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The Role of Fiscal Mechanism in Regulation of Households' Investment Activity in EU Countries and in Ukraine

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Rudenko, V., Pohrishchuk, H., Dobizha, N., & Moskvichova, O. (2022). The role of fiscal mechanism in regulation of households' investment activity in EU countries and in Ukraine. *Scientific Horizons*, 25(5), 86-100. Abstract. The fiscal mechanism, which serves as a means of implementing fiscal policy, thanks to the organisation of fiscal relations by changing the mechanisms for the formation of budget revenues and expenditures, directs the established fiscal interrelationships, manages the channels of passage and directions of fiscal flows, specifies the proportions of the distribution of financial resources and, thus, ensures regulation investment activity of households. For Ukraine, in the context of its European integration aspirations, the study of the impact of the components of the fiscal mechanism, namely taxes, on the implementation of household investments in the EU countries becomes particularly relevant. Therefore, the purpose of this study was to form a holistic view of the elements of the fiscal mechanism that cause changes in investment processes at the micro level in the EU countries and in Ukraine, as well as to perform correlation and regression analysis to identify the quantitative impact of the fiscal mechanism on the investment activity of households. During the study, the Ukrainian and European practices of taxation of the population is considered and the total tax burden on individuals in the EU countries and in Ukraine is calculated. A correlation and regression analysis of the impact of elements of the fiscal mechanism on household investments in the EU and Ukraine was carried out, which showed that the scale of their taxation had the greatest impact on the implementation of citizens' investments, while the overall tax burden played a secondary role in regulating investment processes at the micro level. As a result of the study, it was proved that in Ukraine, to increase the investment activity of households, it is necessary to consider the practices of EU countries and improve those elements of the fiscal mechanism that have the greatest regulatory impact on investment. Such a part of the fiscal mechanism is taxes, especially in terms of effective provision of tax benefits

Keywords: budget, taxes, investment, individual, tax burden



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INTRODUCTION

In modern conditions, states use the fiscal mechanism to implement fiscal policy, which is designed not only to determine the sources of formation and use of budget resources, but also to influence investment processes at the micro level. The influence of the fiscal mechanism on the investment activity of households is carried out through its structure and the orientation of its components to solve particular tasks and achieve a real investment effect, which occurs due to financial resources that are formed, distributed, and used to meet the investment needs of the population. The fiscal mechanism regulates the size of potential sources of investment resources of households, namely by dividing income between consumption, savings, and investment. Therefore, the investment activity of citizens depends on the correct choice and effective use of various elements of the fiscal mechanism.

The COVID-19 pandemic, and later Russia's fullscale invasion of Ukraine, highlighted the critical role of the fiscal mechanism in maintaining the life of households and ensuring their functioning. Extremely unfavourable events led to the closure of enterprises, a decline in business activity and a contraction of the labour market. The reduction in the number of jobs and falling incomes of individuals against the background of uncertain development prospects led to a considerable reduction in consumption and investment. If at the beginning of the pandemic and military operations, the fiscal mechanism ensured the restoration of consumption, then in the future, to overcome the adverse consequences of the coronavirus crisis and war, it should contribute to the activation of household investment, which is an essential prerequisite for the sustainable development of the Ukrainian economy.

Currently, issues of quantitative analysis of the relationship between the components of the fiscal mechanism and household investments in the context of Ukraine's European integration aspirations are being updated. Understanding the quantitative impact of the fiscal mechanism on the investment activities of individuals is necessary to develop sound fiscal decisions that will contribute to the achievement of investment goals and will not lead to a catastrophic reduction in taxes and/or increase in budget expenditures.

Many studies cover certain aspects of the influence of the components of the fiscal mechanism on the investment activity of households in the world and Ukrainian scientific literature. Thus, J. Alves (2019) investigated the impact of the structure of the tax system on investment dynamics in the short and long term, but by OECD countries, and not with a specification on household investment. S. Fedorov (2017), O.V. Ozerchuk & L.B. Rainova (2014), F. Zhuravka et al. (2021) focused their attention on income taxation of the population, but mostly in the social context, rather than in the investment one. I.V. Ped et al. (2012), O.Ye. Naidenko (2015) considered property taxation of households, but in terms of the impact on investments already made, and not on future ones. T.I. Yefymenko & A.M. Sokolovska (2013), I. Verkhovod et al. (2020), S.H. Operenko (2018), A.M. Sokolovska (2006) focused on determining the tax burden on individuals and its impact on various segments of the population, including in terms of making investment decisions. S. Van Pays & S. James (2010), L.M. Akimova et al. (2018), A. Celani et al. (2022) were looking for tax incentives that can effectively influence the activation of household investment. Despite a considerable number of studies on the role of individual components of the fiscal mechanism in regulating investment activity of the population, they contain only certain elements of quantitative analysis of such influence, which allow only indirectly and fragmentarily judging the relationship between the fiscal and investment.

The purpose of this study was to form a holistic view of the elements of the fiscal mechanism that cause changes in investment processes at the micro level in the EU countries and in Ukraine, as well as to perform correlation and regression analysis to identify the quantitative impact of the fiscal mechanism on the investment activity of households.

MATERIALS AND METHODS

The research materials are scientific literature, data from official websites of public authorities and works of modern scientists, containing materials that describe the components of the fiscal mechanism, as well as serve as a way to create initial ideas and initial concepts about the role of elements of the fiscal mechanism in regulating the investment activity of households in the EU countries and in Ukraine. The methodological basis of the research is determined by the application of several general scientific and private scientific, theoretical and empirical methods of cognition based on the categories and principles of dialectics. The dialectical method of cognition made it possible to consider the influence of the components of the fiscal mechanism on investment processes at the micro level.

The use of theoretical research methods allowed delving into the very nature of the fiscal mechanism, to identify its components, namely taxes, which can affect the implementation of investments by households. The main theoretical methods of knowledge used in the study include analysis – to distinguish groups of taxes paid by individuals and characterise them in the context of investment development of households in the EU countries and in Ukraine; synthesis – to combine all tax payments from the population into a single taxation system, which positively or negatively affects investments by citizens in EU countries and Ukraine; induction – to make inferences regarding the impact of the population taxation system, considering its components, on investment processes at the household

level in the EU countries and in Ukraine; deductions – to distinguish the regulatory function of certain groups of taxes within the population taxation system for stimulating or restraining their investment activity in the EU countries and in Ukraine; generalisation - to identify and record the main facts regarding the impact of taxes on the investment development of households in the EU countries and in Ukraine; abstraction – to isolate and turn into an independent object of consideration of individual parties and characteristics of taxes in the context of their impact on investment processes at the micro level; specification - to specify the main elements of taxes on the population in the EU countries and in Ukraine; comparison (comparativism) - to determine the general and distinctive features of taxes as stimulators or destimulators of investments in the EU countries and in Ukraine.

The application of empirical research methods allowed performing a comparative analysis of the impact of the components of the fiscal mechanism on the investment development of households in the EU countries and in Ukraine, as well as to summarise and describe the results. The main empirical methods of cognition, which were used in the study include monitoring - to monitor the taxes paid by the population in the EU countries and in Ukraine, the results of which were used to explain the impact of individual tax payments on the investment activity of households; measurement - for calculating the total tax burden on individuals in the EU countries and in Ukraine and justifying its role in making investments by households; correlation-regression analysis - for building and evaluating an economic-mathematical model in the form of a regression equation, which expresses the dependence of the result characteristic (household investments) on one or more characteristic factors (taxes paid by the population and the total tax burden on citizens); study and generalisation of experience - to investigate the practices of the EU countries and Ukraine regarding the use of tax benefits to increase the investment activity of households. The methods used in the study did not exclude the possibility, in some cases, of simply stating the facts to give the relevant reasoning of the necessary evidentiary force.

The study was conducted as a logical process that covered two main stages – theoretical and empirical. The theoretical stage of the study included the collection, systematisation, and generalisation of facts regarding the influence of the elements of the fiscal mechanism on the investment activity of households in the EU countries and in Ukraine. At this stage, the Ukrainian and European practices of taxation of the population are considered in the context of the impact on investment processes at the micro level. The empirical stage of this study included the calculation of the total tax burden on individuals and correlation-regression analysis of the impact of the elements of the fiscal mechanism on the investment development of households in the EU countries and in Ukraine, with the knowledge and formulation of corresponding conclusions.

RESULTS AND DISCUSSION

The fiscal mechanism functions as a set of interconnected elements that can regulate the investment activity of households to varying degrees. The authors of this paper believe that the influence of the fiscal mechanism on the implementation of investments by individuals can occur thanks to taxes and state transfers. Since state transfers are received by the most vulnerable and low-income sections of the population, it is unlikely that a positive investment effect will be achieved as a result of their provision. Accordingly, taxes remain the main fiscal tool for influencing household investments. As J. Alves (2019) points out, income taxes and social security contributions reduce the aggregate demand of the population, and therefore reduce the demand for goods and services, which can have a decisive impact on new investment decisions.

Ukraine has chosen the path of European integration; therefore, it is worth investigating the influence of the components of the fiscal mechanism on the investment activity of households in comparison with EU countries. This allows not only determining the national specifics of the functioning of the fiscal mechanism, but also borrowing the leading practices of European states to improve its components in terms of regulation of investment processes.

First, for the purposes of this study, all taxes paid by individuals were divided into several conditional groups as follows:

1) taxes on income and capital gains, which include personal income tax, and in some European countries – a separate tax on capital gains;

2) tax payments of a social nature, which include one or more payments for various types of social insurance (medical, pension, in case of loss of working capacity, in case of unemployment, in case of an accident at work, etc.);

3) property taxes, which include taxes on movable and immovable property, as well as property transfer taxes;

4) other taxes, which include tax payments of an environmental, administrative, and tourist nature.

Taxes on income and capital gains in EU countries and in Ukraine include taxation of labour income, taxation of passive income and taxation of capital gains (Table 1).

| Country | Labour income | Passive income | Capital gains |
|----------------|--|--|--|
| Austria | S L: 0-55% TB | 27.5% TB | 27.5% TB |
| Belgium | S L: 20-50% TB; R/L L: 0-9% TB | 30% TB | BR PIT |
| Bulgaria | S L: 10% TB | 5%, 8%, and 10% TB | 10% TB |
| Greece | S L: 9-44% TB | 5% and 15% TB | 15% TB |
| Denmark | S L: 12.1-15.0% TB; R/L L: municipal tax – 24.982% TB; labour market tax – 8% TB | BR PIT | BR PIT |
| Estonia | S L: 20% TB (base rate); 10% and 7% TB (reduced rates) | BR PIT | BR PIT |
| Ireland | S L: 20-40% TB | 25% and 33% TB | 33% TB |
| Spain | S L: 19-47% TB | 19-26% TB | 26% TB |
| Italy | S L: 23-43% TB; R/L L: regional tax – 1.23-3.33% BU; municipal tax – 0-0.8% TB | 26% TB | 26% TB |
| Cyprus | S L: 0-35% TB | They are taxed only with a special defence contribution | 20% TB |
| Latvia | S L: 20-31% TB | 0% and 20% TB | 20% TB |
| Lithuania | S L: 20 and 32% TB | 15% TB | 20% TB |
| Luxembourg | S L: 8-42% TB | 20% TB | BR PIT |
| Malta | S L: 0-35% TB | Not subject to PIT | 8% or 10% TB |
| Netherlands | S L: 9.42–49.5% + fixed premium | Not subject to PIT | Usually not applied |
| Germany | S L: 0-45% TB | 25% TB + added solidary tax | 25% TB + added solidary tax |
| Poland | S L: 17-32% TB | 19% TB | 19% TB |
| Portugal | S L: 0-48% TB | 28% TB | 28% TB |
| Romania | S L: 10% TB | 5% and 10% TB | BR PIT |
| Slovakia | S L: 19 and 25% TB | 7% TB | BR PIT |
| Slovenia | S L: 16-50% TB | 27.5% TB | 27.5% TB, which decreases according to the duration of th asset retention period |
| Hungary | S L: 15% TB | 0%, 10%, and 15% TB + social tax (in some cases) | 15% TB + social tax (in some cases) |
| Finland | S L: specific rate 8-11,351.5 EUR + ad valorem rate 6-34% TB; R/L L: 16.50-23.50% TB | 30% TB (and 34% of income exceeding EUR 30,000 per year) | 30% TB (and 34% of income exceeding EUR 30,000 per yea |
| France | S L: 0-45% TB + an added 3% rate on a part of high incomes | 12.8% TB + added social tax | 12.8% TB + added social tax exclusive 4% high income ta: |
| Croatia | S L: 20% and 30% TB; R/L L: 0-18% TB | 10%, 20%, and 30% TB + utility tax (0-18%) + social insurance contribution | 10% TB + utility tax (0-18%) |
| Czech Republic | S L: 15% and 23% TB | 15% and 35% TB | BR PIT |
| Sweden | S L: 0% and 20% TB; R/L L: 32% TB | 30% TB | 30% TB |
| Ukraine | S L: 18% TB | 5%, 9%, and 18% TB | BR PIT |

Note: S L – state level; R/L L – regional (local) level; TB – tax base; BR PIT – basic rate of personal income tax for the corresponding country

Source: PricewaterhouseCoopers International Limited (2022)

EU countries have progressive personal income tax rates in terms of taxation of labour income, except for Bulgaria, Romania, Hungary, which, like Ukraine, use a proportional rate. Low-progressive rates on personal income tax have been introduced in Estonia, Ireland, Lithuania, Poland, Slovakia, Croatia, the Czech Republic, and Sweden. According to S. Fedorov (2017), the predominance of low-progressive and progressive rates of taxation of labour income of the population of most EU countries is explained by the application of the principle of social justice, which makes provision for the collection of taxes according to the solvency of households, considering the risks of social tension, social conflict, negative socio-psychological impact on spheres of public life of particular importance.

On the one hand, to follow the principle of social justice, a low-progressive scale of taxation of personal income was introduced and applied in Ukraine during 2011-2014 (at rates of 15% and 17%) and during 2015 (at rates of 15% and 20%). However, the introduction of these low-progressive rates has demonstrated its inefficiency, as it has become one of the factors of shadowing citizens' incomes. On the other hand, according to O.V. Ozershuk & L.B. Rainova (2014), the use of a proportional personal income tax rate in conditions of considerable differentiation of Ukrainian household incomes led both to the transfer of the main tax burden to the low- and medium-income segments of the population, and to an uneven distribution of the tax burden between different sources of income. Furthermore, according to F. Zhuravka et al. (2021), the problem of shadowing citizens' incomes due to the establishment of a proportional tax rate on labour income has not been solved because the development of informal processes at the micro level is influenced by several other factors, including economic, political and legal, demographic, socio-cultural, and individual.

Taxation of passive (investment) income of individuals in the EU countries differs significantly. In Malta and the Netherlands, such income is exempt from taxation, while in Cyprus, it is subject only to a special defence contribution. Many EU countries apply a proportional tax rate to passive income (Austria, Belgium, Italy, Lithuania, Luxembourg, Poland, Portugal, Slovakia, Slovenia, Sweden). Some EU countries (Bulgaria, Greece, Ireland, Latvia, Romania, Czech Republic), like Ukraine, use a differentiated tax rate. Some EU countries (Croatia, France, Germany, Hungary) apply social tax payments to passive income in addition to personal income tax (PricewaterhouseCoopers International Limited, 2022). Notably, in most EU countries, to create incentives for activating investment processes, passive income of citizens is taxed at lower rates than labour income. Although Ukraine applies differentiated tax rates to passive income, pursuing fiscal goals, most of such income is taxed at the base rate of 18%. Reduced personal income tax rates apply only to certain types of passive income (Tax Code of Ukraine, 2010):

- 5% - for income in the form of dividends on shares and corporate rights accrued by residents who pay corporate income tax (except for income in the form of dividends on shares, investment certificates paid by joint investment institutions);

– 9% – for income in the form of dividends on shares and/or investment certificates, corporate rights accrued by non-residents, joint investment institutions and business entities that are not payers of income tax.

In the EU countries, there is a specific taxation of capital gains, i.e., income received from the sale of various assets in comparison with the purchase price of such assets. Individual countries (Greece, Denmark, Ireland, Malta, Slovenia, Sweden) have a separate capital gains tax (PricewaterhouseCoopers International Limited, 2022). However, most states apply either the usual personal income tax rate or a special proportional tax rate to such income. In Ukraine, capital gains are considered ordinary income and are taxed at the usual personal income tax rate. An essential aspect of taxation of individuals in the EU and Ukraine is the collection of social tax payments on their labour income (Table 2).

| , , , , | |
|----------|----------------------|
| Country | Scale of taxation |
| Austria | ≈ 21.23% TB |
| Belgium | ≈ 13.07% TB |
| Bulgaria | 13.78% TB |
| Greece | 14.12% TB |
| Denmark | DKK 1,135.8 per year |
| Estonia | do not cope |
| Ireland | 4% TB |
| Spain | 6.35% TB |
| Italy | ≈ 10% TB |
| Cyprus | 8.3% TB |
| сургиз | 0.070 TD |

Table 2. Social tax payments on personal labour income in the EU and Ukraine*

| | Table 2, Continuea |
|----------------|---------------------------------------|
| Country | Scale of taxation |
| Latvia | 9.25% and 10.5% TB |
| Lithuania | 6.98% and 19.50% TB |
| Luxembourg | 12.20-12.45% TB |
| Malta | 10% TB + fixed premium for high wages |
| Netherlands | EUR 9,808 per year |
| Germany | 19.325% TB |
| Poland | 13.71% TB |
| Portugal | 11% TB |
| Romania | 35% TB |
| Slovakia | 13.4% TB |
| Slovenia | 22.10% TB |
| Hungary | 18.5% TB |
| Finland | ≈ 10.89% TB |
| France | ≈ 20-23% TB |
| Croatia | 20% TB |
| Czech Republic | 11% TB |
| Sweden | 7% TB |
| Ukraine | do not cope |

Table 2. Continued

Note: TB – tax base

Source: PricewaterhouseCoopers International Limited (2022)

The burden of paying social insurance premiums in the EU countries is distributed in a certain proportion between employers and employees. Only the principle of parity participation in social insurance is still unchanged. The only exception is Estonia, where, as in Ukraine, only employers pay social insurance premiums. EU countries usually apply the ad valorem rate for such contributions, except for Denmark and the Netherlands, which have a specific rate.

In Ukraine, until the end of 2010, employees paid insurance premiums for mandatory state pension insurance, mandatory state social insurance in case of unemployment and mandatory state social insurance in connection with temporary disability. Employers, in addition to the above, paid an added insurance premium for mandatory state social insurance against industrial accidents and occupational diseases. However, since 2011, there have been changes in social insurance – all contributions to mandatory state insurance have been replaced by a single social contribution paid only by employers. The cancellation of payment of social insurance contributions by employees was justified by the fact that for objective reasons, the possibilities of substantially increasing the income of citizens from work based on ensuring economic growth and using conventional sources of increasing the income of employees in the near future are limited.

Property taxes paid by individuals in the EU countries can be considered in the context of two groups: property taxes and taxes on changes in property status. Property taxes are levied directly on particular properties and usually include movable property tax, real estate tax, and wealth tax. Taxes on changes in property status are levied not directly from particular property objects, but from those changes that occur with the latter over a certain period and have substantial financial and economic consequences for the owner of the property. I.V. Ped et al. (2012) include property sales tax, inheritance tax, and gift tax as such taxes.

Property taxes occupy a prominent place in the taxation of the population in the EU countries and in Ukraine (Table 3).

| | | Property taxes | | Taxes or | Taxes on changes in property status | | | |
|----------|-------------------|-------------------------|------------|---|-------------------------------------|----------------|--|--|
| Country | Real estate taxes | Movable property tax | Wealth tax | Taxes on property purchase and sale transactions | Inheritance taxes | Taxes on gifts | | |
| Austria | + | + | - | - | - | - | | |
| Belgium | + | + | + | - | + | + | | |
| Bulgaria | + | + | - | - | + | + | | |

| Table . |) () | | IIIPII |
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| | | Property taxes | | Taxes on changes in property status | | | | |
|----------------|-------------------|-------------------------|------------|---|-------------------|----------------|--|--|
| Country | Real estate taxes | Movable property tax | Wealth tax | Taxes on property purchase and sale transactions | Inheritance taxes | Taxes on gifts | | |
| Greece | + | + | - | + | + | + | | |
| Denmark | + | + | - | - | + | + | | |
| Estonia | + | + | - | - | - | - | | |
| Ireland | + | + | + | - | + | + | | |
| Spain | + | + | + | - | + | + | | |
| Italy | + | + | - | - | + | + | | |
| Cyprus | + | + | - | + | - | +/- | | |
| Latvia | + | + | - | - | - | + | | |
| Lithuania | + | + | - | - | + | - | | |
| Luxembourg | + | + | - | - | - | - | | |
| Malta | + | + | - | - | +/- | - | | |
| Netherlands | + | + | + | + | + | + | | |
| Germany | + | + | + | + | + | + | | |
| Poland | + | + | - | - | + | + | | |
| Portugal | + | + | - | - | + | + | | |
| Romania | + | + | - | - | - | - | | |
| Slovakia | + | - | - | - | - | - | | |
| Slovenia | + | + | - | - | + | + | | |
| Hungary | + | + | - | - | + | + | | |
| Finland | + | + | - | + | + | + | | |
| France | + | + | + | | + | + | | |
| Croatia | - | + | - | + | + | + | | |
| Czech Republic | + | - | - | + | - | - | | |
| Sweden | + | + | _ | - | - | - | | |
| Ukraine | + | + | - | - | - | - | | |

Source: PricewaterhouseCoopers International Limited (2022)

In most EU countries, property taxation of both movable and immovable property is quite developed. Furthermore, most EU countries have introduced separate taxes on inheritance and gifts. Only certain countries (Belgium, Ireland, Spain, The Netherlands, Germany, France) practice collecting a wealth tax, the payers of which, as noted by O.Ye. Naidenko (2015), are wealthy citizens with an elevated level of well-being. This tax is levied on the value of the property after deducting the liabilities arising in connection with its ownership. In Ukraine, despite the official absence of a wealth tax, the latter is subject to transport tax and a tax on real estate other than land. This is because the payers of the transport tax in Ukraine are exclusively wealthy citizens because the object of taxation is passenger cars, the year of manufacture of which has passed no more than five years (inclusive) and the average market value of which exceeds 375 sizes of the minimum wages established by law on January 1 of the tax (reporting) year (Tax Code of Ukraine, 2010). Similarly, the tax on

real estate apart from land is paid by wealthy individuals due to the existing reduction in the tax base of the object(s) of residential real estate, including their shares owned by an individual taxpayer (Tax Code of Ukraine, 2010). In many EU countries, the collection of wealth tax is justified by the principle of fair taxation, but the payers of such tax are representatives of the middle class, while really wealthy people who are well-versed in ways to avoid and evade taxation, usually do not pay this tax.

Apart from these tax groups, individuals in Europe pay several other taxes. These include church tax (Denmark, Germany, Finland), fish and hunting duty (tax) (Austria, Spain, Latvia, Germany, Portugal, Finland), dog tax (fee) (Austria, Estonia, Latvia, Luxembourg, Netherlands, Germany, Czech Republic, Finland), duty (fee) for driving on highways (Austria, Belgium, Denmark, Netherlands, Czech Republic, France), tourist tax (fee) (Spain, Czech Republic), waste removal (storage) fee (Greece, Italy, Czech Republic), environmental pollution fee (Estonia, Spain, Lithuania, Netherlands, Slovenia, Hungary, Czech Republic), vehicle parking fee (Estonia) (Pricewaterhouse-Coopers International Limited, 2022). Some of these taxes and fees have analogues in Ukraine, e.g., environmental tax, tourist tax, and the fee for parking spaces for vehicles.

Furthermore, in EU countries, household taxes include a fee for the provision of public services in the form of stamp duty (Austria, Belgium, Denmark, Ireland, Italy, Malta), administrative (state) duty (Austria, Lithuania, the Netherlands), fees for licences to carry out certain types of activities (Belgium, Estonia, Spain, Italy, Latvia, Lithuania, Luxembourg, Germany, Hungary, Czech Republic), registration fee (Belgium, Estonia, Spain, Latvia, Luxembourg, Slovenia, Finland, France), construction permits (Spain, France), court fees (Portugal), etc. (PricewaterhouseCoopers International Limited, 2022). In Ukraine, there are also analogues of such tax payments, but according to the national budget classification, they are now classified as non-tax revenues (Order of the Ministry of Finance..., 2011). This is a controversial point because until 2011, fees for issuing licences and certificates, state registration of business entities were considered as part of internal taxes on goods and services (Order of the Ministry of Finance..., 2001). The state fee and court fee in the Law of Ukraine "On the Taxation System" were part of national taxes and fees (Law of Ukraine No. 1251-XII, 1991). Therefore, for the comparability of indicators of Ukraine and the EU countries,

for the purposes of this study, all tax payments paid by the Ukrainian population will be attributed to taxes from individuals.

The review of taxes from individuals in the EU countries and in Ukraine shows that the Ukrainian tax system is quite loyal to the population because the number of taxes is small, and tax rates are moderate. However, an assessment of their tax burden provides an idea of the impact of taxation on household income and investment.

The authors of this paper agree with T.I. Yefymenko & A.M. Sokolovska (2013) on the fact that a generalised indicator that describes the level of tax burden on citizens is the ratio of taxes paid by them and other mandatory payments and income received (before tax). The total tax burden on individuals (TBt) can be found according to the following formula (1):

$$TB_t = \frac{TP_i}{I_i} \tag{1}$$

where TP_i are the tax payments from individuals (include all tax payments paid by individuals to the budget); I_i are the incomes of individuals (includes incomes of the population, except for social support and social transfers in kind, which are not subject to taxation).

The total tax burden on individuals calculated for the EU countries and Ukraine in 2011-2020 is presented in Table 4.

| | Table | 4 . Total ta | x burden o | n individud | ils in the E | U and Ukra | nine in 201 | 1–2020, % | * | |
|----------------|-------|---------------------|------------|-------------|--------------|------------|-------------|-----------|-------|-------|
| Country | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Luxembourg | 55.24 | 59.82 | 61.77 | 60.36 | 60.96 | 66.72 | 62.72 | 73.62 | 69.75 | 70.71 |
| Greece | 35.89 | 51.46 | 60.78 | 61.29 | 64.06 | 67.25 | 65.80 | 62.22 | 56.63 | 50.57 |
| Denmark | 51.03 | 52.38 | 57.75 | 60.84 | 58.96 | 55.53 | 55.76 | 55.29 | 55.59 | 59.88 |
| Austria | 52.08 | 52.37 | 54.27 | 53.17 | 54.44 | 52.33 | 50.87 | 51.11 | 53.94 | 47.81 |
| Netherlands | 47.88 | 47.24 | 47.89 | 49.55 | 51.19 | 49.54 | 49.30 | 50.31 | 50.76 | 47.03 |
| Sweden | 49.27 | 45.32 | 45.80 | 48.25 | 49.82 | 52.07 | 51.67 | 50.49 | 50.65 | 46.92 |
| Belgium | 46.96 | 47.58 | 45.12 | 46.58 | 47.15 | 46.34 | 46.43 | 44.34 | 44.65 | 41.11 |
| Germany | 43.61 | 43.37 | 45.20 | 46.83 | 46.64 | 47.08 | 46.79 | 47.60 | 46.28 | 40.39 |
| Romania | 38.98 | 40.68 | 40.36 | 41.86 | 41.29 | 42.06 | 39.25 | 57.55 | 53.10 | 50.23 |
| Hungary | 42.69 | 42.60 | 43.88 | 44.49 | 44.29 | 43.50 | 46.95 | 46.16 | 42.87 | 38.06 |
| Italy | 40.88 | 43.31 | 44.51 | 43.49 | 44.04 | 43.55 | 43.22 | 43.51 | 43.58 | 39.80 |
| Poland | 39.37 | 41.06 | 40.96 | 40.86 | 42.38 | 42.22 | 43.87 | 46.48 | 46.31 | 42.20 |
| Portugal | 37.00 | 36.45 | 46.35 | 47.79 | 47.32 | 43.87 | 42.82 | 42.95 | 40.14 | 36.07 |
| Finland | 37.56 | 37.44 | 38.19 | 40.68 | 41.66 | 42.65 | 42.98 | 42.95 | 42.12 | 42.15 |
| France | 36.49 | 36.97 | 38.77 | 39.72 | 40.00 | 40.33 | 41.55 | 42.36 | 41.22 | 43.48 |
| Ireland | 40.87 | 43.01 | 42.32 | 43.23 | 39.97 | 37.84 | 36.10 | 33.77 | 35.63 | 33.74 |
| Slovenia | 36.30 | 35.73 | 34.86 | 36.26 | 36.29 | 37.71 | 39.33 | 39.65 | 38.38 | 35.99 |
| Spain | 31.97 | 33.58 | 35.14 | 38.41 | 38.53 | 38.16 | 37.07 | 37.21 | 37.42 | 33.48 |
| Slovakia | 29.79 | 28.03 | 32.04 | 33.64 | 35.81 | 38.01 | 37.31 | 37.49 | 35.90 | 32.46 |
| Croatia | 27.44 | 28.88 | 31.12 | 30.57 | 28.44 | 28.77 | 26.52 | 26.67 | 25.12 | 21.71 |
| Lithuania | 10.61 | 9.31 | 9.28 | 8.91 | 31.63 | 30.77 | 31.18 | 26.28 | 52.43 | 46.04 |
| Czech Republic | 24.94 | 24.48 | 24.37 | 24.50 | 24.94 | 25.35 | 25.57 | 25.78 | 25.84 | 25.02 |

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| | | | | | | | | Table 4, | Continued |
|-------|--|---|--|--|--|--|--|--|---|
| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| 27.01 | 27.39 | 28.26 | 25.35 | 23.94 | 22.39 | 22.66 | 22.78 | 21.83 | 22.97 |
| 19.53 | 19.42 | 20.12 | 19.51 | 19.29 | 21.25 | 22.84 | 25.53 | 26.01 | 25.32 |
| 14.07 | 15.83 | 16.40 | 17.53 | 17.31 | 20.78 | 20.09 | 22.49 | 20.21 | 19.33 |
| 18.20 | 18.35 | 17.79 | 17.92 | 16.42 | 16.01 | 15.59 | 14.37 | 14.42 | 15.88 |
| 7.95 | 7.88 | 7.54 | 8.48 | 9.25 | 8.96 | 9.35 | 9.42 | 10.11 | 9.64 |
| 9.85 | 10.33 | 9.64 | 10.10 | 11.84 | 12.60 | 13.29 | 13.28 | 13.60 | 13.56 |
| | 27.01 19.53 14.07 18.20 7.95 | 27.01 27.39 19.53 19.42 14.07 15.83 18.20 18.35 7.95 7.88 | 27.0127.3928.2619.5319.4220.1214.0715.8316.4018.2018.3517.797.957.887.54 | 27.0127.3928.2625.3519.5319.4220.1219.5114.0715.8316.4017.5318.2018.3517.7917.927.957.887.548.48 | 27.0127.3928.2625.3523.9419.5319.4220.1219.5119.2914.0715.8316.4017.5317.3118.2018.3517.7917.9216.427.957.887.548.489.25 | 27.0127.3928.2625.3523.9422.3919.5319.4220.1219.5119.2921.2514.0715.8316.4017.5317.3120.7818.2018.3517.7917.9216.4216.017.957.887.548.489.258.96 | 27.0127.3928.2625.3523.9422.3922.6619.5319.4220.1219.5119.2921.2522.8414.0715.8316.4017.5317.3120.7820.0918.2018.3517.7917.9216.4216.0115.597.957.887.548.489.258.969.35 | 27.0127.3928.2625.3523.9422.3922.6622.7819.5319.4220.1219.5119.2921.2522.8425.5314.0715.8316.4017.5317.3120.7820.0922.4918.2018.3517.7917.9216.4216.0115.5914.377.957.887.548.489.258.969.359.42 | 20112012201320142015201620172018201927.0127.3928.2625.3523.9422.3922.6622.7821.8319.5319.4220.1219.5119.2921.2522.8425.5326.0114.0715.8316.4017.5317.3120.7820.0922.4920.2118.2018.3517.7917.9216.4216.0115.5914.3714.427.957.887.548.489.258.969.359.4210.11 |

Source: Eurostat (n.d.), Official website of the Ministry of Finance of Ukraine (n.d.), Official website of the State Statistics Service of Ukraine (n.d.)

During 2011-2020, the total tax burden on the population in most EU countries and in Ukraine tended to increase. The exception was 2020, when, given the spread of the COVID-19 pandemic, personal income tax and social insurance contribution rates were reduced in some EU countries, namely in Belgium, France, Italy, and Poland (Rudenko *et al.*, 2022).

Notably, the lowest level of tax burden on citizens is observed in those EU countries where a proportional or low-progressive rate on personal income tax is introduced. However, in such countries, the main income tax on individuals does not perform its strategic task of fair redistribution of income between segments of the population. Thus, the burden of paying tax is shifted towards citizens who do not have high incomes, while wealthy individuals receive the most comfortable conditions for income taxation. The principle of equality under such conditions works successfully in one area: wealthy citizens and workers who receive the minimum wage pay the same income tax.

In Ukraine, the total tax burden on citizens in the period under study tended to increase due to the introduction of the military levy, higher rates, and expansion of the tax base for personal income tax. In general, over the past decade, the average total tax burden on individuals in European countries has differed considerably (Fig. 1).

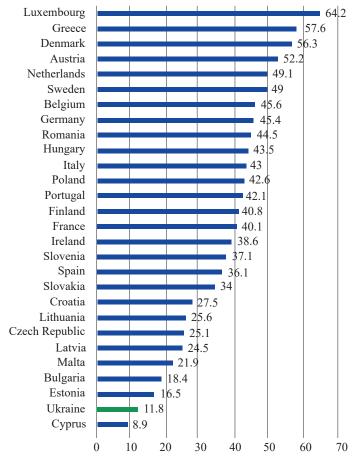


Figure 1. Total average tax burden on individuals in the EU and Ukraine in 2011-2020, %*

Source: Eurostat (n.d.), Official website of the Ministry of Finance of Ukraine (n.d.), Official website of the State Statistics Service of Ukraine (n.d.)

Among the EU countries in the period under study, the top three with the highest tax burden included Luxembourg, Greece, and Denmark, while the outsiders were Bulgaria, Estonia, and Cyprus. Ukrainian households also did not experience a considerable tax burden during the period under study since the country was second only to Cyprus in terms of the level of tax burden on individuals.

In Ukraine, as already noted, to compensate for the underutilisation of the fiscal potential of individuals with high incomes, the tax burden is shifted towards broad layers of wage earners in the official sector of the economy, who have minimal opportunities to evade income tax and military duty. This increases the negative impact of taxation on the growth rate of wages and conditions for investment of the main part of Ukrainian citizens. I. Verkhovod et al. (2020) believe that the only possible way to overcome the problems of shifting the tax burden towards citizens with small and medium-sized labour incomes is to strengthen the differentiation of tax pressure by introducing added differentiation of rates on personal income tax for distinct groups of taxpayers, which should ensure that the factual tax burden is brought into line with the solvency of the population.

Scientists say that the total tax burden does not reflect the real scale of the tax burden of individuals. Thus, T.I.Yefymenko & A.M. Sokolovska (2013) suggest calculating the tax burden on the population, considering the effect of shifting indirect taxes. However, the method of calculating this indicator is perplexing because it does not consider the shift of duty, and to consider the shift of excise tax, consumer spending of the population on excisable products is necessary, which is not provided in the statistics. S.H. Operenko (2018) recommends calculating a separate indicator of the tax burden on the consumption of individuals. However, this indicator cannot be combined with the overall tax burden because it is based on household expenses, not income. A.M. Sokolovska (2006) puts forward a proposal, apart from the tax burden generated by the income effect, to also calculate the tax burden generated by the substitution effect. Moreover, the researcher suggests calculating the latter indicator using the formula of A. Kharberger, most of the parameters of which cannot be quantified due to the need to apply a considerable amount of information and the need to interpret qualitative characteristics into numerical values.

Considering the methodological uncertainty of calculating the tax burden with the effect of shifting, for the purposes of this study, the authors of this paper limited themselves only to the indicator of the total tax burden on individuals.

In the context of assessing the impact of the fiscal mechanism on household investment activity, a correlation-regression analysis was performed. To construct the regression model, two parameters that are considered as key factors influencing household investment (Y) were selected, namely: tax payments paid by the population (X_1), and the total tax burden on individuals (X_2). Correlation-regression analysis was performed based on factual data for 2011-2020 using MS Excel, and its results are presented in Table 5.

| | | Pair correlati | on coefficient | Student's t-test | | |
|----------|--|------------------------------|---|----------------------------------|--|--|
| Country | Regression equation | Between X ₁ and Y | Between \mathbf{X}_{2} and \mathbf{Y} | Relationship between X_1 and Y | Relationship between X ₂ and Y | |
| Austria | Y=19527.95+0.34X ₁ - -366.49X ₂ | 0.881 (s) | -0.56 (m) | 5.27 (s) | 1.91 (w) | |
| Belgium | Y=7952.52+0.29X ₁ - -207.03X ₂ | 0.883 (s) | -0.686 (m) | 5.33 (s) | 2.66 (w) | |
| Bulgaria | Y=-2420.99+0.55X ₁ + +58.01X ₂ | 0.881 (s) | 0.745 (s) | 5.28 (s) | 3.16 (s) | |
| Greece | Y=17125.08+0.10X ₁ - -266.29X ₂ | 0.117 (н) | -0.837 (s) | 0.33 (w) | 4.33 (s) | |
| Denmark | Y=91319.09+0.33X ₁ - -3264.22X ₂ | 0.758 (s) | 0.115 (н) | 3.29 (s) | 0.33 (w) | |
| Estonia | Y=804.46+0.85X ₁ - -61.08X ₂ | 0.98 (s) | -0.868 (s) | 14.02 (s) | 4.93 (s) | |
| Spain | Y=109064.75+0.12X ₁ - -2546.72X ₂ | 0.0542 (н) | -0.764 (s) | 0.15 (s) | 3.35 (s) | |
| Ireland | Y=16229.76-0.02X ₁ - -287.48X ₂ | 0.846 (s) | -0.971 (s) | 4.49 (s) | 11.48 (s) | |
| Italy | Y=238548.93-0.40X ₁ - -813.29X ₂ | -0.49 (w) | -0.216 (н) | 1.6 (w) | 0.63 (w) | |

Table 5. Regression model of the impact of the components of the fiscal mechanism on household investment in the EU and Ukraine in 2011–2020*

| | | Pair correlati | on coefficient | Student's t-test | | |
|----------------|--|---------------------|---------------------|---|-------------------------------|--|
| Country | Regression equation | Between X_1 and Y | Between X_2 and Y | Relationship between X ₁ and Y | Relationship between X, and Y | |
| Cyprus | Y=-1343.65+2.42X ₁ - -55.78X ₂ | 0.965 (s) | 0.563 (m) | 10.35 (s) | 1.93 (w) | |
| Latvia | Y=79.132+0.41X ₁ -5.58X ₂ | 0.94 (s) | -0.75 (s) | 7.77 (s) | 3.21 (s) | |
| Lithuania | Y=856.75+0.06X ₁ + +19.25X ₂ | 0.869 (s) | 0.92 (s) | 4.97 (s) | 6.66 (s) | |
| Luxembourg | Y=1395.05+0.23X ₁ - -14.60X ₂ | 0.873 (s) | 0.731 (s) | 5.07 (s) | 3.03 (s) | |
| Malta | Y=-846.57+0.06X ₁ + +54.38X ₂ | 0.933 (s) | 0.963 (s) | 7.33 (s) | 10.11 (s) | |
| Netherlands | Y=-5036.15+0.51X ₁ - -698.83X ₂ | 0.961 (s) | 0.223 (н) | 9.81 (s) | 0.65 (w) | |
| Germany | Y=141266.42+0.23X ₁ - -1960.69X ₂ | 0.954 (s) | -0.103 (н) | 9.00 (s) | 0.29 (w) | |
| Poland | Y=69180.41-0.06X ₁ + +570.90X ₂ | -0.524 (m) | -0.286 (н) | 1.74 (w) | 0.84 (w) | |
| Portugal | Y=6217.99+0.31X ₁ - -196.66X ₂ | 0.554 (m) | -0.66 (m) | 1.88 (w) | 2.48 (w) | |
| Romania | Y=87556.59+0.79X ₁ - -2078.32X ₂ | 0.888 (s) | 0.674 (m) | 5.47 (s) | 2.58 (w) | |
| Slovakia | Y=2416.98+0.42X ₁ - -98.16X ₂ | 0.826 (s) | 0.36 (w) | 4.15 (s) | 1.09 (w) | |
| Slovenia | Y=-789.64+0.19X ₁ + +24.28X ₂ | 0.969 (s) | 0.716 (s) | 11.03 (s) | 2.9 (s) | |
| Hungary | Y=1325599.10+0.51X ₁ - -50679.61X ₂ | 0.963 (s) | -0.428 (w) | 10.14 (s) | 1.34 (w) | |
| Ukraine | Y=215790.08+0.50X ₁ - -20676.37X ₂ | 0.605 (m) | 0.418 (w) | 2.15 (w) | 1.30 (w) | |
| Finland | Y=9439.05+0.55X ₁ - -405.36X ₂ | 0.764 (s) | 0.557 (m) | 3.35 (s) | 1.9 (w) | |
| France | Y=87643.80+0.30X ₁ - -2012.71X ₂ | 0.685 (m) | 0.554 (m) | 2.66 (w) | 1.88 (w) | |
| Croatia | Y=15783.85+0.27X ₁ - -482.63X ₂ | 0.825 (s) | -0.884 (s) | 4.12 (s) | 5.34 (s) | |
| Czech Republic | Y=170227.14+0.39X ₁ - -4875.76X ₂ | 0.923 (s) | 0.655 (m) | 6.80 (s) | 2.45 (w) | |
| Sweden | Y=-137695.19+0.25X ₁ + +1320.33X ₂ | 0.975 (s) | 0.643 (m) | 12.38 (s) | 2.37 (w) | |

Table 5, Continued

Note: s – strong connection; m – moderate connection; w – weak connection; l – low connection **Source:** Eurostat, Official website of the Ministry of Finance of Ukraine, Official website of the State Statistics Service of Ukraine, National Bank of Ukraine

In the regression equation, the constant evaluates the effect of other factors (not considered in the equation) on the result Y. Coefficients b_1 and b_2 indicate that with an increase in X_1 or X_2 by 1, Y increases (decreases) by a certain number. In most EU countries (except Spain, Italy, and Poland) and in Ukraine, the coefficient b_1 showed that the growth of tax payments paid by citizens leads to an increase in their investment. This is conditioned upon the fact that usually an increase in tax revenues from households is associated with an increase in their income, respectively, the increase in the latter positively affects the scale of investment. In Ukraine, an increase in taxes paid by the population by UAH 1 leads to an increase in their investment by UAH 0.5. In many EU countries (except Bulgaria, Lithuania, Malta, Germany, Poland, Slovenia, and Sweden) and in Ukraine, the coefficient b_2 showed that an increase in their investment. This situation is quite logical because an increase in tax pressure on households

is accompanied by a decrease in their income, and therefore their ability to invest. In Ukraine, an increase in the tax burden on individuals by 1% leads to a reduction in their investments by UAH 20,676.71. Furthermore, in many EU countries, the calculated pair correlation coefficients showed a strong or moderate linear relationship between tax payments paid by households and their investment volumes, which is confirmed by statistically significant Student's t-test. However, the calculated pairwise correlation coefficients showed mostly a moderate, weak, or low relationship between the tax burden on households and the scale of their investment, which is confirmed mainly by statistically insignificant Student t-test. Thus, for Ukraine, the statistical insignificance of the student's t-test indicates that neither the volume of tax payments paid by the population nor the total tax burden have a substantial impact on the scale of household investments. The authors of this paper believe that this situation is explained by a considerable shadow sector of the national economy, because of which many household incomes stay taxfree, respectively, and the level of tax burden cannot be correctly calculated and have a direct impact on individual investments.

If the factors are different in nature and/or have different units of measurement, as in the case of the tax burden on individuals (measured as a percentage) and household investments (measured in monetary units), then the bj regression coefficients for distinct factors are incomparable. Therefore, regression equations are supplemented with relative indicators of the connection tightness of factors with the performance indicator, which allow ranking factors according to the strength of influence on the result. Private elasticity coefficients are primarily among such indicators of connection tightness. These coefficients show how many percentages, on average, the characteristic-result Y changes with an increase in the characteristic-factor Xj by 1% from its average level at a fixed state of other factors of the model. In addition, an objective assessment of the close relationship of factors with the effective indicator is given by the determination coefficient. The closer the value of this coefficient is to 1, the more the regression equation explains the behaviour of the resulting Y indicator.

The results of calculations of indicators of the connection tightness between tax payments paid by the population (X_1), and the total tax burden on individuals (X_2) and household investments (Y) are presented in Table 6.

| Table 6. Indicators (| of the tight connection of factors (components of the fiscal mechanism) to the result | |
|-----------------------|---|--|
| | (household investment) in the EU and Ukraine in 2011-2020* | |

| Country | Elasticity c | oefficients | Determination coefficient |
|----------------|-------------------------------|-------------------------------|---------------------------|
| Country | Effect of X ₁ on Y | Effect of X ₂ on Y | Determination coefficient |
| Austria | 0.978 (m) | -1.076 (c) | 0.91 (h) |
| Belgium | 1.064 (c) | -0.404 (m) | 0.80 (h) |
| Czech Republic | 0.793 (m) | -0.529 (m) | 0.86 (h) |
| Denmark | 2.067 (c) | -2.121 (c) | 0.86 (h) |
| Estonia | 1.201 (c) | -0.996 (m) | 0.99 (h) |
| Finland | 1.495 (c) | -1.153 (c) | 0.66 (mi) |
| France | 0.945 (m) | 0.642 (m) | 0.51 (mi) |
| Germany | 0.717 (m) | -0.482 (m) | 0.97 (h) |
| Greece | 0.621 (m) | -3.248 (c) | 0.70 (h) |
| Hungary | 1.701 (c) | -1.755 (c) | 0.98 (h) |
| Ireland | -0.101 (m) | -2.391 (c) | 0.94 (h) |
| Italy | -1.224 (c) | -0.382 (m) | 0.26 (w) |
| Luxembourg | 0.808 (m) | -0.394 (m) | 0.78 (h) |
| Latvia | 1.068 (c) | -0.162 (m) | 0.89 (h) |
| Lithuania | 0.156 (m) | 0.308 (m) | 0.87 (h) |
| Netherlands | 2.019 (c) | -0.888 (m) | 0.93 (h) |
| Poland | -0.218 (m) | 0.317 (m) | 0.31 (mi) |
| Portugal | 1.336 (c) | -1.352 (c) | 0.92 (h) |
| Slovakia | 1.279 (c) | -1.008 (c) | 0.88 (h) |
| Slovenia | 0.926 (m) | 0.609 (m) | 0.96 (h) |
| Spain | 0.539 (m) | -2.475 (c) | 0.63 (mi) |
| Sweden | 1.56 (c) | 0.497 (m) | 0.96 (h) |

Table 6, Continued

| Country | Elasticity coefficients | | |
|----------|-------------------------|-------------------------------|---------------------------|
| | Effect of X_1 on Y | Effect of X ₂ on Y | Determination coefficient |
| Ukraine | 1.385 (c) | -3.312 (c) | 0.46 (mi) |
| Bulgaria | 1.633 (c) | 0.499 (m) | 0.78 (h) |
| Romania | 1.098 (c) | -1.804 (c) | 0.87 (h) |
| Malta | 0.163 (m) | 2.907 (c) | 0.93 (h) |
| Cyprus | 2.449 (c) | -0.390 (m) | 0.93 (h) |
| Croatia | 0.797 (m) | -1.078 (c) | 0.86 (h) |

Note: c – considerable impact; m – minor impact; h – high impact; s – substantial impact; mi – moderate impact; w – weak impact

Source: Eurostat, Official website of the Ministry of Finance of Ukraine, Official website of the State Statistics Service of Ukraine, National Bank of Ukraine

As shown in Table 6, in 2011-2020, the private elasticity coefficient for determining the closeness of the relationship between tax payments paid by individuals and their investments in slightly more than half of the EU countries and in Ukraine showed that when the factor X₁ changes to 1%, the performance indicator will change by more than 1%, i.e., its impact is substantial. For Ukraine, a 1% increase in tax payments paid by the population leads to an increase in household investment by 1.393%. Similarly, the private elasticity coefficient for determining the closeness of the connection between the tax burden on individuals and their investments in slightly more than half of the EU countries and in Ukraine testified that when the X, factor changes by 1%, the effective indicator changes by more than 1%, i.e., its influence is substantial. For Ukraine, an increase in the tax burden on citizens by 1% leads to a decrease in household investment by 3.258%. It was found that the value of the coefficient of determination for most EU countries is high, i.e., in the situation under study, a considerable percentage of the total variability of Y is explained by changes in factors X_i. For Ukraine, the value of the coefficient of determination is noticeable, accordingly, only 46% of the total change in household investments depends on the influence of the components of the fiscal mechanism, and the rest of the changes are explained by the influence of other factors. According to S. van Parys & S. Kames (2010), such factors are expenses of individuals for compliance with the requirements of tax legislation and investment taxation conditions that ensure a positive attitude of taxpayers towards investment processes. Such factors are difficult to quantify, and therefore they are rarely reflected in regression models. However, institutional stability, trust, and transparency in the tax system should not be forgotten because they play an essential role in taxpayers' investment decisions.

Correlation-regression analysis has shown that the components of the fiscal mechanism affect household investment in most EU countries. In Ukraine, such an impact is also observed, but it is insignificant and negative in terms of the tax burden. To offset the negative impact of taxes on individual investments, many EU countries and Ukraine are introducing diverse benefits that stimulate household investment activity. These benefits were divided into several groups as follows:

1. Deduction of interest on mortgage loans for the purchase of own housing from the object of PIT taxation. This benefit is introduced in Belgium (only for regional PIT), Bulgaria, Estonia, Italy, the Netherlands, Germany, Portugal, and the Czech Republic (PricewaterhouseCoopers International Limited, 2022). This benefit also applies in Ukraine because according to Article 166 of the Tax Code of Ukraine, a taxpayer shall have the right to include in the tax discount in the reduction of the taxpayer's taxable income based on the results of the reporting tax year a part of the amount of interest paid by such a taxpayer for using a housing mortgage loan (Tax Code of Ukraine, 2010). However, as shown by the research of L.M. Akimova et al. (2018), the granting of a tax discount does not have a special effect on the population's investment in real estate since such investments are mostly influenced by monetary factors, namely the depreciation of the national currency.

2. Deduction of expenses for the construction (acquisition) of a new house/apartment or renovation of one's own home from the object of PIT taxation. This benefit is valid in Austria, Bulgaria (only in relation to the costs of improvement (repair) of housing), Poland (only in relation to the costs of reconstruction (renovation) of dwellings of historical value) (Pricewaterhouse-Coopers International Limited, 2022). In Ukraine, such a tax benefit is not provided.

3. Deduction of costs for energy- and heat-efficient modernisation of housing from the object of PIT taxation. This benefit is used in Spain, Poland, Finland, France (PricewaterhouseCoopers International Limited, 2022). In Ukraine, such a tax benefit has not been introduced.

4. Deduction of expenses for the purchase of shares of newly established or operating, usually innovative, small and medium-sized enterprises from the object of PIT taxation. This benefit has become widespread

in Belgium, Cyprus, Greece, and Spain (Pricewaterhouse-Coopers International Limited, 2022). There is no such tax benefit in Ukraine.

5. Deduction of other investment-oriented expenses from the object of PIT taxation. Thus, in Cyprus, individuals who invest in audio-visual infrastructure and technological equipment related to audio-visual infrastructure are entitled to a 20% deduction from the personal income tax object of the cost of such investments if certain criteria and conditions are met. Ireland has personal income tax breaks aimed at stimulating employment and investment (EII), start-up relief for entrepreneurs (SURE), and start-up capital incentives (SCI). Ell benefits are provided for making investments in certain types of activities and allow an individual to deduct up to EUR 250,000 per year from the object of personal income tax in each tax period (EUR 500,000 for those who invest for a minimum seven-year period). Benefits like SURE are aimed at citizens who leave their jobs to start their own business. The maximum tax benefit that can be qualified as SURE is a deduction of EUR 700,000 from the object of personal income tax (EUR 100,000 per year for the previous six tax years and EUR 100,000 in the current year). Benefits such as SCI were introduced for 2019-2021 and are aimed at microenterprises at an early stage, SCI aims to mitigate the special conditions for microenterprises at an early stage of raising capital to start a business. Moreover, a microenterprise is considered a business entity with less than 10 employees, whose turnover and/or balance sheet is less than EUR 2 million. The lifetime deduction from the object of personal income tax is EUR 500,000 (PricewaterhouseCoopers International Limited, 2022).

Thus, some EU countries have introduced tax and investment benefits for individuals. However, according to A. Celani et al. (2022), the introduction of tax incentives to encourage investment in developed countries is usually not accompanied by an assessment of their effectiveness, and therefore it is impossible to confidently discuss their positive effect on maximising household investment. Therefore, tax incentives for individuals to increase their investment activity are not widely used both in the EU countries and in Ukraine.

CONCLUSIONS

The fiscal mechanism can regulate the investment activity of households in terms of its individual components, namely taxes. The number and amount of taxes, as well as the tax burden on individuals, not only affect the financial ability of individuals to make investments, but also the desire of citizens to make investment decisions under certain tax conditions.

In the EU countries, households pay many taxes, namely taxes on income and capital gains, social tax payments, property, and other taxes that have an environmental, administrative, and tourist designation. In Ukraine, individuals pay less taxes, they are not subject to a single social contribution, part of property, environmental, and other tax payments. Accordingly, the total tax burden on the population in the most developed EU countries is much higher than in Ukraine. Notably, in the EU countries, the tax burden is evenly borne by all households because rates on personal income tax are mostly progressive or low-progressive. In Ukraine, the total tax burden is borne by citizens with low and middle income who work in the official sector of the economy because the rate on personal income tax is proportional.

The correlation-regression analysis showed that in most EU countries (except Spain, Italy, and Poland) and in Ukraine, the growth of taxes paid by households causes an increase in their investment, since it indicates an improvement in the financial and property condition of the population and an expansion of investment opportunities. In many EU countries (except Bulgaria, Lithuania, Malta, Germany, Poland, Slovenia, and Sweden) and in Ukraine, an increase in the overall tax burden on individuals leads to a decrease in their investment since it describes a reduction in the financial resources of citizens and a decrease in the ability to invest. Therefore, the prospects for further scientific research are to find ways to mitigate the negative impact of taxes as a key component of the fiscal mechanism on household investments in Ukraine, for which it is necessary to investigate and use the practices of EU countries regarding the implementation of various tax benefits that stimulate the investment activity of individuals.

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Роль фіскального механізму у регулюванні інвестиційної активності домогосподарств в країнах ЄС і в Україні

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Анотація. Фіскальний механізм, який слугує засобом реалізації фіскальної політики, завдяки організації фіскальних відносин шляхом зміни механізмів формування надходжень і витрат бюджету, спрямовує встановлені фіскальні взаємозв'язки, управляє каналами проходження та напрямами фіскальних потоків, уточнює пропорції розподілу фінансових ресурсів і, таким чином, забезпечує регулювання інвестиційної активності домогосподарств. Для України в контексті її євроінтеграційних прагнень дослідження впливу складових фіскального механізму, зокрема податків, на здійснення інвестицій населення у країнах ЄС набуває особливої актуальності. Тому метою статті є формування цілісного уявлення про елементи фіскального механізму, які обумовлюють зміни в інвестиційних процесах на мікрорівні в країнах ЄС і в Україні, а також проведення кореляційно-регресійного аналізу для виявлення кількісного впливу фіскального механізму на інвестиційну активність домогосподарств. У ході дослідження розглянуто українську та європейську практику оподаткування населення та здійснено розрахунок загального податкового навантаження на фізичних осіб в країнах ЄС і в Україні. Проведено кореляційнорегресійний аналіз впливу елементів фіскального механізму на інвестиції домогосподарств у країнах ЄС і в Україні, який засвідчив, що найбільший вплив на здійснення інвестицій громадян чинили масштаби їх оподаткування, тоді як загальне податкове навантаження виконувало другорядну роль у регулюванні інвестиційних процесів на мікрорівні. У результаті дослідження доведено, що в Україні для підвищення інвестиційної активності домогосподарств необхідно враховувати досвід країн ЄС та вдосконалювати ті елементи фіскального механізму, які мають найбільший регулювальний вплив на інвестиції. Такою складовою фіскального механізму виступають податки, особливо в частині ефективного надання податкових пільг

Ключові слова: бюджет, податки, інвестування, фізична особа, податкове навантаження