THE COMPARATIVE ANALYSIS OF ECONOMIC STABILITY AND CERTAINTY TAX PROVISION: UKRAINE VS GERMANY

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The relevance of the topic regarding influencing the stability of the economy through the tax system is undeniable. Ukrainian economic entities are subject to various contradictory influences from financial institutions which do not perform the functions of affordable lending, from the monetary sphere with its changes in the national currency, from the judicial system, which does not protect property rights, etc. But taxes still exert the most significant impact on economic activity. By «tax stability of the economy» we mean not only a set of certain types of taxes and tax rates. These are the means of tax collection, the priorities of the tax authorities, the invariability and transparency of tax collection rules, etc.

For almost 30 years of existence of the newest Ukrainian state the tax system underwent permanent changes. But despite these changes, carried out under «noble political slogans», the tax authorities, for the most part, performed fiscal and punitive functions. Instead, Ukrainian business needed stimulating, advisory, and streamlining functions. The lack of the latter undermined the stability of the economy and continues to hinder its development in the early 2020s. During the most severe economic crisis of 2019 – 2020, the reform of the tax system becomes even more important. The authors consider that in terms of the purpose of this reform, first of all, it is necessary to save Ukrainian small and medium-sized businesses and stimulate aggregate consumer demand. Therefore, the comparison of the Ukrainian practice of taxation with the practice of the most developed country of the European Union – Germany can help justify rational and appropriate decisions in the field of public management.

Analysts from different countries study the impact of taxes on economic stability [1; 2]. The Ukrainian researchers analyze the impact of tax burden on business development [3; 4].

We make assumptions about the existence of such an algorithm for the transition of the momentum from the tax system to economic stability and economic certainty / uncertainty (Fig. 1).

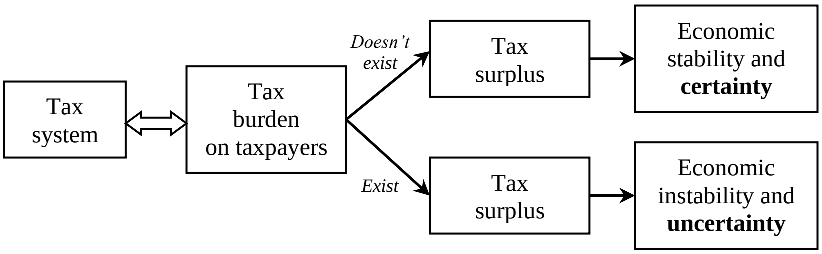

Fig. 1. Algorithm for the transition of the momentum from the tax system to economic uncertainty / uncertainty

Source: authors' own

The figure depicts the idea of the tax system creating economic uncertainty or, alternatively, the participation of such transfer elements as the tax burden and tax surplus in creating uncertainty. The tax surplus, as well as its growth, creates economic uncertainty. Instead, economic certainty is generated in the absence and diminution of the tax surplus.

The concepts of «tax burden» and «tax surplus» are interwoven with the following in the suggested theoretical construction (Fig. 1).

The tax burden is a reflection of the share of total revenues (GDP) redistributed through the budget in the form of taxes (*T/Y*). Since the relationship between taxes and income (GDP) is not linear, tax revenues reach an optimum only at certain values of income (GDP).

Excessive tax burden becomes a tax surplus. Its (burden) redundancy is manifested at least in the fact that after a certain limit further increase (Δ) of the burden can cause the following consequences:

– slowdown of economic growth due to the loss of entrepreneurial interest in the activity and due to the limitation of the own investment potential of enterprises;

– distrust of the government due to the social justice principles violation and its economic incentives rejection;

– increase in unreasonable expenses due to complicated bureaucratic procedures;

– growth of the shadow economy through the concealment of actual income and business transactions.

According to this logic, tax burden, which does not include a part (Δ) in the form of a tax surplus, forms economic certainty.

The value of the conclusions based on a comparison of the tax systems of the two countries – Ukraine and Germany – may be questioned. After all, countries have significantly different economic potentials. This is, in particular, illustrated by the data in Table 1.

Table 1. Indicators of economic potential of Germany and Ukraine in 2019

Indicator	Unit of measure	Germany	Ukraine
GDP based on purchasing power parity (PPP)	billions of international dollars	4 672,01	560,98
GDP by PPP per capita	international dollar	56 226	13 442
Consumer price index	%	1,3%	7,9%
Unemployment rate	%	3,1%	8,5%
Current account balance, USD USA	bn. USD USA	273,2	-4,2
Current account balance,% of GDP	%	7,1	-2,7
International reserves	bn. USD USA	224	25
Export of goods	bn. USD USA	1 464	46
Export of services	bn. USD USA	347	17
Export of high-tech goods	bn. USD USA	207	1
Exports of high-tech goods in% of exports of goods	%	16,4	5,4
Import of goods and services	bn. USD USA	1 588	76
Import of goods	bn. USD USA	1 217	60
Import of services	bn. USD USA	371	16
Food imports	%	7,8	8,6
Imports of fuel and energy in% of imports of goods	%	8,5	23,5
Export of goods	m. USD USA	1 489 152	50 066
Import of goods	m. USD USA	1 234 454	60 607

Source: authors' own based on [6; 7]

According to the information given in Table 1, the economic potential of the two countries differs significantly in the following parameters:

– by the scale of the generated GDP: in Germany the GDP is 8,3 times higher (in dollar equivalent taking into account PPP);

– in terms of general welfare: GDP per capita in Germany is 4,2 times higher than in Ukraine;

– by the level of macroeconomic stability: the inflation rate is higher in the Ukrainian economy, approximately 4 times, and the unemployment rate was significantly higher than the natural indicator and was 2,7 times higher than in Germany;

– in terms of external economic and financial stability: in Ukraine, in contrast to Germany, there was a negative current account balance, a negative trade balance, high dependence on energy imports, almost 10 times smaller volumes of official foreign exchange reserves;

– by the level of the economy innovativeness: the share of innovative products in Ukrainian exports was 3 times smaller than in Germany [5].

While acknowledging the significant differences in the economic potential of the two countries, however, this cannot be ignored.

First, there is reason to believe that the irrelevance – inconsistency with the objective needs of the economy and society – of the Ukrainian tax system is one of the main reasons for significant differences in potentials.

Second, the Constitution of Ukraine fixes the vector of movement towards the EU – the union in which Germany occupies a leading position. Therefore, the economy and the system of public management in this country should be objectively considered as a certain reference point for Ukraine.

Third, Germany is an important trading partner of Ukraine. For example, in 2019, Germany ranked first among Ukraine's trading partners in Europe with a share of 17,31% of total trade. The volume of this turnover amounted to 9,4 billion dollars USA. It is also important that the growth of Ukrainian exports to Germany this year was greater than the growth of Ukrainian imports from Germany.

Fourth, there is an investment movement between countries. Despite the fact that the volumes of investment flows are not significant, the actual directions of investment are important. Germany's share in foreign direct investment attracted to Ukraine in 2019 was 5,16%. The volume of investments reached 1668,1 million dollars USA. Germany ranks fourth in the list of foreign investors of Ukraine. At the same time, the lion's share (62%) of German investments went to the Ukrainian industry. The second, in terms of the share of German investments, was the direction of wholesale and retail trade and repair of motor vehicles (12,5%), the third – transport, warehousing, postal and courier activities (8%). **Direct investments from Ukraine to Germany in 2019 amounted** to 3,42 million dollars USA, moreover, 72,8% of them are directed to the processing industry [8].

With regard to these facts of economic interaction between the two countries, the comparison of the tax systems of Ukraine and Germany is not devoid of meaning and some scientific value.

The actual comparison of the Ukrainian and German tax systems can be based on the «Doing Business» international ranking from the World Bank. After all, when creating it, the parameters of the tax systems of the countries are taken into account. Table 2 offers data for comparison.

Table 2. The characteristics of the German and Ukrainian tax systems in 2020, according to the «Doing Business» ranking

Indicator	Germany	Ukraine
Tax ranking	46	65
Payments (number per year)	9,0	5,0
Time (hours per year)	218	328
Total rate of taxes and fees (% of income)	48,8	45,2
Index of procedures after reporting and payment of taxes (0-100)	97,7	86,0

Source: developed by authors based on [9]

The information presented in Table 2, indicates the following:

– the Ukrainian tax system is estimated as worse, than German by 19 ranking positions;

– tax burden, as a % of income paid in the form of taxes and fees in the two countries, does not differ significantly, and even in Germany it is slightly higher than in Ukraine (48,8 > 45,2);

– the procedure for paying taxes in Germany is simpler, as it involves less time to record and perform procedures (218 hours < 328 hours), and the overall index of procedures in Germany is better than in Ukraine.

With regard to the differences in the tax systems of countries and other differences in business conditions, the place of Ukraine and Germany in the ranking of attractiveness of doing business during 2006 – 2020 was as follows (Fig. 2).

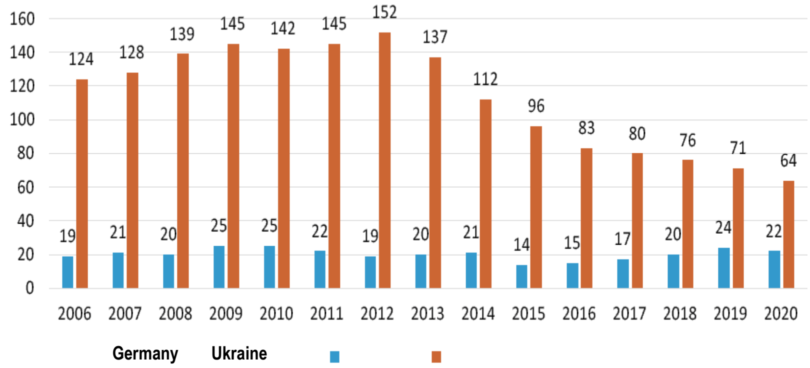

Fig. 2. «Doing Business» Rankings of Germany and Ukraine, according to the index of ease of doing business, 2006 – 2020

Source: developed by authors based on [9]

According to the information offered in Table 2 and in Fig. 2, Germany is not the world leader in terms of the tax system quality, ranking in the fifth dozen of countries. Similarly, the country is not a leader in terms of ease of doing business, often ranking only in the third dozen of countries. But Germany's place in the ranking of ease of doing business for the analyzed period changed insignificantly. Its average value was formed at the level of the 20th position. This can be interpreted as the evidence of relative stability and achieved economic certainty. Instead, Ukraine's ranking changed significantly, reaching the worst position (152nd place) in 2012 and the best (64th place) in 2020. The rapid improvement of the position in the ranking of ease of doing business after 2013 is significant.

The identification of the main «budget-generating» taxes becomes fundamentally important when comparing the tax systems of countries. Information on the shares of tax revenues for certain types of taxes in the budgets of the two countries is presented in Fig. 3 and Fig. 4.

The information presented in Fig. 3, shows that the German tax system is built in such a way that the main «budget-generating» tax in it is the personal income tax (27,48%).

The information from Fig. 4 gives grounds to conclude that the main «budget-generating» tax in terms of the Ukrainian tax system is the value added tax (35,38%). This fact only confirms the pattern recorded in the example of many countries: budgets in countries with lower levels of economic development are mostly formed by indirect taxes. The latter include VAT. Instead, in countries with a higher level of development, direct taxes, in particular personal income taxes, are predominant in budgeting.

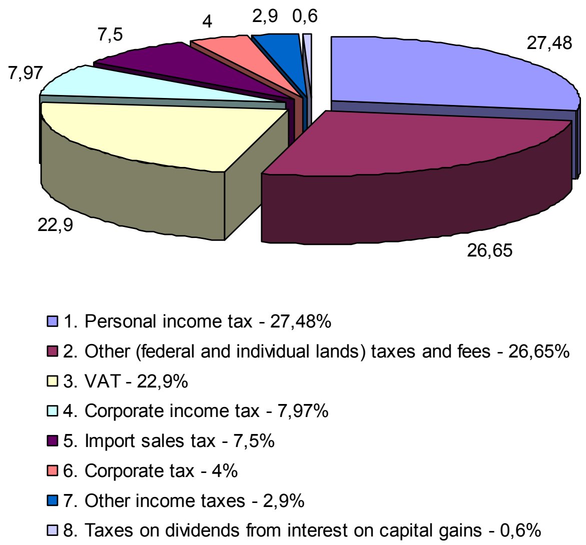

Fig. 3. The structure of tax revenues to the German budget in 2019, %
Source: developed by the authors based on [10]

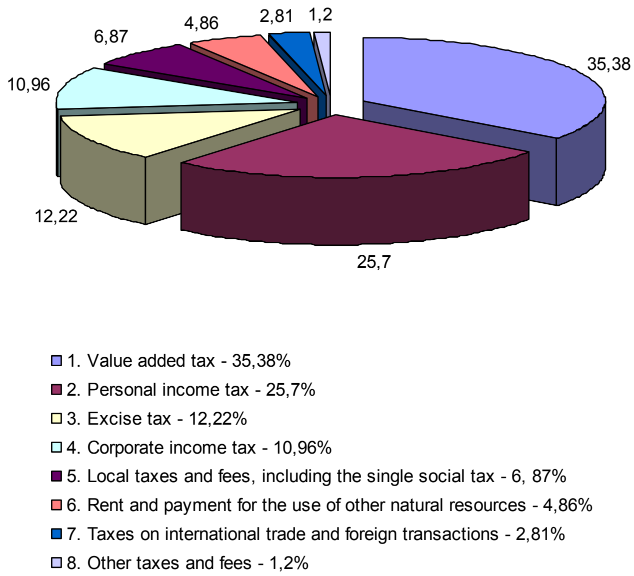

Fig. 4. The structure of tax revenues to the Ukrainian budget in 2019, %
Source: developed by the authors based on [11]

In addition to the difference related to various major «budget-generating» taxes, the comparison makes it possible to identify other differences. We focus only on those that are important for understanding the stabilizing impact of taxes. Such differences, in particular, include the fact that:

– in the Ukrainian tax system there is no corporate tax, which, with regard to the oligarchic model of the Ukrainian economy and the connection of oligarchs with large corporations (monopolies), is unnatural;

– the share of local taxes is significantly different, therefore, the possibilities of local budgets in Ukraine are significantly different.

Germany's tax system is characterized by the collection of taxes at three levels: general (central), federal, and of individual lands. To understand its features and stabilizing effect, it is important to take into account how taxes are distributed by levels (Table 3).

Table 3. Distribution of taxes by levels in the German tax system

General taxes – Gemeinschaftsteuern	Federal taxes – Bundessteuern	Taxes of individual lands – Landessteuern
– income tax; – corporate income tax; – corporate tax; – sales taxes, including value added tax (VAT); – trade taxes	– energy tax; – tobacco tax; – taxes on alcohol, brandy, wine; – tax on coffee; – intermediate tax on goods; – insurance tax; – tax on motor vehicles; – aviation tax	– wealth tax; – land tax; – inheritance tax; – land purchase tax; – beer tax; – tax on gambling

Source: developed by the authors based on [10]

Based on the information given in Table 3, it can be concluded at least about a more diverse list of taxes collected at the level of federal entities and individual lands in Germany.

The core of the stabilizing effect of the tax system is related to the formation of tax rates on individual taxes and tax benefits. The study of them provides grounds for conclusions about the direction and priorities of both the tax system and all public authorities. Therefore, we consider rates and benefits from the point of view of the priorities to which they can be directed [12-15].

The priority of social stability and *limiting the inequality* of wealth distribution is reflected in the following features of the German tax system:

– progressive taxation of incomes of citizens with differentiation of rates from 14% to 45%, with a tax-free annual minimum income of 8,82 thousand euros and the highest tax rate of 42%, which is applied to income in excess of the annual amount of 53,6 thousand euro;

– non-taxable monthly wage of low-income families in the form of: reduction of the tax base for single-parent families with children (by 1077 euro), as well as for families where one of its members lost the job (by 945 euros), etc.;

– application of a reduced – at the level of 7% – rate of value added tax (VAT) for food (vegetables, fruit, dairy products, flour and cereals), as well as for books and newspapers, as opposed to the general tax rate of 19% for all other goods;

– separation of two groups of personal income taxpayers: 1) self-employed people who create jobs – individual entrepreneurs, freelancers, lawyers, tax consultants, doctors, if they have their own practice (Einkommensteuer), 2) employees and officials (Lohnsteuer);

– reduction of the tax base by the amount of the so-called «income-related expenses» (Werbungskosten), which include the cost of moving to the place of work, as well as those associated with the change of place of work in case of its loss;

– progressive tax on gifts and inheritances with differentiation of rates from 7% to 50% and in setting the limit of 75 thousand euros for the application of the minimum rate;

– higher, than when paying income tax, level of dividend tax (rate 25%) and the higher level of tax on income and capital gains received from the sale of securities (rate 26,375%);

– the actual payment of wealth tax on the purchase of any real estate in the country with a differentiated rate from 3,5% to 5%.

The priority regarding small businesses support, which has such manifestations:

– the standard corporate income tax rate is 15% and increases for corporations by 5,5%, the so-called «solidarity» tax to support the annexed (East German) lands;

– the base rate for non-corporate enterprises is 3,5%, which is adjusted by a coefficient set separately for each municipality;

– by tax rates ranging from 14 to 17,15%, taxes are paid by enterprises profits of which exceed 24,5 thousand euros;

– the income tax rate can be set individually by local tax authorities.

The priority of stimulating export activities, especially outside the EU, is implemented as follows:

– the transactions for the supply of goods and services outside the EU, as well as air and sea transportations, are not subject to sales tax.

The priority of responding to current threats to the economy and society is ensured, in particular, as follows:

– to overcome the economic consequences of Covid-19, the German government reduced the overall VAT rate from 19% to 16%, and the preferential rate for food – from 7% to 5%.

The priority of supporting farming and organic production in the form of «anti-taxes» – subsidies and subventions – is embodied in such actions:

– the use of funds from the EU common funds by the German government (for example, 58 billion euros in 2017) for special support for agricultural producers. In particular, such funds are the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD). Germany's share of 6,5 billion euros is 11,2% of the EU funds [16]. It is distributed among farmers by the German government taking into account the following circumstances: 1) the scale of an enterprise (number of hectares of land per farm), 2) the level of development of a region in which the farm operates, 3) natural, climatic and environmental conditions;

– additional support to farms for restructuring, environmental technologies, etc. from the German federal government, in particular through the ELER-Topf, ELER-Hilfen, and ELER-Förderung funds.

Importantly, the provision of benefits to agricultural producers is a completely transparent process. After all, there is an open database from which everyone can find out which German companies, when and to what extent had support. For example, it is known that the number of such recipients has already reached more than 310 thousand enterprises.

An important point in comparing the tax systems of countries is to study what income (wage) remains with a taxpayer after tax. A digital illustration of the answer to this question using real rates of taxes paid and comparable tax bases is presented in Table 4 and Table 5.

Table 4. Wage formation after taxes paid in Germany

№	Wage and taxes paid	Married person		Person married and with children	
		euro	%	euro	%
1.	Monthly wage (gross) at the level of the average and approximately identical income of a non-resident programmer of the country, according to the «blue card»	5000	100	5000	100
2.	Income tax	1023,50	20,47	636,16	12,72
3.	Deduction of solidarity with the new federal states	56,29	1,12	16,51	0,33
4.	Deductions to the pension fund	465,00	9,30	465	9,30
5.	Deductions for health insurance	389,41	7,79	389,41	7,79
6.	Deductions for insurance in case of need of care	67,48	1,35	56,42	1,13
7.	Unemployment insurance deductions	75,00	1,50	75,00	1,50
8.	The total amount of taxes and deductions paid	2076,68	41,53	1638,50	32,77
9.	Monthly wage (net) after tax paid	2923,32	58,47	3361,50	**67,23**

Source: developed by the authors based on [17]

As evidenced by the information presented in Table 4, the tax burden on wage in Germany differs significantly (by 8,76 percentage points) in the direction of easing for families with children. It is formed in the process of paying six taxes: income tax, deduction of solidarity with the annexed federal states, deductions to the pension fund, deductions to health insurance, deductions to insurance in case of care, unemployment insurance deductions. The list of deductions testifies to comprehensive and detailed by directions social protection of a working payer.

Table 5. Wage formation after taxes paid in Ukraine in 2020

№	Tax	UAH	%
1.	Monthly wage (gross), which corresponds to the average level of wages in major cities of the country in 2020	12000	100
2.	Military tax	180	1,5
3.	Income Tax of Individuals	2160	18
4.	Single social deduction (accrued and paid by an employer)	2640	22
5.	The total amount of taxes and deductions paid	4980	41,5
6.	Monthly wage (net) after tax	9660	**58,5**

Source: developed by the authors using the official sources based on [18; 19]

Table 5 shows that Ukrainians face a tax burden on their wages that is comparable to the preferential burden faced by German households with children. In terms of the existence and non-preferential taxation of wages, Germany has a slightly greater tax burden than Ukraine. The Ukrainian tax burden on wages is formed with the use of three taxes: military tax, personal income tax, and single social deduction. Combining social security payments into a single tax deprives them (payments) of specificity and probably a positive incentive effect.

Conclusions: We derive the following conclusions based on the findings of comparing the tax systems of Ukraine and Germany:

– the Ukrainian taxation system is characterized by the existence of a significant tax surplus, so its stabilizing potential is currently not implemented. The key evidence for this is that the Ukrainian economy has an order of magnitude worse indicators of welfare, employment, price levels, financial and foreign economic balances, government foreign exchange reserves, and more with roughly the same tax burden on income and wages. The detrimental role of the tax system – how (in what way) taxes are paid in Ukraine – in the current gap in key economic and social indicators is undeniable;

– in the light of Germany's experience, a tax system capable of creating stability and economic certainty should have the following priorities;

– formation, with the use of taxes, of a state of social justice and prevention of unjustified inequality in the distribution of income and wealth;

– support through tax rates and tax benefits for fragile small businesses and farms, exporters of domestic products;

– rapid response to challenges and threats to the economy and society through the use of appropriate mechanisms to reduce the tax burden in crisis situations.

References:

1. Qingwang Guo, Bingyang Lv, Ximing Yue. Regulating Effect of Tax on Chinese National Income Distribution. 1st Edition. 30 September 2020. 274 p.
2. Bing Xu & Lili Li & Yan Liang & Mohib Ur Rahman, Measuring Risk Allocation of Tax Burden for Small and Micro Enterprises. *Sustainability, MDPI*. 2019. Vol. 11(3). P. 1-20.
3. Alyeksyeyev I., Paranchuk S., Chervinska O. Controlling the tax burden of the enterprise in the reality of ukrainian legislation. *Financial sciences nauki o finansach*. 2018. Vol. 23. №1. P. 22-32.
4. Radionova I., Boger O. Tax burden and innovation activities: The interrelation problem. *Economic Annals-XXI*. 2014. №1-2(1). P. 65-69.
5. Trade and economic cooperation. Materials of the website of the Embassy of Ukraine in the Federal Republic of Germany. 22.11.2019. URL: https://germany.mfa.gov.ua/spivrobitnictvo/torgovelno-ekonomichne-spivrobitnictvo#:~:text=У%202019%20році%20обсяг%20торгівлі,склав% 20близько%209%2С4%.
6. World Data Atlas. Germany. The materials from knoema website. URL: https://knoema.ru/atlas/Германия.
7. World Data Atlas. Ukraine. The materials from knoema website. URL: https://knoema.ru/atlas/Украина.
8. Trade and economic cooperation between Ukraine and Germany. The materials from the website Embassy of Ukraine in the Federal Republic of Germany. URL: http://germany.old.mfa.gov.ua/ua/ukraine-de/trade.
9. Doing Business. Оценка бизнес регулирования. Материалы Всемирного банка. URL: https://www.doingbusiness.org.
10. Kassenmäßige Steuereinnahmen des Bundes, der Länder und der Gemeinden nach Steuerarten vor der Steuerverteilung in Millionen Euro. Destatis. Statistisches Bundesamt. URL: https://www.destatis.de/DE/ Themen/Staat/Steuern/Steuereinnahmen/Tabellen/steuerhaushalt-kassenmaessige-steuereinnahmen-vor-steuerverteilung.html.
11. Revenues of the consolidated budget of Ukraine. Materials of the site of the Ministry of Finance of Ukraine. URL: https://index.minfin.com. ua/ua/ finance/budget/cons/income/2019/.
12. Reduktion der Mehrwertsteuer in Deutschland. URL: https://ventopay.com/news/reduktion-der-mehrwertsteuer-von-19-auf-7/.
13. Höchststeuersatz der Einkommensteuer in Deutschland bis 2020. Statista. URL: https://de.statista.com/statistik/daten/studie/38327/umfrage/ entwicklung-des-hoechststeuersatzes-in-deutschland/.
14. The Finance Business Service official website. Taxation in Germany. URL: https://fbs-tax.com/uk/tax-planning/germany/taxation-germany.
15. Borysova M. Taxes in Germany: the rich and childless pay more. 30.06.2020. URL: https://p.dw.com/p/3eOen.
16. Von Nicolai Kwasniewski, Maria Marquart, Marcel Pauly und Patrick Stotz. *Wohin die Agrarsubventionen fließen*. 29 May2018. URL: https://www.spiegel.de/wirtschaft/soziales/eu-subventionen-landwirtschaft-erklaerung-in-karten-a-1210055.html.
17. Buro Reinhardt & Weckbecker Steuerbereatungsgesellschaft mbH. URL: https://web2.cylex.de/firma-home/reinhardt-_-weckbecker-steuerberatungsgesellschaft-mbh-8106014.html
18. Tax Code of Ukraine: Law of Ukraine. Edited on 12/23/2020. URL: https://zakon.rada.gov.ua/go/2755-17.
19. Potapenko, D. & Trots, I. (2021). Comparative analysis of business tax stability: Ukraine VS Germany. *Economics of uncertainty: content, assessment, regulation*: a collective monograph. Kyiv: KROK University. 287 p. DOI: https://doi.org/10.31732/EU-CER-11