implementation of the tax obligation by all participants in the tax process and their insignificant fiscal potential. The conducted study of the effectiveness of pollution taxes proved that only static effectiveness is manifested from their application. Considering the fact that the introduction of environmental innovations reduces the tax base of the environmental tax, it is advisable to take additional measures to demonstrate the dynamic effectiveness of the environmental tax, in particular, to apply it in combination with this tax other tax and administrative tools to increase the attractiveness of implementing environmental innovations for economic agents.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Nadiia Dvydenko was responsible for formulating the conclusions.
- Zoia Titenko conducted an assessment of environmental tax revenues and averaged the costs of environmental protection measures
- Kateryna Shevchuk conducted a review of literature.
- Alina Buriak has been responsible for the Statistics.

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