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Environmental Taxation as a Policy Instrument for Green Growth

Abstract. The article is devoted to environmental taxation as a tool for green growth and assistant to solve environmental issues of the world and Ukraine in particular. Nowadays, the world's economic growth goes side by side with environmental protection, and taxation aims to become an economic instrument to stop large-scale over-use of energy and consider effective resource utilisation, expand the share of organic farming and move towards "green" economy. The paper identifies the main groups of environmental taxes in the EU countries, analyses the European experience of the economic impact on the environment protection, examines possible ways of environmental taxation reforming in Ukraine, based on successful foreign experience.

Key words: environmental taxation, green growth, tax instruments, environmental issues

JEL Classification: E62

Introduction

We need this planet despite our status, knowledge, and day-to-day concerns. Saving the world is a prerequisite for the existence of everything we know and fight for. Nine out of ten inhabitants of the Earth are breathing in polluted air, which carries a substantial risk to people's health. Microscopic particles can penetrate the respiratory and circulatory system and lead to a disruption of the lungs, heart and brain. Seven million people die prematurely annually from diseases caused by air pollution (including cancer, stroke, heart and lung disease) according to the WHO. Fossil fuel combustion, high emissions in the industry, transport sector and agriculture appear as the central air pollutant.

One of the first historical and critical points of environment preservation was the Paris Agreement (195 states and the EU signed that) (Progress tracker, 2018). Two crucial goals were determined to strengthen the global response to the threat of climate change:

1) prevent the growth of the global average temperature above 2°C (if possible - no more than 1.5°C) compared to the preindustrial period;

2) reduction of greenhouse gas emissions into the atmosphere up to zero degrees during the second half of the XXI century.

Each country committed itself to make "nationally defined contributions" to achieve these two goals. Every five years, states should report on contributions made (in 2023 should be the first) and new goals set to the UNFCCC. The system of "naming and shaming" would operate as the Paris Agreement does not impose any sanctions.

Furthermore, in October 2018, the first WHO Global Conference was held in Geneva, where more than 70 countries and organisations committed themselves to improve air quality (Ten threats, 2019). The World Economic Forum, Business Insider, the Global

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Challenges Foundation (Global Catastrophic Risks, 2018) note the problem of climate change as one of the primary issues on the agenda.

The humankind is on the verge of an ecological catastrophe, and it is necessary to combine the efforts of environmentally oriented countries with the largest polluters to create an efficient way of environment preservation. Although the material below aims to analyse environmental taxation and best practices in the EU countries that can be implemented in Ukraine, further research is needed to investigate instruments conducive for green growth.

Review of the literature

Theoretical principles of environmental taxation were explored by A. Pigou, N. V. Pakhomova, V. Baumol, A. L. Kashenko. Macroeconomic effects of environmentl taxes with a feasibility of "Win-win" outcomes researched by Jenny E. Eigthart (Ligthart,1998). Moreover, environmental taxation and the green economy are widely discussed nowadays. Herman Vollebergh has reported on environmental taxes and green growth with a stepwise issues analysis of tax instruments as part of the policy on sustainable economic growth. Unbridled economic expansion may pose a serious risk to society in the long term. Offering the right financial incentives through 'environmental pricing' is a key element of policy aimed at sustainable economic growth (Vollebergh, 2012). Lucas Chancel and Simon Ilse discovered the main issues at stake when considering energy-climate tax policies from a social point of view along with options and tools for EU policy makers (Chancel, Ilse, 2014). Lucas Lucien Georgeson, Mark Maslin and Martyn Poessinouw reviewed current shortcomings and made four recommendations to improve measurement for green economy transformations. Proper measurement of the green economy needs to move beyond GDP as the central progress measure and to better track the "transformational green economy" (Georgeson, Maslin & Poessinouw, 2017). Piciu Gabriela Cornelia and Trica Carmen Lenuta assessed the impact and effectiveness of environmental taxes, considering budgetary criteria (Cornelia, 2012). The financial problems of the green economy were studied by numerous Ukrainian and foreign scientists: I. Varlamova, E. Weizsäcker, I. Bakhovych, O. Gubanova, V. Kravtsov, N. Kraft, S. Mezentsev, R. Klamtam, D. Stiglitz, J. Farley, and others. Also, a broad discussion about environmental tax reform is taking place in the international literature (Fullerton, Leicester and Smith, 2010; De Mooij, Parry and Keen, 2012).

However, even with a large number of publications, further examination required to identify successful foreign experience about adequate functioning of taxation instruments to stimulate citizens and businesses take into account environmental responsibility, which would be an impulse to improve the environmental policy, environmental taxation and an impetus for moving towards an innovative green economy in Ukraine.

Material and methods

The methodological basis of the study is the theoretical achievements of foreign and domestic scientists, devoted economists to the problems of environmental taxation, report of the European Commission with a pull of data for the EU Member States, OECD database of the environmentally related taxes. However, the research is limited by the period of 2004-2016 years due to the data availability. A complex of general scientific and applied methods of

studying economic processes was used. In particular, methods of analysis and synthesis, abstraction and concretisation, structural and dynamic comparisons to find the right combination of reasonably designed and relatively easy to implement environmental taxes, assessing the effectiveness of taxes used for environmental regulation, analysing the experience of European countries regarding environmental problems solutions.

Results and discussion

Nowadays, green growth is a topic of global concern. It aims to foster economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our wellbeing relies (Towards Green Growth, 2011). In other words, it takes into account global issues like quality of life and environmental pollution.

Use of taxes as an environmental pricing instrument is not new. They play an essential role in any country`s development, even though taxation is not a goal itself. Many economists agree that environmental pricing is essential for a properly functioning market economy aimed at sustainable long-term economic growth (De Mooij, Parry and Keen, 2012). Environmental tax - a tax whose tax base is a physical unit (or a proxy of a physical unit) of something that has a proven, specific negative impact on the environment.

The following criteria to assess environmental taxation are commonly used (Vollebergh, 2012):

1) allocative effectiveness and (dynamic) efficiency. Both consider the correction of market failure and externalities. Market failure (weak or absent markets) is the leading cause of environmental decline, as prices often do not adequately account for the costs of environmental resource use. Green growth needs taxes that put an adequate price on negative externalities (e.g. environmental pollution and traffic congestion) (Fullerton, Leicester and Smith, 2010). Environmental pricing should comprise an intelligent combination of "sticks" (taxes as economic incentives to reduce CO2 emissions, waste production and water consumption) and "carrots" (subsidies for green innovations);

2) distributive justice. "The polluter pays" is often the guiding principle of environmental pricing. Considered contribution to pollution by individual citizens and businesses, not on their ability to pay, revenue from environmental taxes may be returned to them in the form of lower-income and corporate taxes;

3) feasibility. There is an obvious tension between the objective of tax simplification and the effective use of environmental taxes as an environmental policy instrument. A complex tax structure is difficult to understand for taxpayers and expensive to implement. However, alternative policy instruments for environmental pricing, such as subsidies and emission standards should be carefully considered (Vollebergh and Werf, 2013).

From the welfare theory point of view (Pigouvian tax), environmental taxes are an effective and efficient instrument to correct adverse external effects on the environment (De Mooij, Parry and Keen, 2012; Fullerton, Leicester and Smith, 2010). If the consumption or production of a given energy product results in emissions and associated environmental damage, this damage should be discounted in its market price, for instance through an environmental tax per unit emission. This environmental tax will drive a wedge between the price that producers receive and the price that consumers pay (market price including taxation). As a result of the higher market price fewer of these polluting products will be sold, which is exactly the objective of the environmental tax (illustrated in Figure 1).

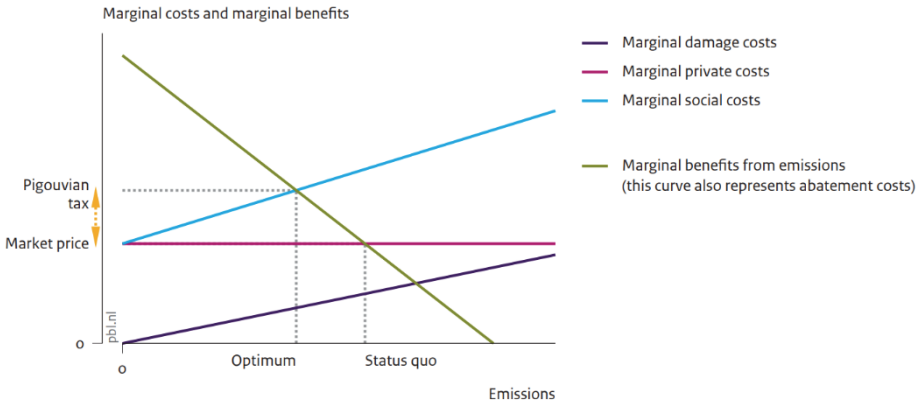

Fig. 1. Optimum production and emissions

Source: Vollebergh, 2012.

Assume that producers (or consumers) cause environmental damage through emissions for every unit of production (or consumption) as shown by the increasing marginal damage costs of emissions. At the same time, the marginal benefits from emissions (or consumption) decrease with the amount of product consumed. The price is usually established at a level where the marginal benefits equal the marginal private production costs. As long as producers (or consumers) maximise their profits (or benefits) without taking account of environmental damage, they will choose a production (or consumption) level that provides the greatest benefit to themselves (status quo in Figure 1). However, from a social perspective, this is not the optimal outcome, because of the high marginal damage costs that should be discounted to achieve the social optimum. The Pigouvian tax imposed, the social optimum is achieved because rational actors (producers or consumers) strive to minimise their payment of pollution taxes through waste reduction or cutting their emissions using the cheapest available abatement technologies or behavioural options, social welfare increases.

Pigovian tax rates often challenging to estimate, and some environmental taxes may include more than the Pigovian taxes as described in economic theory (e.g. the rate of an energy tax may be set with fiscal motives in mind and may be higher than the marginal damage from the production and use of the energy products). In research (Bruvoll, 2009) it is shown that for polluting goods, the tax rate should not only vary according to the social costs but also according to the elasticity of demand. According to the rule of Ramsey (Ramsey, 1927) the tax rate of an optimal fiscal tax is set inversely proportional to the price

elasticity of demand for the tax base, i.e. the more inelastic the demand, the higher the tax rate. This minimises the so-called 'dead-weight costs' of taxes, i.e. the distortion of economic activities by taxation.

Also, environmental taxes can promote environmental innovation technologies in contrast to other policy instruments. Nontradable quotas force companies to limit their emissions to the optimal level but provide no incentive to invest in improvements beyond this level. This is due to the fact that emissions within the quota are free. In the case of a tradable permit system, the new technology would reduce the market price of emission permits to a level below the optimal tax rate; the incentive for innovation will be weaker over the next trading period. However, government measures that (unintentionally) encourage polluting activities (environmentally harmful subsidies, e.g. tax exemptions, reduced tax rates, tax expenditures or direct subsidies) are at odds with environmental pricing (Towards Green Growth OECD, 2011).

The Center for Energy Development and Environmental Protection Strategy Research, Jiangsu, China analyzed the impact of environmental tax on green development by using a four-dimension dynamical system. The establishment of the system is based on the complex and dynamic interactions among economic development, pollution emissions, resources consumption, and environmental tax, where roles of environmental tax are reflected by the linear parameters.

Results indicate a robust beneficial role of environmental tax on green development. Furthermore, when an environmental tax is imposed, a firm government control, an active consumer awareness, an advanced technology level can stimulate economic growth, decrease pollution intensity, and control the resource intensity (Fan, Li and Yin, 2019).

Air quality remains the leading environmental threat to public health. In 2016 the Institute for Health Metrics and Evaluation estimated that diseases related to airborne pollutants contributed to two-thirds of all life-years lost to environmentally related deaths and disabilities. The Yale University and Columbia University in cooperation with the World Economic Forum reported on global metrics for the environment with its ranking of countries around the world on the level of environmental efficiency (Yale University, 2019).

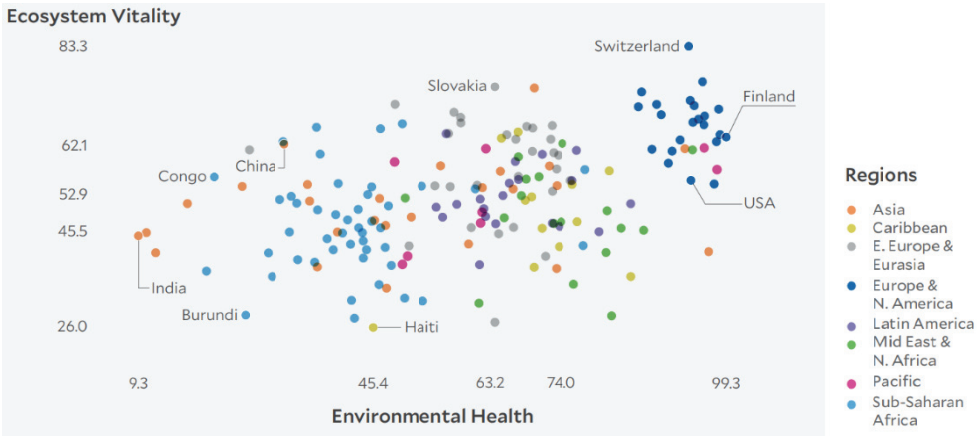

Fig. 2. Two dimensions of environmental performance

Source: Yale University, 2019.

The 2018 Environmental Performance Index (EPI) ranks 180 countries on 24 performance indicators across ten issue categories covering environmental health and ecosystem vitality, that are distinct dimensions of environmental performance—which may be in some tension as economic growth creates resources to invest but adds to pollution burdens and habitat stress (Figure 2).

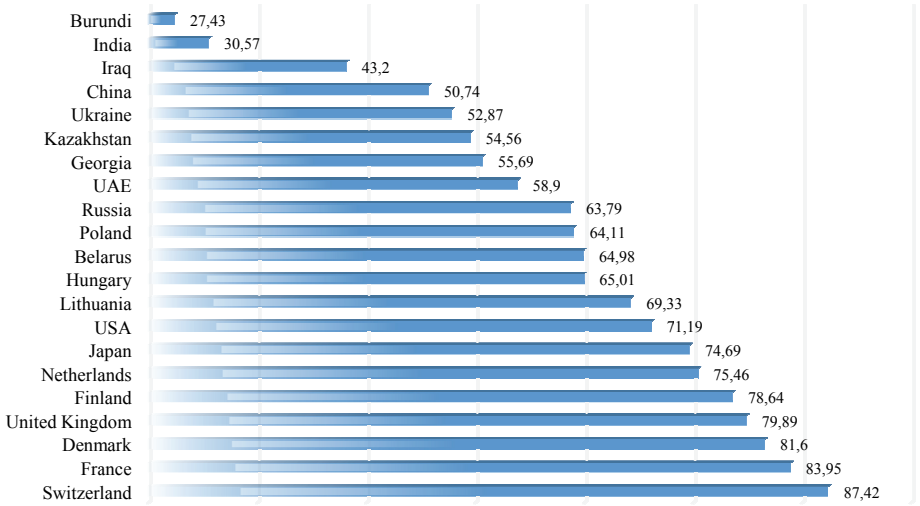

Fig. 3. The rating of Ukraine and other countries of the world, EPI 2018

Source: see figure 2.

The overall EPI rankings (Figure 3) indicate which countries are doing best against the array of environmental pressures that every nation faces.

Switzerland leads the world based on strong performance across most issues, especially air quality and climate protection. High scorers exhibit long-standing commitments to protecting public health, preserving natural resources, and decoupling greenhouse gas emissions from economic activity. Among the top 5 leaders also France, Denmark, Malta and Sweden. Ukraine ranked 109th. Nepal, India and Burundi come in near the bottom.

The ecological taxation in Ukraine (TaxLink, 2019) is mainly presented by the environmental tax, that comprises payments on the actual volumes of emissions into the air, discharges pollutants into the water objects, waste placement, the actual amount of radioactive waste temporarily stored, generated and accumulated before April 1, 2009.

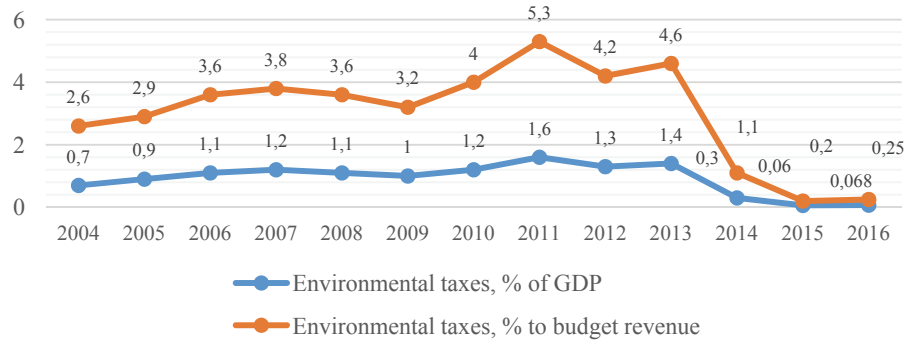

Fig. 4. Share of environmental tax in budget revenues and GDP

Source: State Treasury Service of Ukraine, 2019.

Figure 4 illustrates that the environmental tax is not a budget-making, the share of environmental tax in budget revenues ranged from 0.2% to 5.3%, in GDP - from 0.06% to 1.6%. Both indicators were significantly influenced by the economic crisis of 2009 and 2013. The introduction of the Tax Code of Ukraine in 2010 has led to a robust increase in environmental tax revenues because of incrementing tax rates. The reduction of environmental tax revenues in 2014-2017 caused by a decrease of polluters emission by economic agents due to the economic crisis in Ukraine, when many industrial enterprises worked one-two days per week. Another reason was the disappearance from the list of taxation objects environmental taxes on atmospheric air pollution by mobile sources. However, at the same time, in Ukraine, excise tax rates on motor vehicles were raised, increasing budget revenues.

The European Commission distributed environmental taxes by tax bases as follows (Publications Office of the European Union, 2013):

- Energy (Energy products for transport purposes (petrol, diesel, LPG, natural gas, kerosene); Energy products for stationary purposes (fuel oil, natural gas, coal, coke, biofuels, electricity consumption and production, district heat consumption and production, other); Greenhouse gases)
- Transport (motor vehicles import or sale (one off taxes); registration or use of motor vehicles, recurrent (e.g. yearly taxes); road use (e.g. motorway taxes); congestion charges and city tolls; other means of transport (ships, airplanes, railways, etc.); flights and flight tickets; vehicle insurance.
- Pollution (measured or estimated emissions to air; ozone depleting substances; measured or estimated effluents to water; non-point sources of water pollution

(pesticides, artificial fertilisers, manure); waste management; noise (e.g. aircraft take-off and landings).

- Resources (water abstraction; harvesting of biological resources (e.g. timber, hunted and fished species); extraction of raw materials (e.g. minerals, oil and gas); landscape changes and cutting of trees.

The average tax revenue from environmental taxes in the EU was 2.4% of GDP or 6.3% of total tax revenues. After a decline in 2008, their share of GDP increased insignificantly to 2012 due to an increase in energy tax revenues (Fig. 5).

Fig. 5. Average income from environmental taxes EU-28, 2004-2016 (% of GDP)
Source: Taxation trends, 2018.

The share of revenues in GDP varies between the Member States with the highest share in Denmark (4%) and Slovenia (3.9%). Luxembourg, Slovakia, Ireland and Spain have the lowest rates of 1.8%.Fig. 6. shows that transport and energy taxes are the most widespread in the EU countries. So, energy taxes take near 72% of the total environmental taxes revenue in the EU and transport only 23%.

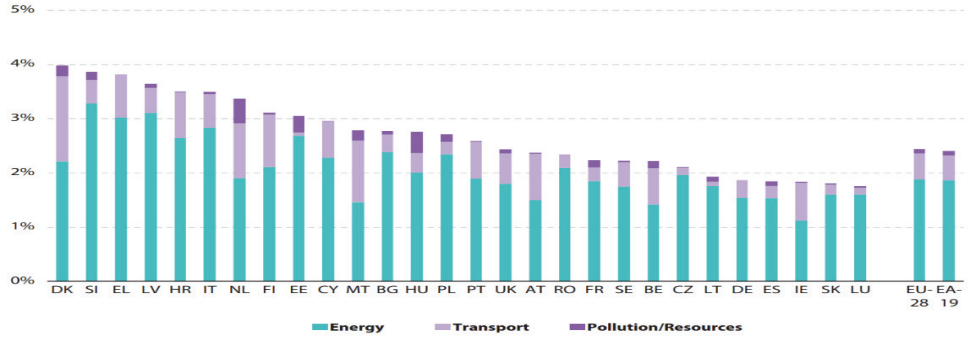

Fig. 6. Structure of Environmental Taxation EU-28, 2016 (% of GDP) (Taxation trends, 2018)
Source: see figure 5.

About 70% of energy taxes come from motor fuel tax (Fig. 7). In the six member countries, the fuel tax accounts for about 90% of energy taxes. Denmark, Italy, the Netherlands, Sweden and Finland have the smallest share of fuel taxes (about 40-60%). Most in Slovenia, Latvia and Greece (3.3%, 3.1% and 3% of GDP respectively).

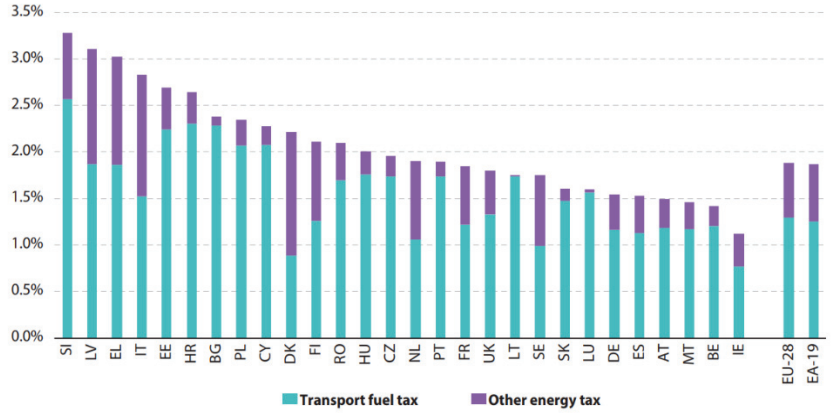

Fig. 7. Revenues of energy taxes EU 28, 2016 (% of GDP) (Taxation trends, 2018)
Source: see figure 5.

The new European strategy for economic development "Europe 2020: A strategy for smart, sustainable and comprehensive growth" pays much attention to implementing the idea of more rational use of natural resources, improving the environmental situation, developing new environmentally friendly technologies. According to the only environmental strategy, which is scheduled for 2020 and is called "Strategy 20-20-20," it is planned to reduce greenhouse gas emissions by 20% (compared to 1990), reach 20% of renewable energy, the share of energy production at the expense of renewable sources of energy, and the total energy consumption of member states should be reduced by 20% (Europe 2020).

Therefore, for Ukraine, which is positioning itself as a state, oriented on European values, it will be logical to take into account the experience of "colleagues". For example, in Sweden and the United Kingdom, some environmental taxes are introduced to determine the direct obligation of the state to spend revenues from environmental taxes on reducing PIT and SSCs. Currently, more than 520 types of environmental taxes are widely used in the OECD and EU, which encourage economic operators to reduce pollutant emissions (Towards Green Growth OECD, 2011).

Conclusions

Looking globally, we have positive shifts toward ecological situation improvement. China abolished construction plans of hundreds of coal stations. India pledged to receive 40% of its energy from renewable sources by 2020. Due to the introduction of green energy, CO□ emissions have slowed down, but emissions from other greenhouse gases, such as methane, continue to rise.

Ukraine is performing the first steps to harmonise and reform the environmental taxation system. In order to progress, it is necessary to take the experience of the countries which managed to succeed in this field. The recommendations are as follow:

- differentiate environmental tax rates by regions;

- increase environmental tax rates and control over the return of funds accumulated from environmentally harmful industries in more polluted regions to improve the ecological situation and stimulate business entities to consider environmentally friendly technologies;
- environmental pricing as an instrument in the government's toolbox should be carefully and properly integrated with existing instruments in order to prevent unnecessary welfare losses;
- apply increased progressive tax rates for over limit pollutions;
- apply tax on fertilisers and pesticides;
- reduce the costs of environmental tax administration;
- subsidise businesses and households for CHP and clean energy production (the SDE+ scheme experience of the U.K. and Netherlands). Provide low-interest loans to foster environmentally sound production;
- apply accelerated depreciation, which allows faster updating of fixed assets;
- introduce preferential rates / VAT exemptions for the sale of environmental equipment;

Environmental taxes not only directly address environmental damage but also indirectly influence the direction of technological development. This effect should be taken into account when assessing the importance of taxes for green growth because technology development is also subject to market failures.

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26.11.2021 PIĄTEK

9^{00}–10^{45} SESJA PANELOWA I
FUTURE AND CURRENT TRENDS OF FINANCE

Przewodniczący: **dr hab. Piotr Gołasa** (Szkoła Główna Gospodarstwa Wiejskiego w Warszawie)

Dr Małgorzata Garstka (Uniwersytet Jana Kochanowskiego w Kielcach) – The changes in scope information in relations to ones in amount of small and medium sized entities caused by the COVID-19 crisis

Dr Maksym Klymenko (National University of Life and Environmental Sciences of Ukraine) – Shaping the future via environmental taxes

Dr Larysa Rybina (Sumy National Agrarian University) – The role of financial institutions in ensuring the welfare of the citizens of Ukraine

Dr Mykhaylo Heyenko (Sumy National Agrarian University) – Insurance protection of the agricultural sector - Ukrainian realities and foreign experience

Dr Iryna Shalyhina (Sumy National Agrarian University) – Diagnostics of economic development of the region as a basis for planning an effective management model

Dr Ireneusz Skłodowski (Uniwersytet Jana Kochanowskiego w Kielcach) – The use of artifical intelligence solutions in the management of real estate market

Dr Vasili Kulakou (Polish National Agency For Academic Exchange - NAWA) – Features and current trends in the development of free economic zone in Belarus

9^{00}–10^{45} SESJA PANELOWA II
PROBLEMS OF MODERN FINANCE

Przewodniczący: **dr hab. Andrzej Buszko, prof. UWM** (Uniwersytet Warmińsko-Mazurski w Olsztynie)

Dr Ivan Olifer (National University of Life and Environmental Sciences of Ukraine) – Social life during high level of shadow economy

Dr Ruslan Vorobei (National University of Life and Environmental Sciences of Ukraine) – Determinants of Ukrainian agri companies stock prices moves

Dr Nataliya Maslak (Sumy National Agrarian University) – Problems of filling local budgets in conditions of decentralization of governance in Ukraine

Dr hab. Piotr Misztal, prof. UJK, dr hab. Marcin Łupiński, prof. UJK (Uniwersytet Jana Kochanowskiego w Kielcach) – Are Polish banks stable? Systemic risk analysis based on network model.

PennState College of Agricultural Sciences

National University of Life and Environmental Sciences of Ukraine

CURAD Fellowship report

Maksym Klymenko

PhD Candidate in Finance

PennState College of Agricultural Sciences

National University of Life and Environmental Sciences of Ukraine

Main activities

- **Audit the class:** Resource and environmental economics II

Exploring: theoretical and methodological foundations used in Environmental Economics along with recent advances in areas of contemporary policy interest. Lectures, discussions, student presentations.

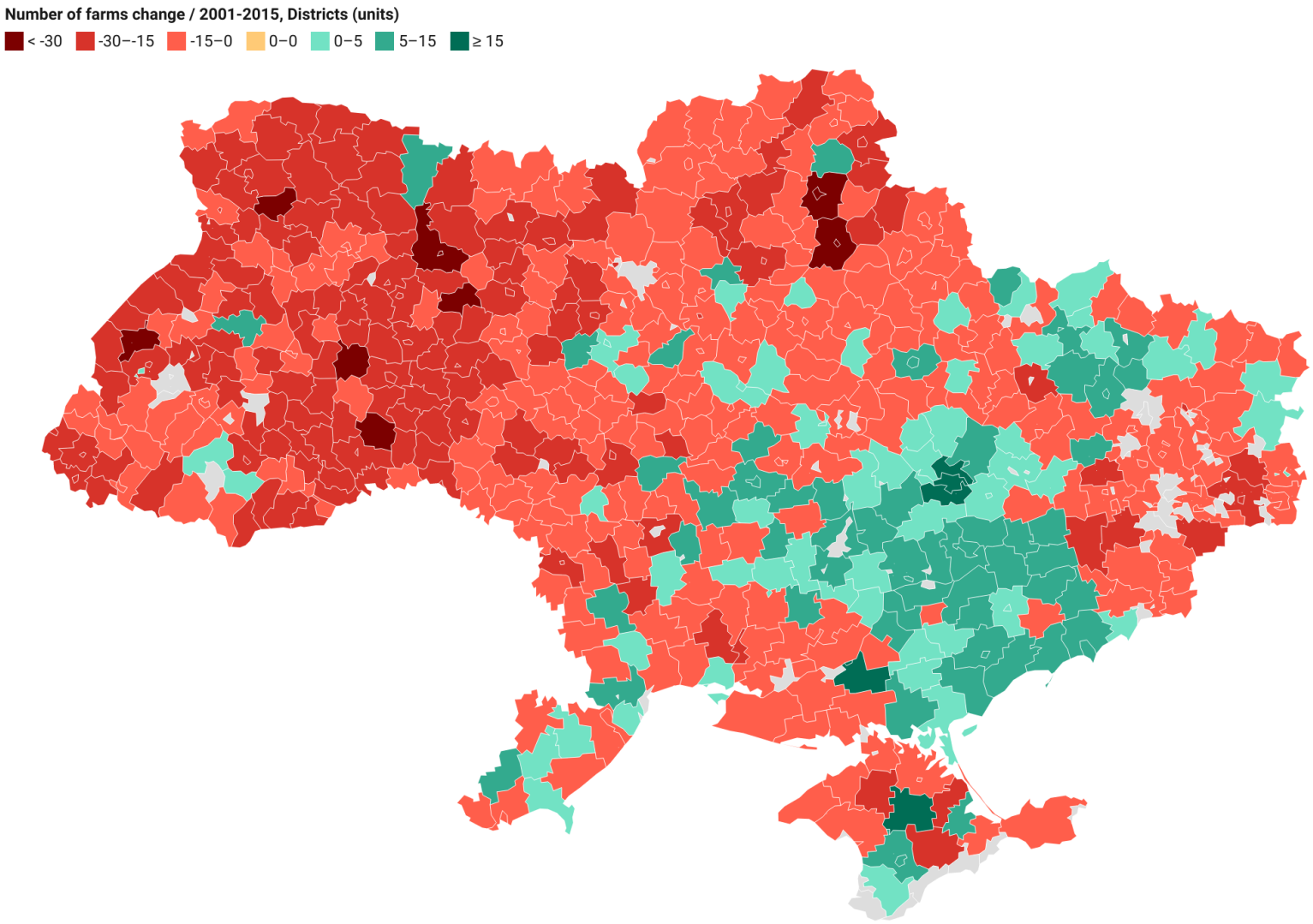
- **Working on publication:** Agricultural development in Ukraine with:

Stephan J. Goetz Professor of Agricultural and Regional Economics
Oleksandr Labenko *Associate Professor, the National University of Life and Environmental Sciences of Ukraine*

We explore social impact of Agri holdings, their activity all over the Ukraine, number of farms (SMEs and holdings), arable land, family farms activity.

- **Working on article:** Agricultural development and its ecological footprint with:

Stephan J. Goetz Professor of Agricultural and Regional Economics
We explore mineral fertilizer usage, fuel consumption, CO2 emission by SMEs and Agri holdings.



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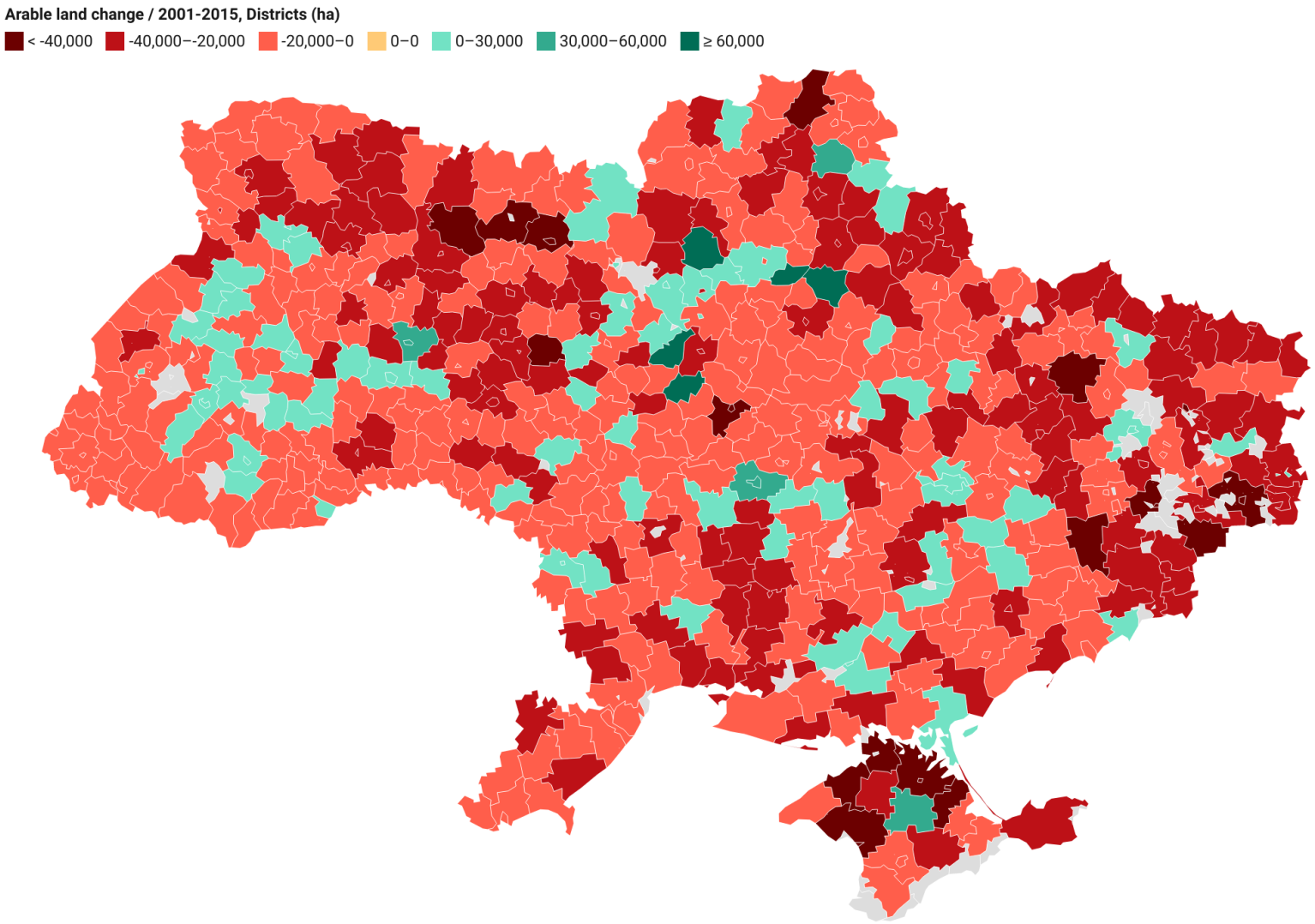

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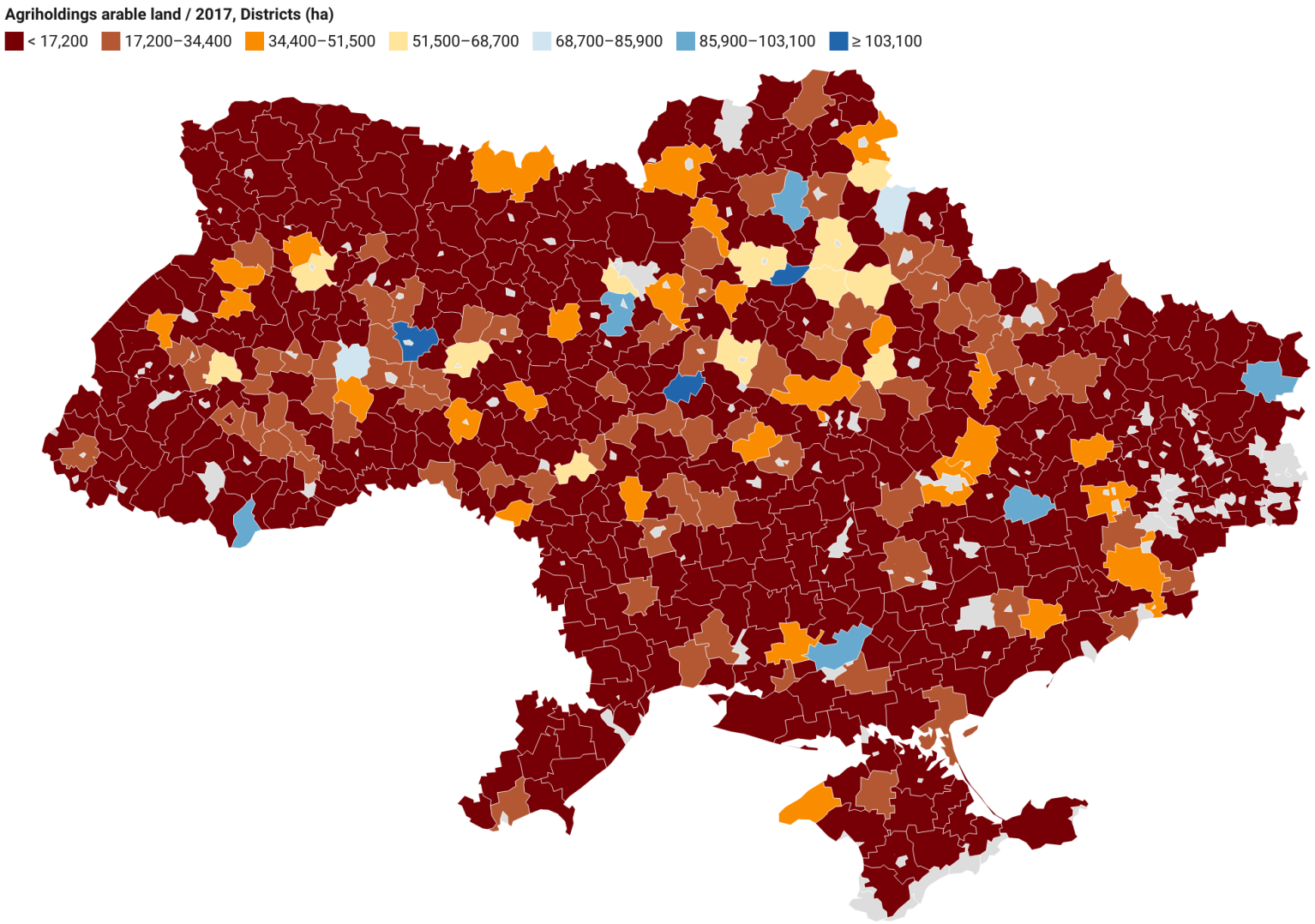

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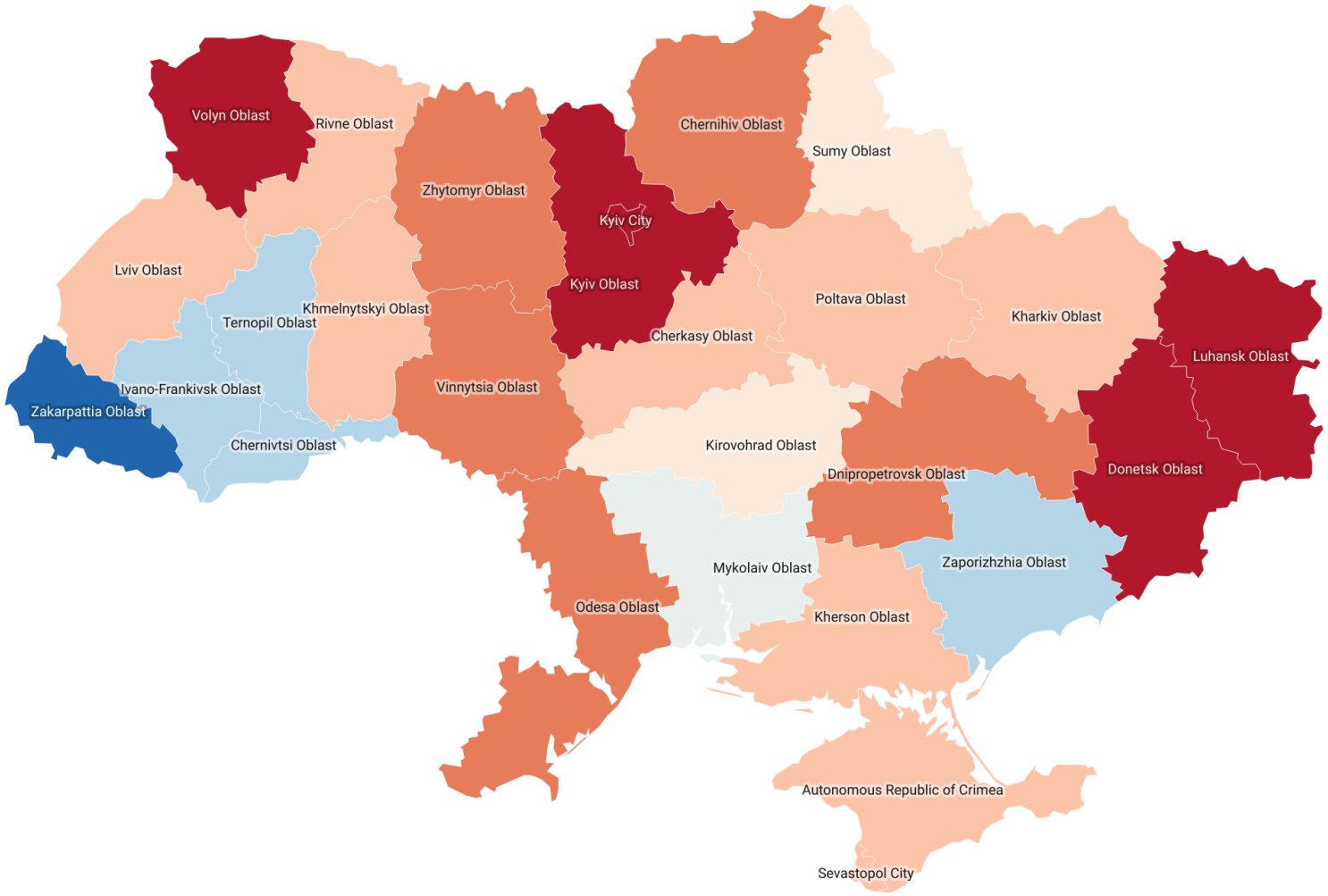
Employed population in agriculture, hunting, forestry; fishing, fish farming, % change 2001-2015

< -50 | -50–-30 | -30–-10 | -10–0 | 0–10 | 10–30 | 30–50 | ≥ 50



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TAX BURDEN OF AGRICULTURAL ENTERPRISES IN UKRAINE

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ABSTRACT

Agriculture is one of the leading sectors of the Ukrainian economy, and the state pays special attention to its development. One of directions of the state's support for agriculture is implementation of tax preferences due to which agricultural enterprises have a lower tax burden. The optimal level of the tax burden is an important factor in ensuring the positive dynamics of business activity in agriculture, as well as socio-political stability. The objective of the article is to determine the impact of recent changes in the Ukrainian tax legislation on the tax burden of agricultural enterprises, as well as the possible impact of current draft laws. The article examines features of the tax legislation in Ukrainewith regard to agricultural producers and its changes in recent years - increasing a single tax rate, introduction of indexation of land regulatory, monetary valuation, abolition of the special regime of a value added tax. The advantages and disadvantages of using a simplified taxation system by agricultural enterprises are considered. the study's outcome comprises recommendations for agricultural enterprises to choose a tax system with the lowest tax burden, as well as recommendations for improving the tax legislation of Ukraine using preferential VAT rates for agricultural enterprises and a tax on withdrawn capital.

Introduction

The agro-industrial branch is an important component of Ukraine's economy – it forms a significant share of gross domestic product, it is responsible for the state's food security, is an important component of export potential. The country must create optimal conditions for agricultural development, in particular, reduce the tax burden on agricultural enterprises. We need an effective system of the state support for agricultural producers, which would help to increase production, form an optimal industry structure, improve product quality, implement modern technologies, develop rural areas, etc.

Taxation of agricultural enterprises, tax burden, special tax regimes and the main directions of their optimization is the subject of research by many Ukrainian scientists (Baranova and Dubovik, 2013, Demyanenko, 1999, Zhuk, 2011, Kostornoi, 2014, Krysovaty and Vasylevska, 2013, Prokopchuk, 2014, Tulush, 2016, Tsap, 2018, Yatsukh, 2015, Kovalenko et al., 2021a, Kovalenko et al., 2021b, Trusova et al., 2020, Shevchuk and Kopych, 2018, Odintsov et al., 2020, Halushchak et al., 2019).

Foreign authors also pay great attention to creation of an effective tax system and optimization of the tax burden (Rymanov, 2017, Hogan, 2012, Vasiljevic, 2016, Siroky et al., 2016, Slemrod, 1990, Alm and El-Ganainy, 2013, Uryszek, 2018, Troilo et al., 2017, Wach, 2006, McGee, 2008).

The aim of the research was to determine the impact of recent changes in the Ukraninian tax legislation on the tax burden of agricultural enterprises, as well as the possible impact of current draft laws.

Material and Methods

The study used current legislative and regulatory documents of Ukraine, expert assessments of managers and specialists of agricultural enterprises of Ukraine, data of the State Statistics Service of Ukraine on financial indicators of agricultural enterprises of Ukraine for 2014-2019, data of the Verkhovna Rada of Ukraine on registered draft laws on tax improvement in the agricultural sector of the economy.

To assess the impact of taxation on the agricultural sector of the economy, the following indicators were selected:

– Financial results before taxation – the difference between the sum of the financial result from operating activities (including the income from equity and other financial income) and expenses (including financial and other expenses),
– Net profit – the part of the balance sheet profit of the enterprise, which remains at its disposal after payment of taxes, fees, deductions and other mandatory payments to the budget,
– The share of profitable enterprises – the number of profitable enterprises divided by the total number of enterprises,
– Profitability of operating activities – the ratio of profit from operating activities to the amount of operating expenses.

The decrease in these indicators reflects the increase in the tax burden.

Results and Discussion

The optimal level of the tax burden is an important factor ensuring positive dynamics of business activity in the country, development of production and economy as a whole, as well as socio-political stability.

Scholars consider the tax burden at the state level, the tax burden on enterprises, the tax burden on citizens.

Modern scientists understand the "tax burden of the enterprise" as:

– the amount of tax paid byan enterprise to the budget,
– the share of taxes in the income of an enterprise,
– the impact of taxation on the financial performance of an enterprise.

The theoretical generalization of the problem of tax burden and determination of the optimal level of taxation was carried out in the mid-70s of the twentieth century by American scientist A. Laffer (Laffer and Seymour, 1979). He argued that excessive taxation negatively affects business and investment activities and ultimately leads to lower tax revenues. A. Laffer investigated the relationship between the level of taxation (tax rate) and individual adaptation of taxpayers (the tax revenue amount). Withdrawal by the state in the form of taxes of a significant amount of income in the amount of 40-50% is the limit beyond which incentives for entrepreneurial initiative and expansion of production are eliminated.

The largest part of the tax burden of agricultural enterprises in Ukraine is formed by the following taxes, fees, mandatory payments:

– single tax (group IV),
– value added tax (VAT),
– taxes on the salary fund (personal income tax, military duty, single contribution to compulsory social insurance),
– corporate income tax,
– a land tax.

A feature of the tax system of Ukraine is the possibility of agricultural enterprises applying a simplified system of taxation, which involves the calculation of a single tax instead of a number of other taxes and fees.

Agricultural enterprises can be referred to the IV group of payers if they have a share of agricultural production in income for the previous tax (reporting) year equal to or exceeding75 percent (Tax Code of Ukraine, 2021).

Such enterprises - payers of the single tax are released from the obligation to charge, pay and submit tax returns on the following taxes and fees:

– corporate income tax,
– property tax (in part of the land tax), except for the land tax for land plots that are not used by the payers of the single tax of the IV group for conducting agricultural commodity production,
– rent for special use of water.

The object of taxation for single tax payers of the IV group is the area of agricultural lands (arable land, hayfields, pastures and perennial plantations) and / or lands of the water fund (inland reservoirs, lakes, ponds, reservoirs), which is owned by an agricultural producer or provided to him for use, including on lease (Tax Code of Ukraine, 2021).

Land ownership or use rights must be formalized and registered in accordance with the law.

The tax base is the normative monetary assessment of one hectare of agricultural land (arable land, hayfields, pastures and perennials), taking into account the indexation coefficient.

The basis for calculating the single tax for group IV payers is the data of the state land cadastre and / or data from the state register of real rights to immovable property.

The reporting period is a calendar year (Tax Code of Ukraine, 2021).

Payers of the single tax of the IV group:

– independently calculate the amount of tax annually as of January 1, and not later than on February 20 of the current year submit the tax return for the current year to the relevant supervisory authority at the the taxpayer's venue and the venue of the land,
– pay the tax quarterly within 30 calendar days following the last calendar day of the tax (reporting) quarter, in the following amounts: in the I quarter - 10 %, in II – 10 %, in III – 50 %, in IV – 30 % (Tax Code of Ukraine, 2021).

The dynamics of changes in the single tax rates (until 2015 - a fixed agricultural tax) are shown in Table 1.

Table 1.
Single tax rates for taxpayers of group IV (fixed agricultural tax) for 2005-2021

Land type	Tax rates, (%)				
	2005-2013	2014	2015	2016	2017-2021
Arable land, hayfields and pastures	0.15	0.15	0.45	0.81	0.95
Perennial plantings	0.09	0.09	0.27	0.49	0.57

In Ukraine, since 2015, there has been a tendency to increase the single tax rate for agricultural producers, which makes the simplified taxation system less profitable for enterprises.

In addition, the amount of the single tax for agricultural enterprises has increased significantly due to the fact that since 2015, when calculating the tax base, the indexation of the normative monetary valuation of the land is used – a coefficient of 3,997 is applied for 1995-2014, 1,124 – for 2016, and an additional coefficient of 1.756 for arable land.

The combined effect of these factors has led to an increase in the amount of the single tax in 2020 compared to 2014 by 50 times for companies specialized in crop production.

The application of a single tax for the agricultural sector of the economy has its advantages and disadvantages.

Advantages:

– reduction of the tax burden on agricultural enterprises in general (especially by 2015), improvement of their financial results,
– simplification of accounting and reporting by agricultural enterprises, reduction of time spent on document management.

Disadvantages:
– reduction of revenues to local budgets,
– the need to pay a fixed amount of tax, even if the activities of the company are unprofitable,
– dissemination of tax evasion schemes,
– negligence in accounting for income and expenses of many enterprises, which leads to distortion of reporting indicators.

Legislative changes to the procedure for calculating the single tax have reduced the attractiveness of the simplified taxation system for agricultural enterprises (the fourth group of single tax payers) and their consideration of an alternative – the general taxation system and the third group of single tax payers.

When considering such a decision in order to reduce the tax burden, they need to consider the following factors:

1. Expected amount of income and profit:
– for the third group of single tax payers the annual income limit is set at UAH 7 million (EUR 228000),
– under the general system of taxation, income tax is levied at the rate of 18%,
– enterprises that expect high profits, it is advisable to choose a single tax of the fourth group,
– enterprises with low expected profits and unprofitable enterprises should switch to the general system of taxation,

2. Area and monetary valuation of land:
– for single tax payers of the fourth group, the amount of the single tax directly depends on the area and monetary value of agricultural land, taking into account both own land and leased,
– enterprises specializing in animal husbandry have a small area of agricultural land and significant profitability, it is advisable to use a single tax of the fourth group,

3. Specialization of the enterprise:
– payers of the single tax of the fourth group may be agricultural producers – legal entities, regardless of organizational and legal form, in which the share of agricultural production for the previous tax (reporting) year is equal to or exceeds 75 percent,
– cannot be payers of the single tax of the fourth group:
  • economic entities in which more than 50 percent of the income is received from the sale of agricultural products of own production and products of its processing constitute income from the sale of ornamental plants, wild animals and birds, fur products and fur,
  • business entities engaged in the production of excisable goods, except for grape wine materials, produced at primary winemaking enterprises for secondary winemaking enterprises that use such wine materials for you-production of finished products,
– activities prohibited for single tax payers of the third group specified in paragraph 291.5 of the Tax Code (Tax Code of Ukraine, 2021), in particular:
  • production, export, import, sale of excisable goods,
  • extraction, sale of minerals, except for the sale of minerals of local importance.

4. Use of irrigation systems:

– enterprises that actively use irrigation, it is advisable to choose a single tax of the fourth group, which provides for exemption from rent for special use of water,

5. Amounts of dividends distributed among the owners of an enterprise:

– dividends received from the enterprise – payers of corporate income tax are taxed by personal income tax atthe rate of 5%, in other cases - 9%,

6. Relations with landlords – owners of land shares:

– if the company rents land plots in the general system of taxation, the land tax is paid by the peasants-owners themselves - the company will have to increase the rent accordingly to prevent the loss of land,
– for enterprises – payers of the single tax of the fourth group, the single tax is paid from their own and leased lands, and the peasants do not pay the land tax,

7. Presence of the tax debt:

– taxpayers who on the day of filing the application for registration have a tax debt, except for bad tax debt, which arose as a result of force majeure, are not entitled to be single tax payers,

8. The complexity of accounting, reporting:

– accounting and reporting in the general system of taxation require more time.
– Reform of the single tax of the 4th group is considered by scientists and authors of bills in the context of the following areas:
– abolition of the single tax (the amount of the single tax does not depend on the profits of enterprises, and thus makes it possible to implement tax avoidance schemes),
– change in the procedure for calculating the tax base - the determination of the monetary valuation of the land is carried out by indexing the indicators of 1995 or According to the order of the Ministry of Agrarian Policy № 262 from 23.05.2017 (as amended by order № 605 from 18.12.2018), and after lifting the moratorium on the sale of agricultural land, the procedure for determination of the tax base may be revised to take into account land prices that will be formed,
– reduction of the list of payers of the single tax of the 4th group due to the increase of requirements to them, abolition of privileges to highly profitable branches of agriculture:
– establishment by the object of taxation exclusively of own land plots, and the land tax is paid from the leased ones,
– establishing a requirement for the share of livestock,
– establishing a requirement for the maximum size,
– increase of single tax rates (introduction of increased rates in case the total area of land owned or used by an agricultural producer exceeds 100 hectares),
– differentiation of tax rates depending on the type of activity.

In addition to the single tax, value added tax has a significant impact on the tax burden on agricultural enterprises.

Since 1998, the agricultural sector has had a special value-added tax regime, which allowed VAT to be accumulated in special accounts for producers' own needs. The situation had changed radically since January 1, 2016, when the amendments to the Tax Code came into force. In 2016, a differentiated system of special tax regimes by types of agricultural

products was introduced for agricultural producers (Table 2). Since 2017, the special regime has been abolished.

Table 2.
Distribution of VAT amounts according to the special regime in 2016

Agricultural goods	Directions for using VAT amounts	
	Directed to special accounts of agricultural enterprises, (%)	Transferred to the state budget, (%)
Cereals and industrial crops	15	85
Livestock products	80	20
Other agricultural products and services	50	50

This distribution of VAT had a significant negative impact on the performance of many Ukrainian enterprises specializing in crop production (cereals and sunflower), in 2016 they paid 85% of VAT to the budget, leaving 15% at their disposal.

The financial indicators of enterprises in the agricultural sector of the economy are shown in table 3.

Table 3.
Financial indicators of agricultural enterprises of Ukraine in 2014-2019 (State Statistics Service of Ukraine, 2021)

Indicators	2014	2015	2016	2017	2018	2019
Financial results before taxation,						
UAH million	21677.4	103137.6	91109.5	69344.1	71478.5	94041.4
EUR million	1129.0	3936.5	3208.1	2070.0	2254.8	3645.0
Net profit (loss), UAH million	21481.3	102849.1	90613.2	68858.5	71002.6	93255.4
EUR million	1118.8	3925.5	3190.6	2055.5	2239.8	3614.6
Share of profitable enterprises, (%)	84.1	88.4	87.7	86.2	86.3	83.1
Profitability of operating activities, (%)	20.6	41.7	32.4	22.4	18.3	19.2

The most favorable year for agricultural enterprises was 2015. It was the last year when the special VAT regime was fully operational and the single tax rate was 0.45%. In 2016, the special regime was severely limited (Table 2), and the single tax rate increased to 0.81%. As a result, profitability in the industry dropped from 41.7 to 32.4%. In 2017, the special regime was completely abolished, and the single tax rate increased to 0.95%, which led to a further decline in the profitability of agricultural enterprises. Although it should be noted that, according to statistics, even the profitability of agricultural enterprises is 19.2% – higher than in other sectors of Ukraine's economy.

The abolition of the special VAT regime in 2017 was partially offset by the introduction of a budget VAT subsidy for agricultural enterprises that grew vegetables, fruits, berries, engaged in animal husbandry, etc. Since 2018, budget funds within this area of state support have not been allocated.

In 2020, Ukraine applies VAT rates of 20%, 7% and 0% (Tax Code of Ukraine, 2021). However, in order to support the agricultural sector of the economy, the issue of taxation of agricultural products and foodstuffs at reduced rates has been repeatedly raised.

The practice of applying reduced VAT rates is common in the countries of the European Union and is aimed at ensuring the availability of food.

In accordance with Article 98 of Council Directive 2006/112 / EC (Council Directive, 2006) on the common system of value added tax, in order to prevent structural imbalances in the Community and distortions of competition in certain activities resulting from the application of different standard VAT rates by Member States, a minimum standard rate of 15% with the possibility of revision. The EU Member States may apply one or two reduced rates.

The provisions of the Directive also stipulate that the reduced rate should be set in such a way that VAT liabilities cover the existing tax credit and that there is no need for budgetary reimbursement of VAT amounts.

The reduced rates are set as an interest rate of the tax base, which cannot be lower than 5%, but for some countries there are exceptions to certain goods, works and services. The countries that apply reduced rates for VAT on agricultural activities and their products are Poland (a reduced rate of 8% for agricultural products), Hungary (18% for milk), etc.

Below we present the draft laws in this area, which in recent years have been registered in the Verkhovna Rada (Table 4).

Table 4.

Comparison of draft laws on the introduction of preferential VAT rates for the agricultural sector of the economy (Draft laws…, 2021)

Draft laws	Substantive provisions
Draft law № 7420 of 19.12.2017 "On Amendments to the Tax Code of Ukraine to reduce the value added tax rate for agricultural enterprises"	- reduction of the VAT rate on transactions for the sale (supply) of agricultural products in the customs territory of Ukraine from 20 to 7 percent
Draft law № 7420-1 of 27.12.2017 "On Amendments to the Tax Code of Ukraine to reduce the value added tax rate for certain types of agricultural products"	- VAT taxation at the rate of 10% of some food and raw materials for their production, in particular, livestock products, sugar beets, beet sugar
Draft law № 7420-2 of January 3, 2018 "On Amendments to the Tax Code of Ukraine to Reduce the Value Added Tax Rate for Certain Types of Agricultural Products"	- VAT taxation at the rate of 10% of some food and raw materials for their production, in particular, livestock products, sugar beets, beet sugar, vegetables, wheat, flour, bakery products
Draft law № 8570 of 07/06/2018 "On Amendments to the Tax Code of Ukraine to reduce the value added tax rate for horticultural, berry and viticulture products"	- VAT taxation at the rate of 7% supply and import to Ukraine of trees, shrubs with edible fruits, nuts, grapes, certain fruits
Draft law № 3656 of 15.06.2020 "On Amendments to the Tax Code of Ukraine on	- establishment of a reduced rate of value added tax - 14% on supply operations in the customs

the Value Added Tax Rate on Transactions for the Supply of Certain Types of Agricultural Products"	territory of Ukraine and import into the customs territory of Ukraine of certain types of agricultural products

The need for such draft laws is justified as follows:

– it is necessary to provide state support to the agricultural sector of the economy in the conditions of the abolition of the special VAT regime from 2017, to prevent mass bankruptcy of enterprises,
– it is necessary to additionally support the most vulnerable branches of agriculture, in particular, animal husbandry, horticulture,
– it is necessary to take measures to stop the growth of food prices, to ensure the optimal structure of food consumption (increase in consumption of fruits, meat and dairy products),
– it is necessary to bring out the "shadow" producers who are forced to hide income due to excessive tax burden,
– it is necessary to counteract the competition of agricultural producers from other countries, in particular, the countries of the European Union after the conclusion of the Association Agreement with the EU.

In our opinion, the application of preferential VAT rates for the agricultural sector has the following advantages and disadvantages.

Advantages:

– development of agricultural enterprises, increase of investments,
– reduction of prices for agricultural products, improvement of its accessibility for the population,
– reduction of the effectiveness of a number of tax evasion schemes, de-shadowing of agricultural production,

Disadvantages:

– reduction of tax revenues to the budget,
– transfer of the tax burden to other sectors of the economy, violation of the principles of fair taxation,
– complications of tax administration,
– emergence of new schemes of tax evasion.

Draft law № 3656 was adopted on December 17, 2020 and is expected to be signed by the President of Ukraine. After passing all the necessary procedures, the Tax Code will be amended, according to which the rate of 14% will be applied to operations on supply in the customs territory of Ukraine and import into the customs territory of Ukraine of the following products: cattle, pigs, wheat, rye, barley, oats, corn, soybeans, flax seeds, rapeseed and rape, sunflower, other oilseeds, sugar beets.

The authors of the draft law noticed (Website of the Verkhovna Rada of Ukraine, 2020):

– reduction of the VAT rate on most transactions will not lead to budget losses, as these goods are not sold to the final consumer who is the actual VAT payer,
– not only agricultural producers but also processors will benefit from the reduction of the VAT rate, as the term of payment of the basic amount of VAT for them is moved from the date of payment of raw materials to the date of payment of obligations for sales of its products (at least 30 days),

– when reducing the VAT rate on transactions for the sale of grain and oilseeds, the amount of compensation from the budget to exporters is reduced proportionally. That is, budget expenditures and risks of losses associated with VAT fraud and the use of the so-called "twists" are reduced, as the effectiveness of such fraudulent schemes is sharply reduced.

Draft law №3656 has been widely criticized. The main claims to it from scientists and practitioners are as follows:

– reduction of tax credit amounts for processing enterprises purchasing agricultural products, deterioration of their financial performance,
– the amount of budgetary compensation to exporters will decrease,
– prices for final foodstuffs will not decrease, because the VAT rate on them has remained at the level of 20%,
– lack of support for sorghum, buckwheat, peas, a number of other products,
– due to the increase in the number of rates, the administration of VAT will become more difficult, the control work of the State Tax Service will be less efficient, and bureaucratic pressure will increase.

The introduction of a tax on withdrawn capital can significantly affect the taxation of agricultural producers (Draft law №8557) (Draft laws on the website, 2021).

Its purpose is to free up funds for the development and modernization of enterprises and stimulate economic growth by taxing only that part of the profits of enterprises that is not aimed at expanding or creating the production. This approach is applied in the Republic of Estonia, the Republic of Latvia and Georgia.

The transformation of the income tax into a tax on withdrawn capital is supported, in particular, by the Association of Taxpayers of Ukraine, the Ukrainian Institute of the Future, members of the coalition "For De-Shading the Economy", the Public Council at the State Fiscal Service of Ukraine.

The draft law provides for the replacement of the corporate income tax with a tax on withdrawn capital. The object of taxation of the withdrawn capital tax is defined as operations on withdrawal of capital and operations equated to operations on withdrawal of capital. Taxpayers of withdrawn capital are expected to identify residents (business entities - legal entities that conduct business activities both in Ukraine and abroad) and non-residents (legal entities and their permanent establishments that conduct activities on the territory of Ukraine).

The draft law proposes to apply the following rates of tax on withdrawn capital:

– 15% - to capital withdrawal operations,
– 20% - to operations equated to capital withdrawal operations (except for operations taxed at a rate of 5%),
– 5% - to the funds paid for the fulfillment of debt obligations to related parties - non-residents (under certain conditions) (Draft laws on the website, 2021).

With the adoption of this draft law, the tax burden on enterprises will be reduced, and many agricultural enterprises will have an incentive to abandon the simplified taxation system.

The gradual growth of profitability of agricultural enterprises in Ukraine is an indicator of economic development of rural areas, increasing the efficiency of land use and sustainable development of the country's export potential. At the same time, improving the efficiency of the rural economy requires new fair approaches to the distribution and redistribution of established funds of agricultural enterprises.

Thus, the mechanism of accrual and distribution of taxes has to perform important tasks illustrated by the study:
– formation of the fiscal burden on the agricultural producer,
– creating conditions for the accumulation of financial resources during peak periods of costs,
– filling the revenue side of local budgets with monetary resources,
– implementation of instruments of indirect state support to rural areas and agricultural enterprises.

Thus, in the system of formation and distribution of the tax burden, contradictions and the need for cooperation between the state, local authorities and agricultural producers are formed. The development and implementation of fair and effective mechanisms for taxation and distribution of taxes between levels of government remains a promising area of new research.

Conclusions

The largest part of the tax burden of agricultural enterprises is formed by the following taxes, fees, mandatory payments:
– single tax (group IV),
– VAT,
– taxes on the salary fund (personal income tax, military duty, single contribution to compulsory social insurance),
– corporate income tax,
– land tax.

Recent changes in legislation aimed at reforming the tax system in accordance with the requirements of the International Monetary Fund, reduce the amount of state support for agricultural enterprises, increase their tax burden, which will negatively affect their activities.

It is expedient to introduce preferential VAT rates for agricultural enterprises and a tax on withdrawn capital.

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OBCIĄŻENIE PODATKOWE PRZEDSIĘBIORSTW ROLNYCH NA UKRAINIE

Streszczenie. Rolnictwo jest jednym z wiodących sektorów gospodarki Ukrainy, a państwo przywiązuje szczególną wagę do jego rozwoju. Jednym z kierunków wsparcia państwa dla rolnictwa jest realizacja preferencji podatkowych, dzięki czemu przedsiębiorstwa rolne mają mniejsze obciążenia podatkowe. Optymalny poziom obciążeń podatkowych jest ważnym czynnikiem zapewniającym pozytywną dynamikę działalności gospodarczej w rolnictwie, a także stabilność społeczno-polityczną. Celem artykułu jest określenie wpływu ostatnich zmian w prawie podatkowym Ukrainy na obciążenia podatkowe przedsiębiorstw rolnych, a także ewentualnego wpływu aktualnych projektów ustaw. W artykule omówiono cechy ustawodawstwa podatkowego Ukrainy w zakresie opodatkowania producentów rolnych i jego zmian w ostatnich latach - podwyższenie jednolitej stawki podatkowej, wprowadzenie indeksacji regulacyjnej wyceny pieniężnej gruntów, zniesienie specjalnego reżimu podatku od wartości dodanej . Rozważono zalety i wady stosowania uproszczonego systemu opodatkowania przez przedsiębiorstwa rolne. W artykule rozważono obszary poprawy opodatkowania przedsiębiorstw rolniczych, zmierzające do zmniejszenia obciążeń podatkowych przedsiębiorstw rolniczych, w szczególności zastosowanie obniżonych stawek podatku od towarów i usług, wprowadzenie podatku od wycofanego kapitału zamiast podatek dochodowy. Wyniki badania to rekomendacje dla przedsiębiorstw rolniczych dotyczące wyboru systemu podatkowego o najniższym obciążeniu podatkowym, a także rekomendacje dotyczące usprawnienia ustawodawstwa podatkowego Ukrainy.

Słowa kluczowe: podatki, obciążenia podatkowe, producenci rolni, uproszczony system podatkowy, podatek jednolity (grupa IV)

Shaping the future via environmental taxes

Maksym Klymenko
NULES of Ukraine
PhD student of Finance department

Presentation Overview

Main figures
Environmental taxes explained
Benefits of Environmental taxes
Application of Environmental taxes
Environmental taxation principles

Main figures

9/10 INHABITANTS OF THE EARTH ARE BREATHING IN POLLUTED AIR

7 MLN PEOPLE DIE PREMATURELY ANNUALLY FROM DISEASES CAUSED BY AIR POLLUTION

GLOBAL AVERAGE TEMPERATURE HAS ALREADY RISEN BY 1.1 °C SINCE PRE-INDUSTRIAL TIMES

Actions

THE PARIS AGREEMENT SIGNED BY 195 STATES AND THE EU

- Prevent the growth of the global average temperature above 2°C.
- Reduction of greenhouse gas emissions into the atmosphere up to zero during the second half of the XXI century.

THE FIRST WHO GLOBAL CONFERENCE IN OCTOBER 2018

70 countries and organisations committed themselves to improve air quality.

Environmental taxes (ET) explained

Environmental taxes are "those whose tax base consists of a physical unit (or similar) of some material that has a negative, verified and specific impact on the environment".

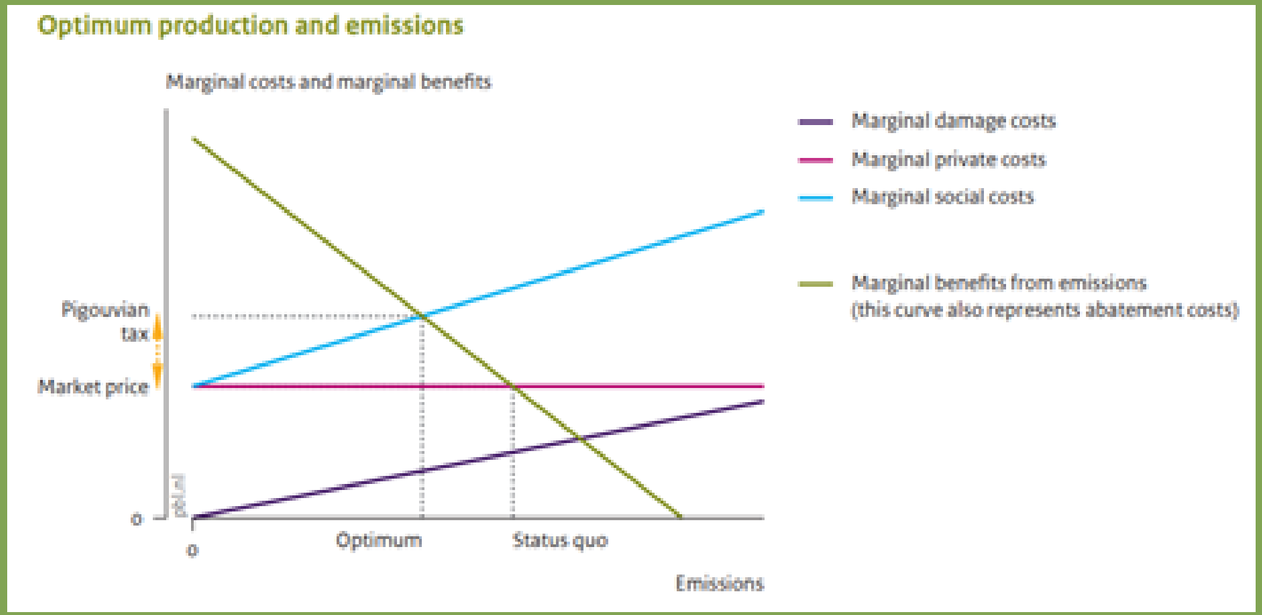
*according to the European Commission, the Organisation for Economic Cooperation and Development (OECD) and the International Energy Agency (IEA)

The purpose of green taxes is to make polluters pay in accordance with the 'polluter pays' principle, with the price reflecting the cost of externalities (manufacturing a product in a polluting way without considering its impact on the environment).

*www.iberdrola.com/environment/green-and-environmental-taxes

Economists traditionally recommend the Pigouvian tax as a cost efficient instrument for correcting negative externalities. Agents who can reduce their emissions against low marginal costs will choose to reduce their emissions, whereas those for whom this is too expensive will prefer to pay emission taxes.

*Vollebergh, 2007; Fullerton et al., 2010; De Mooij et al., 2012



The benefits of Environmental taxes

- Key tool for moving towards a decarbonized economy that favours sustainable development.
- They internalize the negative externalities.
- They promote energy saving and the use of renewable sources.
- They discourage anti-ecological behaviour.
- They motivate companies to innovate in sustainability.
- They generate revenue for governments, allowing other taxes to be lowered or environmental projects to be carried out.

*www.iberdrola.com/environment/green-and-environmental-taxes

The ideal situation for environmental taxation is what is known as the double dividend hypothesis:
the rise in these taxes would be compensated by a reduction in taxes on labour, capital or consumption would result in a double benefit: an improvement in the environmental quality and efficiency of the economic system.

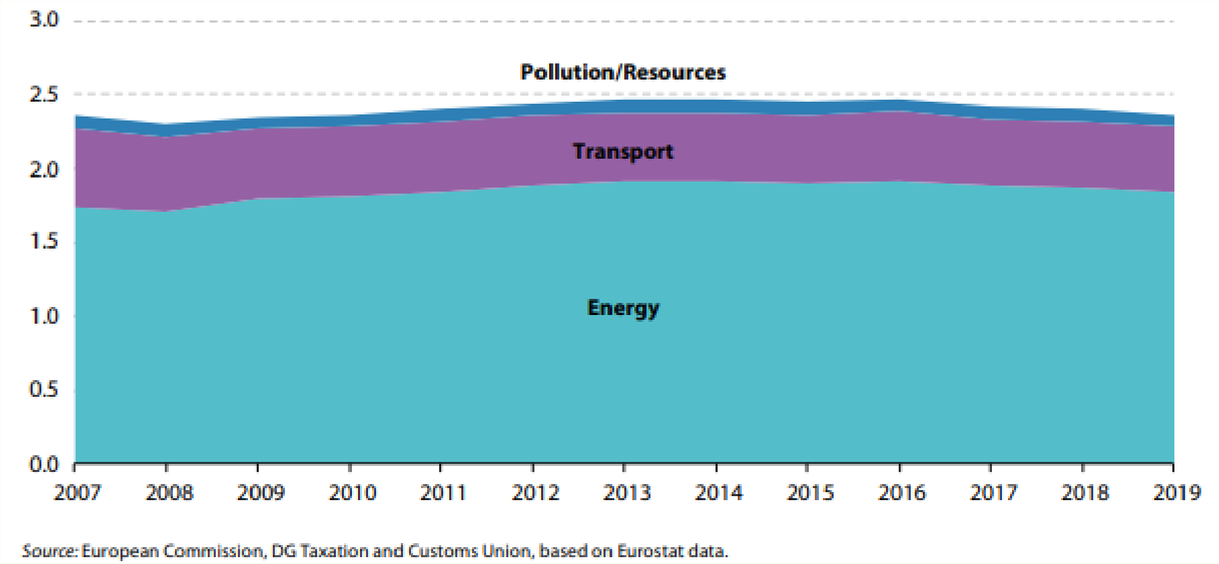
The application of Environmental taxes

- The emissions of nitrogen monoxide NO and nitrogen dioxide NO2.
- The emissions of sulpher dioxide SO2.
- The emissions of carbon dioxide CO2.
- Waste management.
- Noise.
- Energy products (petrol, diesel, natural gas, coal, electricity generation from fuels, etc.) which generate CO2 emissions when burned.
- Sources of water pollution (pesticides, artificial fertilizers, acids).
- Earth manipulation and the extraction and use of natural resources.
- Transport (polluting vehicle registration, use, import or sales).
- Products that reduce the ozone layer.

*www.iberdrola.com/environment/green-and-environmental-taxes

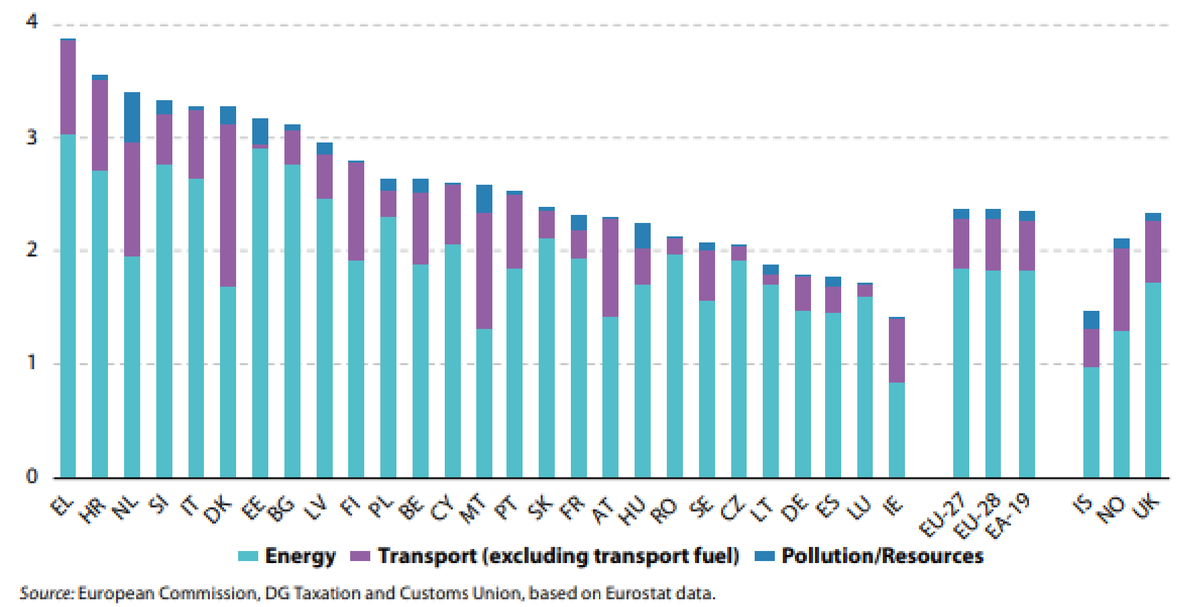
Figures

1. The share of Environmental tax revenues in the EU-27 (% of GDP)

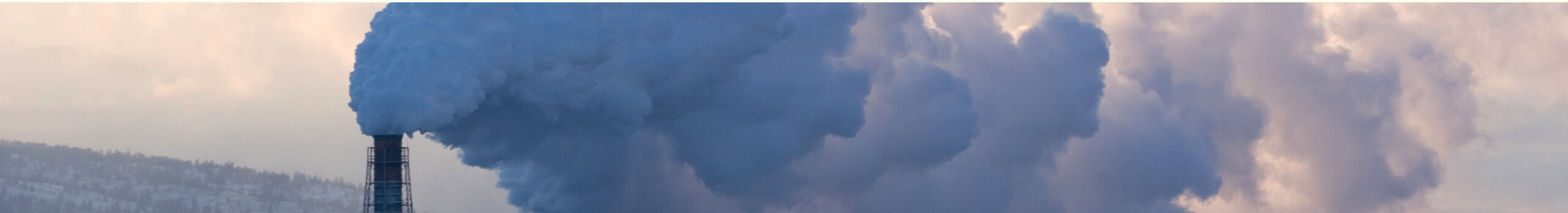


Source: European Commission, DG Taxation and Customs Union, based on Eurostat data.

2. Structure of environmental taxes, 2019 (% of GDP)

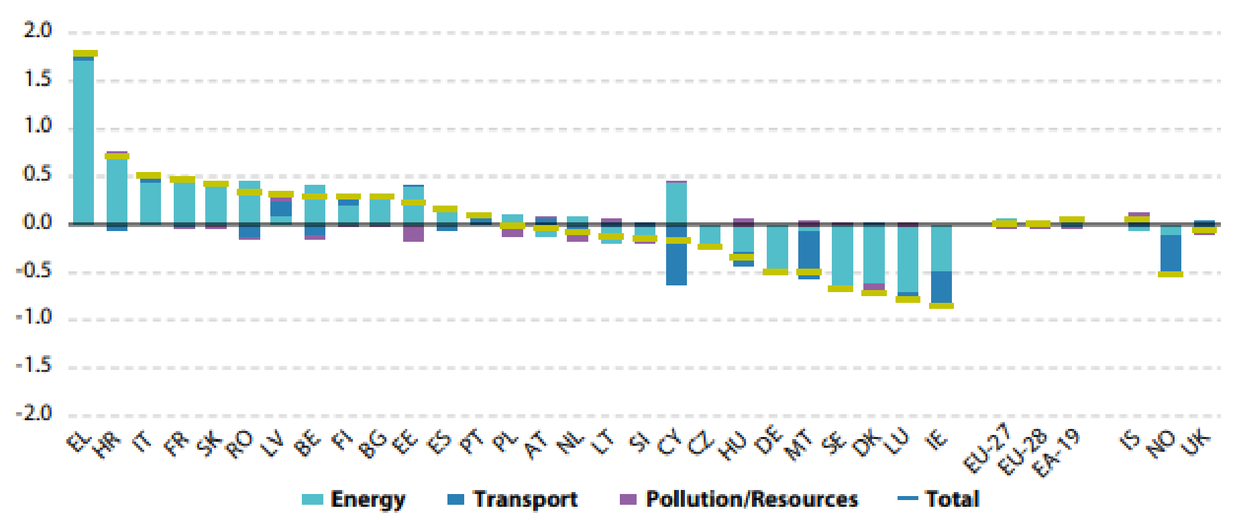


Source: European Commission, DG Taxation and Customs Union, based on Eurostat data.



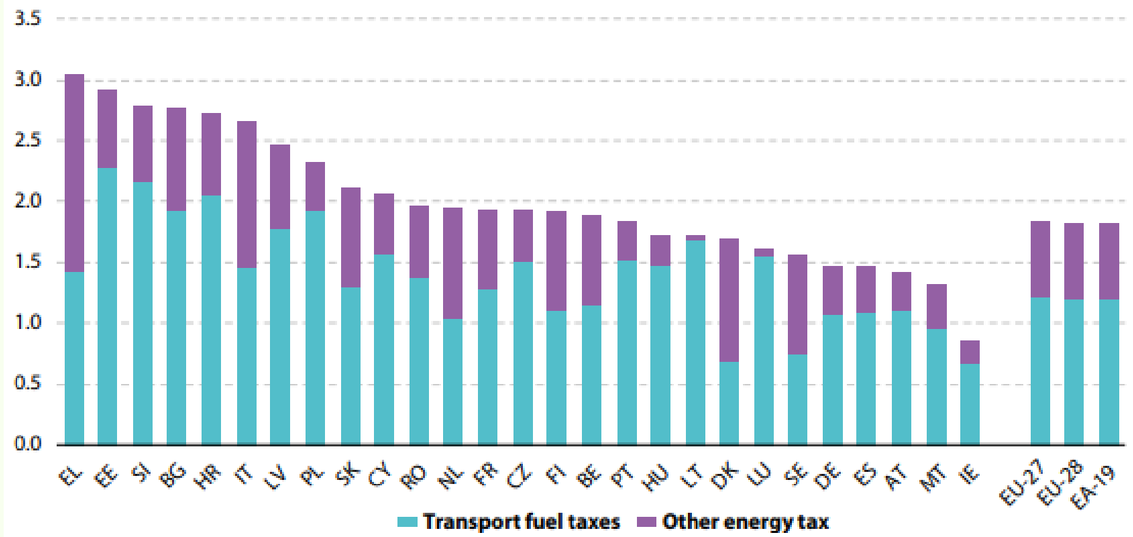
Figures

3. Change in the revenue structure of environmental taxes, 2009–2019 (difference in pp of GDP)



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data.

4. Energy tax revenue by Member State, 2019 (% of GDP)



Source: European Commission, DG Taxation and Customs Union, based on Eurostat data.

Environmental taxation principles

- Environmental taxes should be targeted to the pollutant or polluting behaviour, with few exceptions.
- The scope of an environmental tax should be as broad as the scope of the damage.
- The tax rate should be commensurate with the environmental damage caused.
- The tax must be credible and its rate predictable in order to motivate behaviours that help protect the environment.
- Environmental tax reform revenues can be used as additional revenue or help to reduce other taxes.
- Distributional impacts should be addressed through other policy instruments.
- Clear communication is critical to public acceptance of environmental taxation.
- Environmental taxes may need to be combined with other environmental policy instruments to address certain issues.

*www.iberdrola.com/environment/green-and-environmental-taxes

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agro-chemistry branches, cotton raw bases, corn bases, primary processing of fruits and vegetables, silk raw bases.
Every department prepares in the start of academic year education-methodical guides-programs for internships. Here also necessary to prepare daily notebooks for students, which they have to fill on base of work done daily. For every internship will appoint supervisor from corresponding department for 6–8 students. At the end of internship needs prepare detailed report, which will discussed in institute.
How we may solve above described problem of high education in Uzbekistan? First of all, it is urgently necessary to revise a charter of the country about high education and to shift main attention from rating students theoretical skills to getting professional experiences. A final examination form should be considered seriously by means of establishing criterions on the student's independent work. A subject teacher must rate student theoretical skills and his/her ability of critical thinking and how to find solutions for existing problems of the enterprises.
TOPAS project support management decisions through evidence based farm data analyses and evaluation, more precisely support practice oriented education and training.

Keywords: Agricultural management, ERASMUS+ TOPAS, higher education

The Influence of Credible Data on Research Outcomes (cereals case)

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This contribution outlines the importance of improvements in higher education of agricultural studies and makes the case for its impacts on the national agricultural policy. It focuses on the critical types of costs , and the significance of reliable data management for cereal production in Ukraine and advocates suitable teaching approaches. The latter include vocationally oriented practical programs and competencies approaches, targeting new and old graduates, with flexible learning pathways and permeability among different agrarian management programs. Both elements are part of the programme of the ERASMUS+ funded international TOPAS project.
Ukraine is one of the largest producers and exporters of grain and steadily increases grain production despite a bunch of domestic grain market problems (e.g. high infrastructure costs for grain exports, price volatility, large companies' dominance). Data to forecast gross harvest, harvested area and yields were collected by AGMEMOD programme for 2019 — 2030 period according to the State Statistics Service of Ukraine from 2004 to 2018. The results showed that the production potential for wheat would be about 25 million tons by 2030.
The manufacturer's nominal producer protection coefficient was defined as the ratio of the domestic purchase price to the world. The competitiveness of domestic grain on the world market ensured by lower grain prices (during 2015–2017 years 21 % lower than the world average). Agricultural producers compensate their price losses by lower cost of land lease and wages (take only 9 % of direct costs, which is 3–4 times lower compared to developed countries); wheat exporters (traders) compensate their price losses by lower grain quality and logistics costs through lower purchasing prices.
Furthermore, during the last two years, statistical reporting in Ukraine by agricultural enterprises in the form of 50-SG was cancelled, which complicates analytical and research activity, especially in training economic profile specialists. Implementation of the EU Erasmus+ KA2 TOPAS project aims to collect data on typical Ukrainian enterprises. The applied standard methodology to calculate profit margins for crops and data processing relies on the RegioMAX management decision-making programme and allows for solving this problem substantially.

Keywords: Agricultural management, ERASMUS+ TOPAS, farm data

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Ukraine

The influence of credible data on research outcomes (cereals case)

We aimed to discover

- critical groups of costs for production cereals in Ukraine
- have a macro look on a state agricultural policy of the grain industry
- investigate the significance of reliable data management that is a part of TOPAS Erasmus + project

TOPAS — Co-funded by the Erasmus+ Programme of the European Union

Involves ten partners in six European countries:

Germany Great Britain Romania Poland Armenia Ukraine Uzbekistan

It aims to fill the gap within a common former soviet inherited agricultural sciences higher education system in Ukraine, Armenia and Uzbekistan, introducing and improving vocationally oriented practical programs based on a learning outcomes and competencies approach, targeting new and old graduates, with flexible learning pathways and permeability among the different agrarian management programs, while fostering partnership between universities and stakeholders (farm industry and associations), and practical training in real working environment to provide a better match between job market needs and the qualifications offered.

Main problems that hamper the further development of the domestic grain market:

- infrastructure costs for grain exports remain at a rather high level, which reduces its competitiveness in the foreign market;
- the transport infrastructure does not meet the market needs, a considerable level of wear of the railway transport;
- an unpredicted increase of tariffs for grain transportation by rail;
- undeveloped river transport.

Up to now, the problem with logistics was felt less, since export volumes were much lower, and high grain prices covered up additional logistics costs. However, under conditions of decline world prices observed during 2013-2017, the inefficiency of transport and logistics infrastructure in the grain market has significantly affected the incomes of agricultural producers.

In a market economy, for the development of a balanced agrarian policy, it is essential to correctly determine its performance, directly for those who produce agricultural products. With methodology of the Organization for Economic Cooperation and Development (OECD), the indicator "Market price support" (MPS) is calculated, which determines the monetary value of gross transfers to producers from consumers and taxpayers for the year, which arose as a result of state policy measures , which creates a gap between prices for a certain type of grain in the domestic and foreign markets. Indicator MPS is determined in producer prices and is calculated by the formula:

$$MPS = (Pd - Pw) * S1,$$

where
Pd – domestic price per unit of output; Pw – world price per unit of output; S1 – offer of the domestic market.

The value of the indicator "Market price support" for wheat producers in Ukraine in 2000-2017 indicates a significant amount of shortfall in gross transfers from consumers and taxpayers (Figure 1).

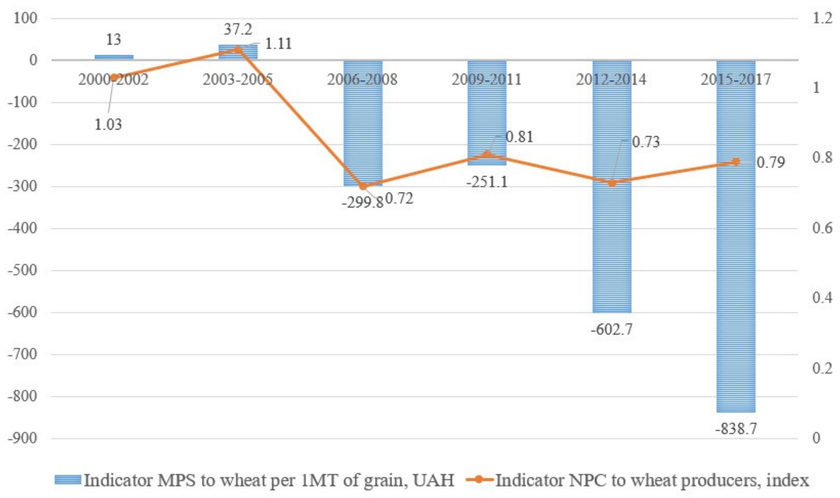


Fig. 1. Indicators "Nominal producer protection coefficient" and "Market price support" of wheat producers in Ukraine per 1 ton of grain per average period, UAH

Source: OECD, Statistical collection "Ukraine's Crop Growth for 2017"

The values of "The manufacturer's nominal producer protection coefficient" (defined as the ratio of the domestic purchase price to the world price) for grain producers prove price instability and lack of efficiency for grain market regulation mechanism in Ukraine.

In particular, as lower grain prices ensure the competitiveness of domestic grain on the world market, wheat exporters (grain traders) compensate their price losses by lower grain quality and logistic costs through lower purchasing prices. Following the calculations, wheat purchasing prices at the enterprise level on average for 2015-2017 in Ukraine were 21% lower than the world average.

At the same time, agricultural producers compensate their price losses by lower cost of land lease and wages. Looking at direct costs structure for grain production in Ukraine, the share of wages on the average for 2012-2017 is only 9%, which is 3-4 times lower compared to developed countries (Figure 2).

Ukraine has a huge grain production capacity and belongs to the cluster of the largest producers and exporters.

61,3 mln MT cereals harvested in 2017

5th world producer of barley 8.3 million MT

8th world producer of corn 24.7 million MT

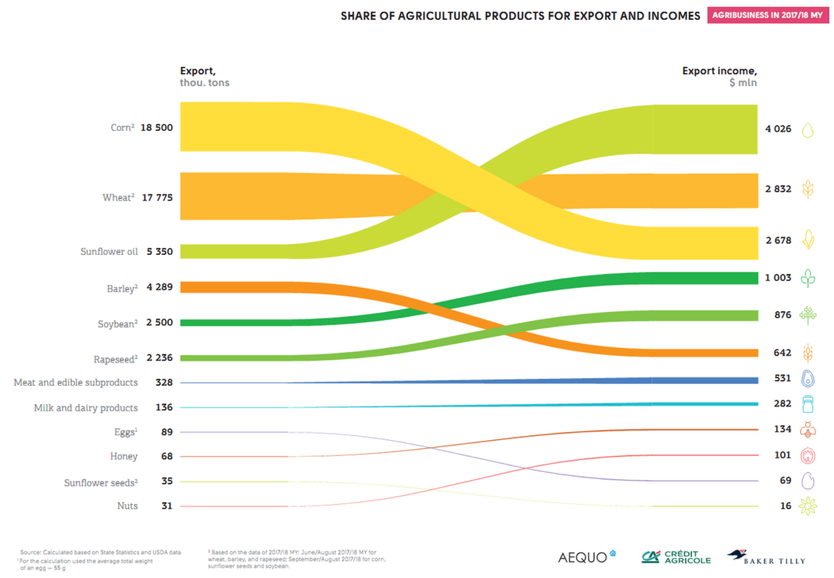
9th world producer of wheat 26.2 million MT

USDA For 2017/2018 marketing year (July 2017-June 2018)

Thus, the gross harvest of grain in Ukraine on average in the years 2015-2017 has almost doubled compared to 2000-2002, mainly due to an increase in average yield from 24.6 centners per hectare to 43.2 centners per hectare.

The main cereal grains used for foods include

- *corn (maize)*
- *wheat*
- *barley*
- *rice*
- *oats*
- *rye*
- *millet*
- *sorghum*



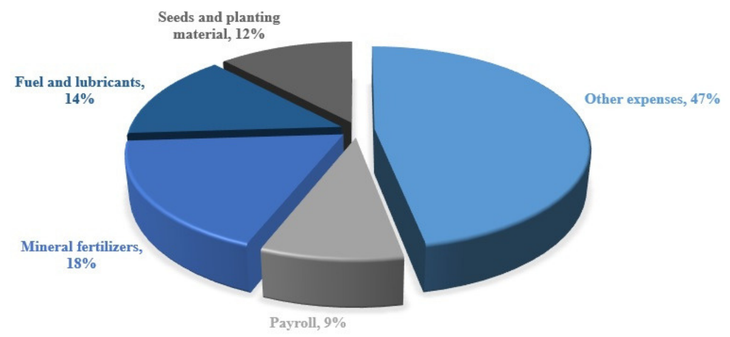


Fig.2. The costs structure for cereals production in Ukraine (on average in 2012-2017).

Thorough research investigated the fact that in Ukraine during the last two years statistical reporting of agricultural enterprises in the form of 50-SG was cancelled, which complicates analytical and research activity, especially in training economic profile specialists. Implementation of the EU Erasmus + KA2 TOPAS project aims to collect data on typical Ukrainian enterprises. Standard methodology utilisation to calculate profit margins for crops and data processing with the RegioMAX management decision-making program allows solving this problem substantially. Data to forecast gross harvest, harvested area and yields were collected by AGMEMOD program for 2019 – 2030 period according to the State Statistics Service of Ukraine from 2004 to 2018 (Figure 3).

AGMEMOD model developed and maintained by the AGMEMOD Partnership, which is a consortium of numerous universities and research institutes across Europe and beyond. The AGMEMOD model is an econometric, dynamic, multi-product, multi-national partial equilibrium model that allows projecting and simulating effects of policy measures on agriculture of the EU in general, the EU Member states, as well as some other countries such as Ukraine, Former Yugoslav Republic of Macedonia, Turkey and Russia. The results showed that the production potential for wheat would be about 25 million tons by 2030.

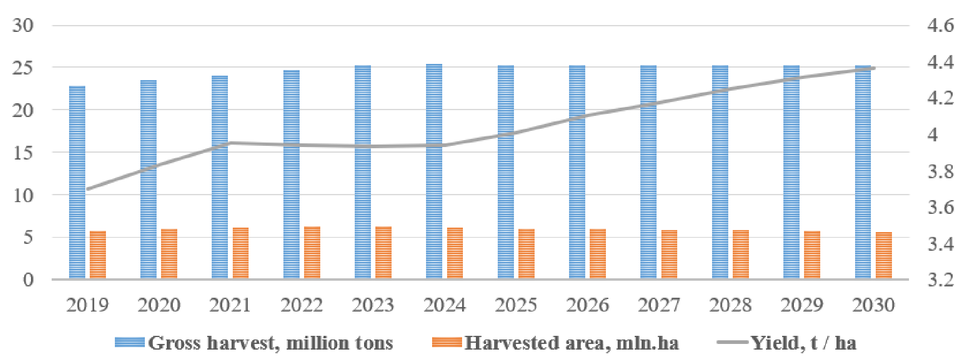


Fig. 3. Forecasting of gross harvest, harvested areas and yields for wheat in Ukraine (with AGMEMOD assistance)

Therefore, without structural changes in the agrarian sector of the domestic economy, in our opinion, it will be quite challenging to solve the problems of poverty, unemployment in the countryside and the revival and development of rural areas. Ukraine exports mostly cheap fodder grain, while forced to import meat and dairy products, and feed for livestock.

From this standpoint, if such trends will take place in the future, our state can remain the main supplier of raw materials for developed countries, leaving them added value and creating new jobs for them.

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МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
ДЕРЖАВНИЙ УНІВЕРСИТЕТ ТЕЛЕКОМУНІКАЦІЙ

КАФЕДРА ПІДПРИЄМНИЦТВА, ТОРГІВЛІ ТА БІРЖОВОЇ ДІЯЛЬНОСТІ

ПІДПРИЄМНИЦЬКА, ТОРГОВЕЛЬНА, БІРЖОВА ДІЯЛЬНІСТЬ: ТЕНДЕНЦІЇ, ПРОБЛЕМИ ТА ПЕРСПЕКТИВИ РОЗВИТКУ

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УДК: 658.8:339.119
П 5

ЗМІСТ

СЕКЦІЯ 1. ПІДПРИЄМНИЦТВО У СФЕРІ ВИРОБНИЦТВА, ТОРГІВЛІ ТА НАДАННЯ ПОСЛУГ

подальшого розвитку компанії. Існує багато прикладів успішних «блакитних океанів», незважаючи на те, що багато керівників вважають створення «блакитних океанів» складним заняттям, придатним тільки для рідкісних сфер бізнесу. Однак в нашій країні прикладів стратегії «Блакитного океану» дуже мало, що говорить про можливість розвитку та перспективність даної стратегії.

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FOSTERING INNOVATIONS AND PROTECTING FUTURITY THROUGH ENVIRONMENTAL TAXATION

We need this planet despite our status, knowledge, and day-to-day concerns. Saving the world is a prerequisite for the existence of everything we know and fight

for. Nine out of ten Earth inhabitants breathe in polluted air, which carries a substantial risk to people's health. Microscopic particles can penetrate the respiratory and circulatory system and disrupt the lungs, heart and brain. According to the WHO, seven million people die prematurely annually from diseases caused by air pollution (including cancer, stroke, heart and lung disease). Fossil fuel combustion, high emissions in the industry, transport sector and agriculture brought environmental taxation to be implemented. It could be one of the leverages to preserve our habitat and reduce these pollutants' harmful impact.

The concept of the environmental tax is used to collect statistics on revenues from such payments and is treated as a tax, the tax base of which is a physical unit that has a specific, proven negative impact on the environment.

Considering the above, environmental payments in the EU include such groups of payments:

1. Energy taxes-taxes on energy products, including coal, petroleum products, gas, electricity, fuel, etc.
2. Transport taxes-payments for the import, operation, utilization of vehicles, from their sales and resale.
3. Taxes on environmental pollution-payments for direct emission of pollutants into the air, discharges into water bodies and noise pollution.
4. Taxes on the use of natural resources for mining, water intake and the like.

Considering the retrospective data of EU countries' environmental taxation, we may conclude that such taxes represented 2.4 % of GDP in 2017, and 6.1 % of the total tax revenues collected. After a dip in 2008, their GDP share rose again slightly up to 2012, mainly due to the growth in energy taxes (Fig.1). However, since then, they have been more or less stable.

Around two-thirds of energy tax revenues in the EU are raised on transport fuel. In five Member States, transport fuel represents over 90 % of energy tax revenue. Denmark (less than 40 %), Spain, Sweden and Finland (less than 55 %) have the lowest share of transport fuel taxes. Overall energy tax revenue is highest in Greece, Slovenia and Latvia (3.2 %, 3.2 % and 3 % of GDP respectively).

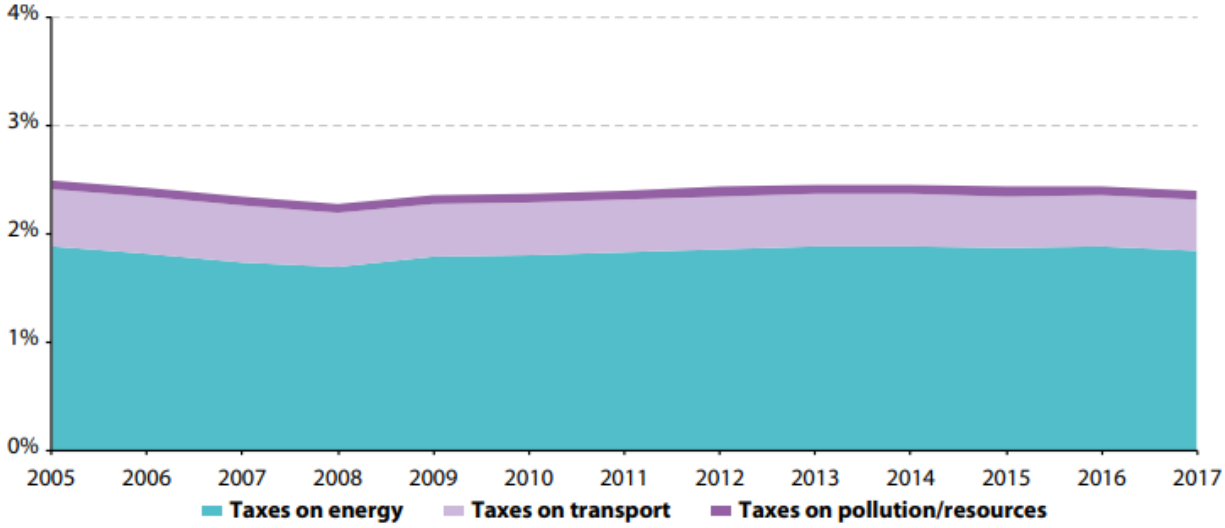

Fig 1. Environmental tax revenues, 2005-2017 (% of GDP)[1]

Environmental taxation (ET) can stimulate the national tax system to be shifted from labour taxation to environmentally harmful activities.

There are four possible types of effects of ET:

- make various goods or activities more expensive;
- direct or indirect distribution of this extra income;
- environmental benefits by pollution reduction;
- employment increase and eco-innovations.

Analysis of Germany and Netherlands' policies showed that environmental policy instruments positively affect innovation. The wider economic effects have also been analyzed in Germany, where environmental taxation cut pension contributions and created an estimated 250 000 jobs [4].

Furthermore, the reduction in social security payments means labour costs decrease, boosting employment – the model suggests that increasing the price of emitting one tonne of carbon dioxide to €68 by 2020 could create 152 000 additional jobs in Germany [4].

So, taking into account the macro-level effect, we may conclude that enterprises will have the following advantages and prospects while implementing environmentally-friendly technologies:

- lower taxes, because of the progressive use of resources;
- increase own independence;
- implement renewable-powered innovation, integrating renewable energy, for example, batteries, EV charging, blockchain, Internet of Things and AI and big data;
- **business models:** new services, enhancing the system's flexibility and incentivizing further integration of renewable energy technologies, for example, energy-as-a-service, peer-to-peer trading and pay-as-you-go models;
- **market design:** new market structures and changes in the regulatory framework encourage flexibility and value services needed in a renewable-based power energy system, stimulating new business opportunities, such as time-of-use tariffs and net billing;
- system operation**:** Innovative ways of operating the electricity system, allowing the integration of higher shares of variable renewable power generation, for example, advanced weather forecast, dynamic line rating and virtual power lines [6].

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SOCIO-ECONOMIC CONSEQUENCES AND PROBLEMS OF LABOR TAXATION

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Abstract. *The development of each state and economic growth are highly related to the number of factors of production such as labor and capital along with higher productivity of utilizing them. Frequently, high unemployment rate (with small labor force participation) and significant "shadow" employment accused of the high tax burden on labor. Moreover, some assumptions exist that decrease in personal income tax or social security contributions paid by employee induce an increase in labor supply, and a decrease of payroll taxes increment the labor demand. However, the impact of the tax change on labor market depends on the behavioral responses of economic "players" estimated by elasticities. The higher elasticity of supply or demand means higher sensitivity to the tax changes, with relatively less elastic side bearing the higher tax burden.*

We discussed the significant problems in the field of labour taxation and socio-economic consequences using the experience of Denmark, Estonia, Germany, Poland, Slovakia, and Ukraine. Unscrambling the decomposition of labour taxation, factors affecting labour supply and labour demand, tax incidence, employment problems and groups vulnerable to these problems. The main methods: a synthesis for primary concepts (labour taxation, take-home pay, tax wedge, tax incidence, payroll taxes); deduction; induction method for conclusions; statistical methods for analyzing revenues, structure, and composition of labour taxation between selected countries.

Anyway, taxes discourage both labor demand (by raising labor costs to employers) and labor supply (by lowering the real consumption wage of workers). They create a "tax wedge" between labor cost to the employer and the worker's take-home pay and thereby reduce both employment and economic growth. We tried to discover the issues above concerning existing research data. However, the investigation scale needs to be expanded for the thorough look and deep awareness of taxation concepts and problems.

Keywords: *taxes, tax system, labor taxation, take-home pay, tax wedge, payroll taxes, gross salary, social security contributions, personal income tax, implicit tax rate*

Introduction. There is no point denying, taxes take a significant share in our life. Part of the income which levied by tax authorities specifies the ability to satisfy conventional needs and wellbeing.

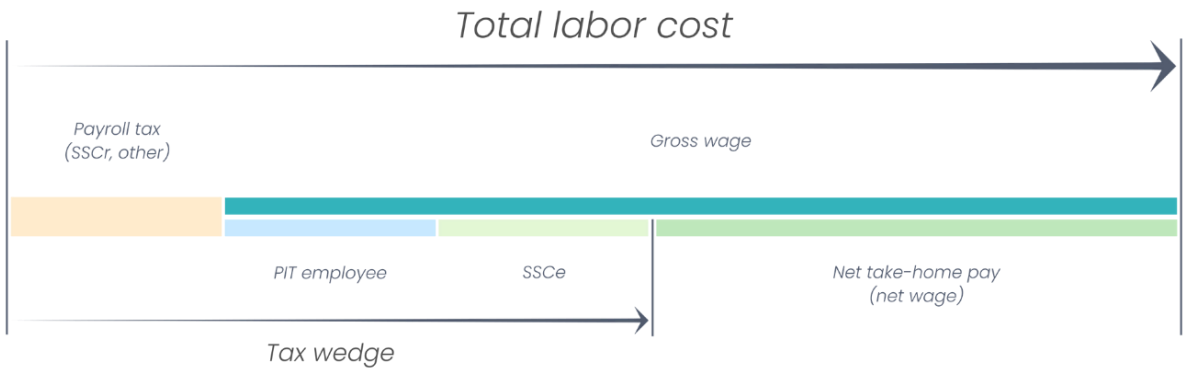
The main purpose of taxation can be either raising revenue to meet huge public expenditures or reduce consumption of harmful goods. It is one of the economic policy instruments that affects the total volume of production,

consumption, investment, choice of industrial location and techniques, the balance of payments, distribution of income, etc.

In the vast majority of Western Europe countries, labor taxation has the dominant part in tax revenues. Forasmuch the approaches and decomposition of labour taxation are different, we consider the experience of Denmark, Estonia, Germany, Poland, Slovakia, and Ukraine with a look at labor demand and supply side as the reasons for unemployment; sensitive groups in the labor; tax incidence and tax wedge (Is it relatively high because of expensive social security system?).

There are a lot of publications and research data regarding labour taxation, especially from Yushko S., Shvabij K., Krat O., Bezverkhoga K., Yurchyshena L., Shevchuk I., G. Carone, Löffler, M., Peichl, A. and S. Siegloch, Styczyńska, I., Najman, B. and A. Neumann. However, dynamic development of taxation system requires constant monitoring of the changes with a fresh appraisal approach.

Material and method. The effectiveness of any tax system is a background for solving social and economic problems, and support functions performed by the state. Labor taxes include personal income tax, social security contributions paid by employees, and payroll taxes (social security contributions and other taxes paid by the employer).



Pic. 1. Decomposition of total labour cost

Social security contributions finance social security benefits (old-age pensions, disability pensions, survivors' pensions, sickness benefits, and unemployment benefits). Total labor cost is a sum of gross wage earnings of employees and payroll taxes paid by the employer (Pic. 1). Net take-home pay (net wage) is the difference between gross earnings and personal income tax and social security contributions paid by the employee. Tax wedge is the difference between total labor cost to the employer and the net take-home pay of the employee, expressed as a % of the total labor cost.

Employment problems

1.Unemployment-share of the workforce who wants to work and does not find employment. Reasons:

- ✓ business cycle (short-term lack of aggregate demand);
- ✓ structural reasons:
  - Unwinding of unsustainable developments (long-term lack of aggregate demand)
  - Mismatch between labour demand and supply. Factors affecting labour supply and labour demand are presented in Table1 and 2 respectively.

1. Factors affecting labour supply [4]

Factors	Labour supply effect
Population aging	People aged 50+ have lower chances of employment. A large share of the population potentially decreases link between contributions and pension entitlements.
Falling fertility levels	Having children has ambiguous effects on employment. While it increases the probability of men to be employed, the chances of being employed decreases for women.
Changing family structures	Being married has ambiguous effects on employment, for men there is a positive correlation, while for women it is negative. However, most likely also a reverse causality.
Female labour participation	Women still have a lower labour force attachment.
Changes in educational attainment	Lower educated people are less probable to find employment.
Increasing migration	Migrants have lower chances of finding employment.

- Rigidities at the labour market:
  - ✓ Wage rigidities
  - ✓ Other labour market regulations

2. Factors affecting labour demand [4]

Factors	Labour demand
Occupational shifts	Shifts in production between occupations/ sectors cause increased demand for one type of skills and decreasing demand for the different type of skills. In short- to medium-run such shifts can result in a skill-mismatch, i.e. mismatch between skills that are demanded on the labour market and skills that are available. It causes the increase of unemployment and the increase in vacancies at the same time. In the long run, the market should adjust and the unemployment should decrease and employment increase.
Structural changes in labour market	Introduction of innovative tools in the workplace, changing nature of the workplace induce demand for different types of skills, often unavailable on the labour market. Again, we observe a skill shortage, which creates unemployment and lower employment.

*2.Under- and non-employment***-**share of the population who (apparently) voluntarily stays away from the workforce.

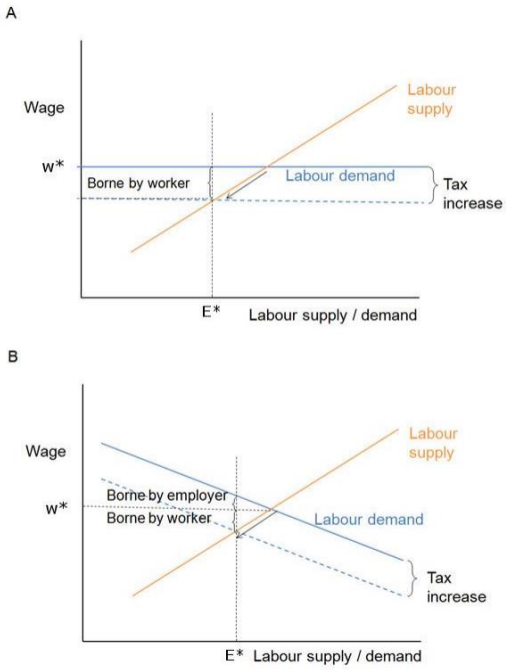
Reasons*:*

- ✓ non-employment outside the labour market;
- ✓ incentive problems:
  - Opportunity cost (cost of child care);
  - Poverty trap (where income related benefits create situations for unemployed people where they are better off staying outside the workforce.

Groups vulnerable to employment problems

- *Low-skilled* - facing a labour demand problem as a result of the sectoral shifts which substantially reduced the need for the low-skilled workforce.
- *Young people* - usually perceived as unstable employees who would leave an employer to gain more experience before they settle into a permanent role.
- *Elderly.* Due to population ageing the labour supply of elderly people is increasing. But labour demand is not keeping up because the elderly are often perceived as people of lower productivity, who are not keen on investing in themselves, and who are unable to acquire new skills and adapt to rapid changes in the market.
- *Women.* They are still largely responsible for child care, care of elderly relatives and other non-market household activities.
- *Migrants.* Often their previous work experience and foreign education are not adequately valued by employers, and therefore they are facing a labour demand problem.

The extent to which workers or employers bear the burden of labour taxation is intimately linked to the relative degree of responsiveness of each to the financial (dis)incentives created by the tax: that is, to the relative elasticities of labour supply and labour demand. This is most clearly seen in a simple representation of a classical perfectly competitive labour market. Picture 2 shows the situation where labour supply is somewhat elastic, and: in panel (A) when labour demand is completely elastic; and in panel (B) when labour demand is incompletely elastic.



Pic. 2. The relationship between behavioral response to taxation and tax incidence [4]

Initially, no taxes are levied. Market equilibrium is at the point at which labour demand and labour supply are equal: let's call the resulting level of employment "E*", and the resulting wage rate "w*". Now let's introduce a tax, in this case, formally levied on workers, so, that for a given gross wage paid by employers, workers receive a lower net wage. But who bears the economic burden of this tax? In the case of completely elastic labour demand (A) - fully on the worker: the gross wage remains unchanged, and the worker bears the full burden of the tax in the

form of a lower net wage. However, in the case of incompletely elastic labour demand, panel (B) shows that the incidence of the tax is split between the worker and the employer. Intuitively, as the workers reduce the amount they are willing to work because of the lower net wage they receive when the tax is in place, the employers are willing to pay a higher gross wage to help maintain a supply of (the now more scarce) labour. Thus the burden of taxation is split between employers who pay somewhat higher gross wages than in the absence of the tax, and workers, who none-the-less still receive a lower net wage than in the absence of the tax.

Results and discussion. It is not superfluous to recall the real GDP growth, due to social significance for increasing in tax revenues as a whole (see Figure 1). There was a significant decline of GDP in 2009, which was caused by the global recession in 2009 with a consumption boom, which was accompanied by a steady increase in commodity prices.

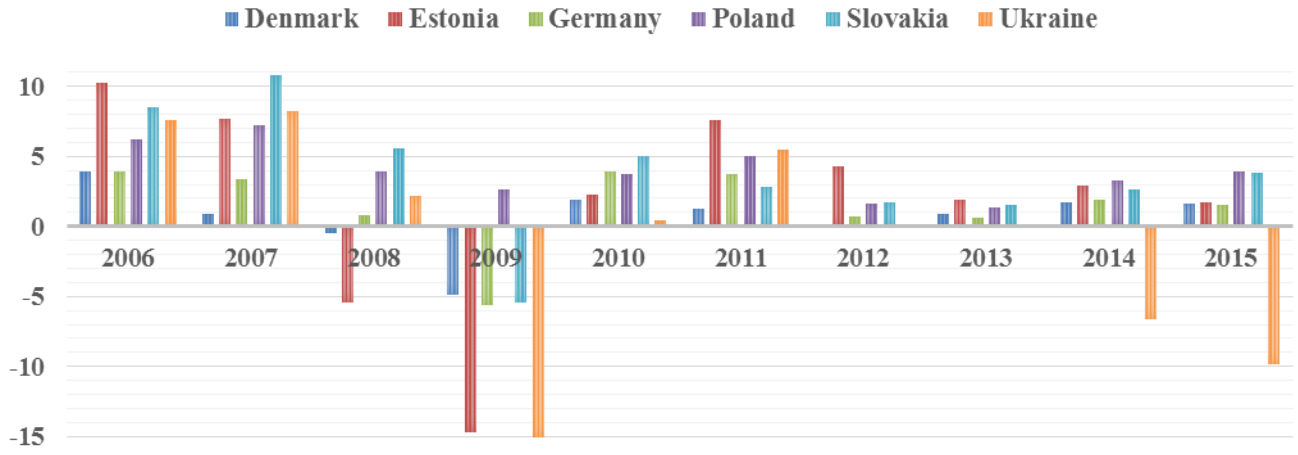


Fig. 1. Real GDP growth (annual percentage change) [3]

The sharp recession and the sluggish recovery has strongly increased the level of unemployment in the all researched countries. Figure 1 and 2 highlight the development and the relationship between the annual GDP growth and the unemployment. Following a period of solid growth in 2006 and 2007 the unemployment rate sunk in 2008.

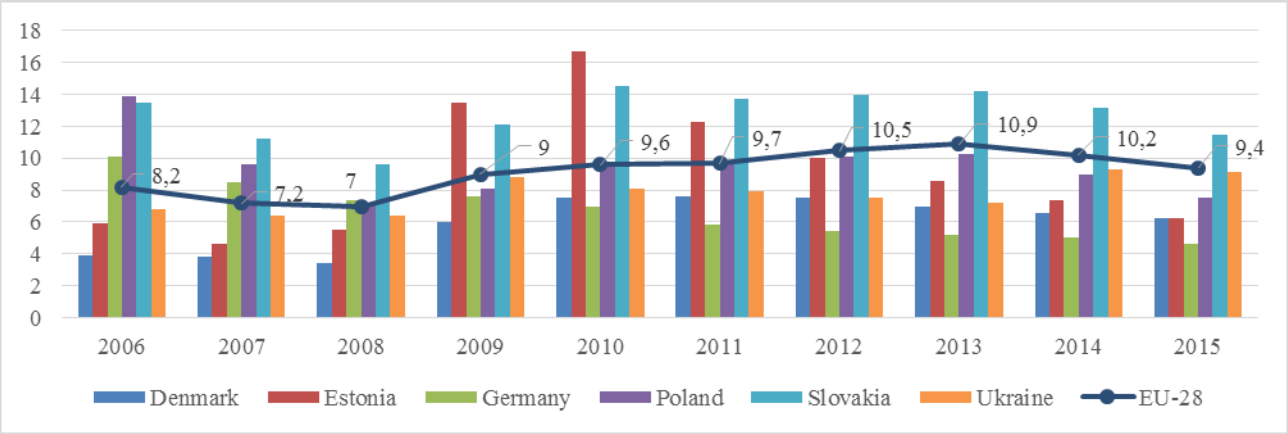


Fig. 2. Total unemployment rate (% of the labour force (active population) [5, 6]

However, the economic recovery in 2010 was not strong enough to reduce the level of unemployment, and the next recession in 2012 and 2013 further increased the unemployment rate. Only over the course the last year there has been a slow improvement in the researched states.

The dynamic of employment is higher in Denmark, Estonia and Germany compare to average in EU member states. The highest employment observed in Germany (78% in 2015) as one of the largest economies in the world and the lowest in Ukraine (64,2 % in 2015).

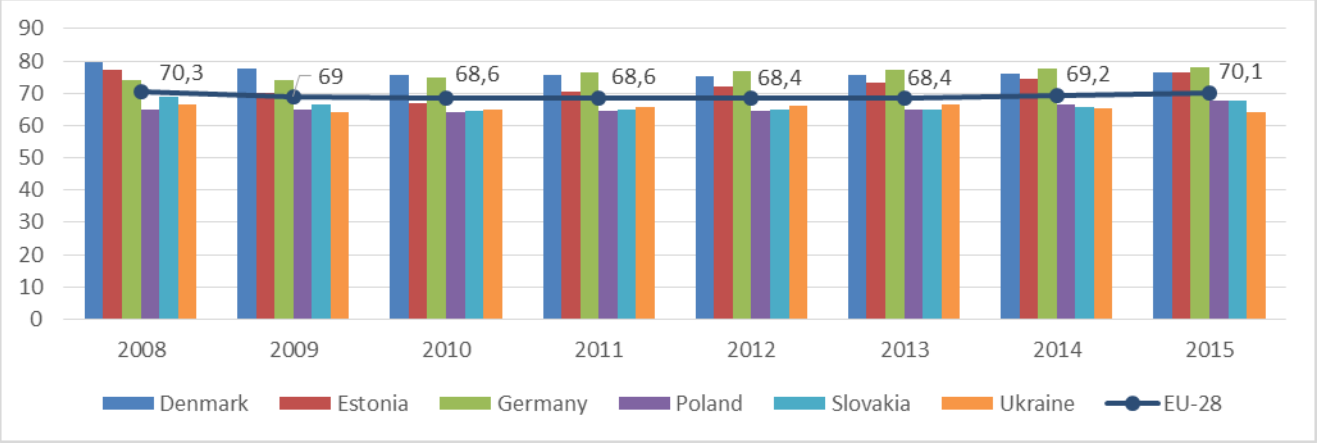


Fig. 3. Employment rate (%, aged 20-64) [7, 8]

Let's have a look at the average annual wage in constant prices at 2016 USD PPPs (Figure 4). Purchasing power parities (PPPs) are the rates of currency conversion that equalize the purchasing power of different currencies by eliminating the differences in price levels between countries. In their simplest form, PPPs show the ratio of prices in national currencies of the same good or service in different countries. This indicator is measured regarding national currency per US dollar.

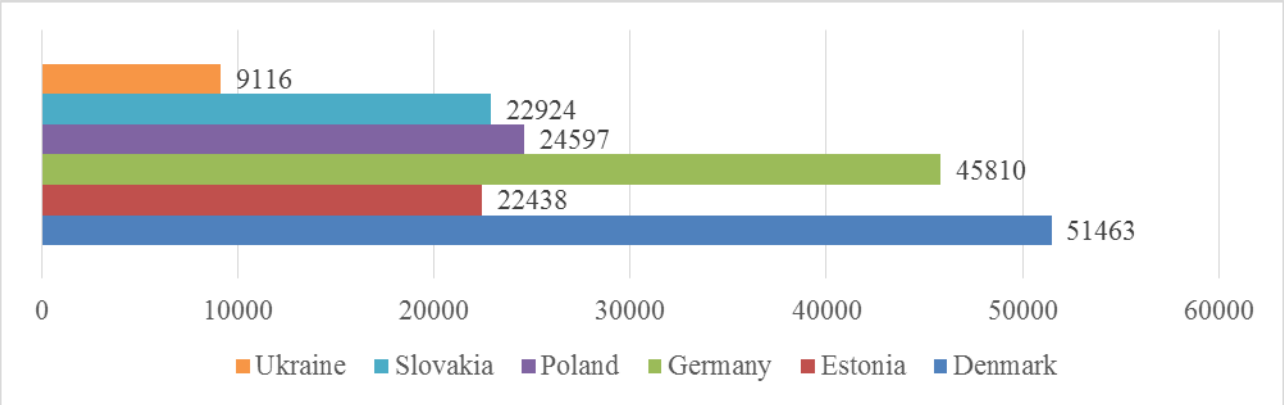


Fig. 4. Average annual wage (in 2016 constant prices at 2016 USD PPPs) [9, 10]

Generally, the average annual wage in researched countries correlates with the personal income tax rate. The higher the wage the higher is tax rate respectively (Figure 5).

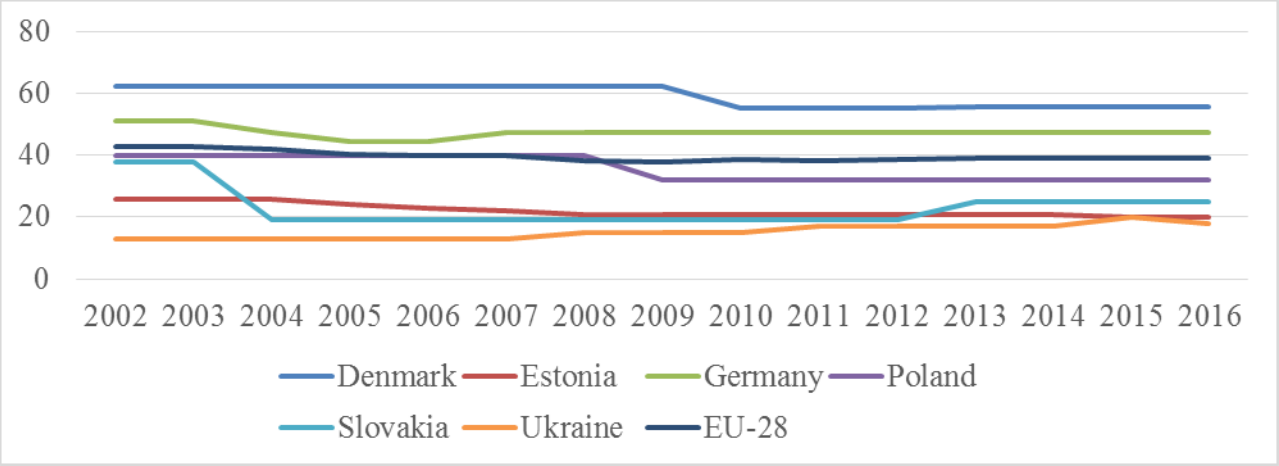


Fig. 5. Development of top personal income tax rate, 2002-2017 [9, 10]

Tax revenue is defined as the revenues collected from taxes on income and profits, social security contributions, taxes levied on goods and services, payroll taxes, taxes on the ownership and transfer of property, and other taxes.

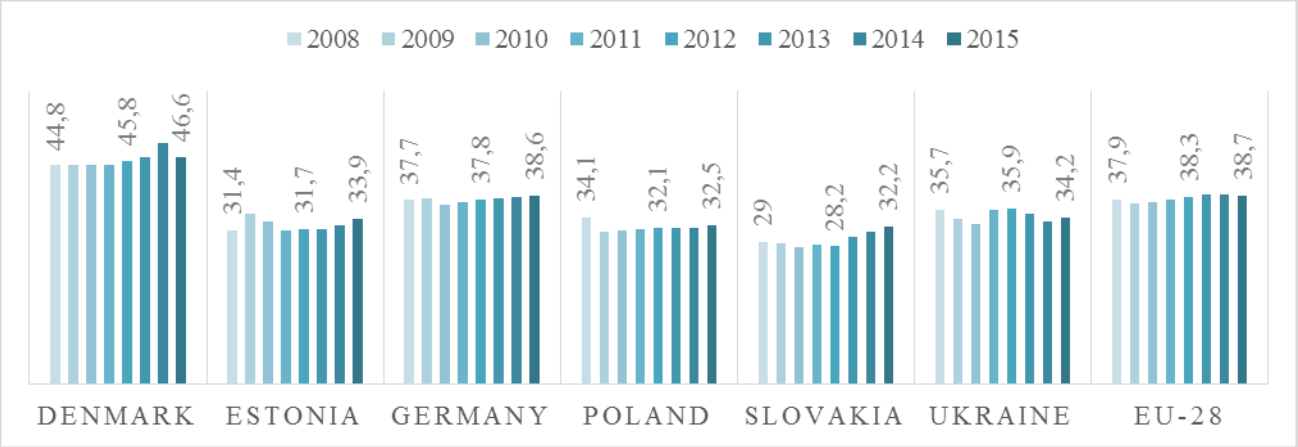


Fig. 6. Tax revenue (including compulsory actual social contributions) as % of GDP [9, 10]

Overall, Germany has very similar dynamic as the average between EU-28 Member States. Denmark fill in a substantial amount of budget by means of taxes, while Slovakia has the smallest share.

Taxes are traditionally classified as direct or indirect. Direct taxes cover personal income taxes, corporate income taxes and other income and capital taxes. Indirect taxes relate to the VAT, excise duties, and consumption taxes, other taxes on products and production. Actual compulsory social contributions are, as a rule, directly linked to a right to benefits such as old age pensions or unemployment and health insurance. Decomposition of tax revenue revealed on Figure 7 and 8.

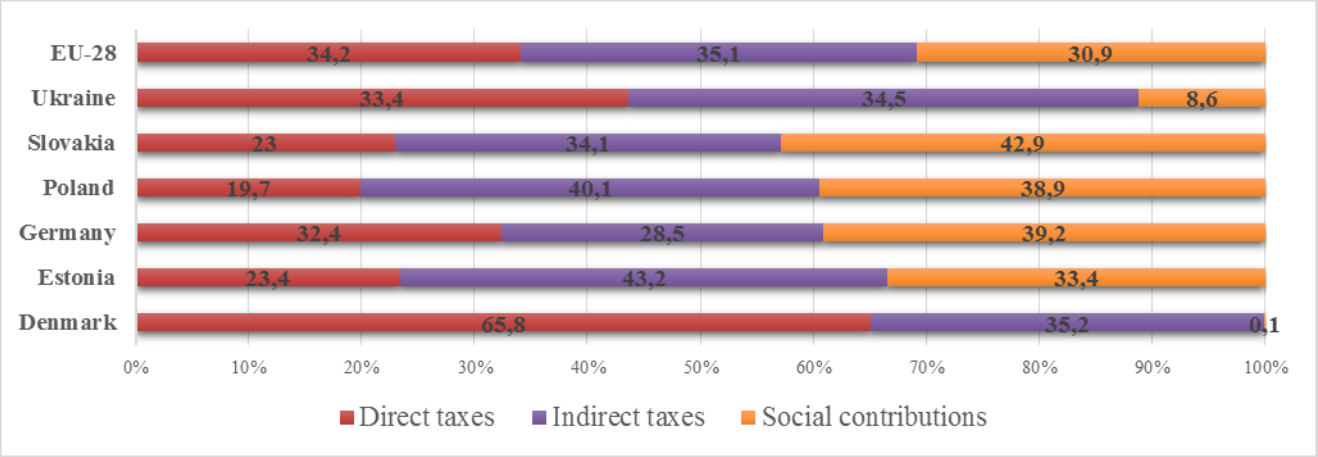


Fig. 7. Decomposition of tax revenue, % in 2015 [10]

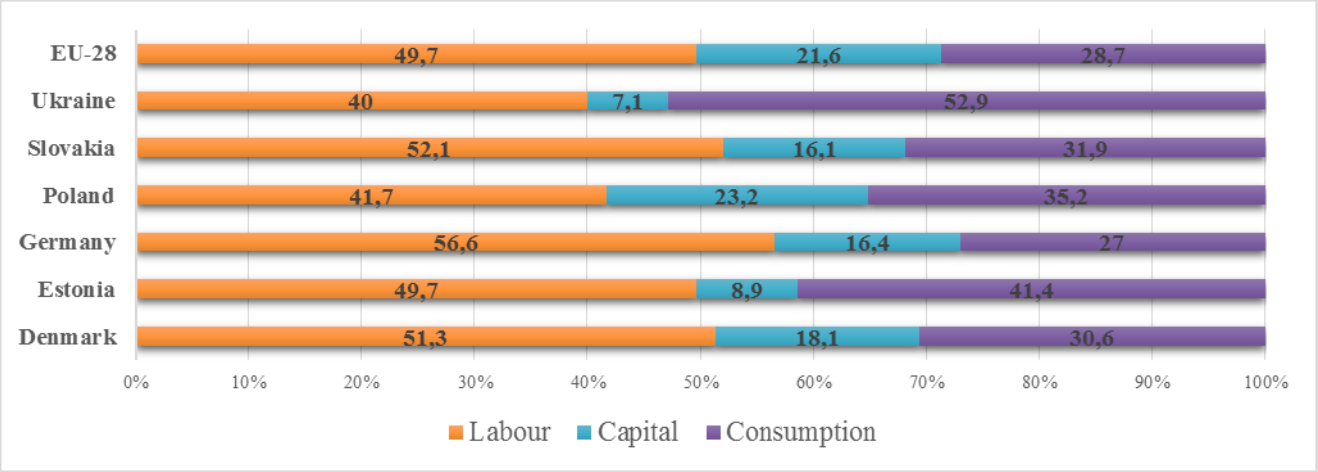


Fig. 8. Decomposition of tax revenue by the type of tax base, % in 2015 [9, 10]

Taxation of capital takes the smallest share between all researched countries. Although, Slovakia, Poland, Germany, Estonia and Denmark focused on labour taxation, Ukraine still rely on consumptions taxes (mainly VAT). Also, Denmark has almost no revenues generated by social contributions, in contrast to Slovakia.

The ITR on employed labour is defined as the sum of all direct and indirect taxes and employees', and employers' social contributions levied on employed labour income divided by the total compensation of employees working in the economic territory. The resulting ITR on labour should be seen as a summary measure that approximates an average effective tax burden on labour income in the economy.

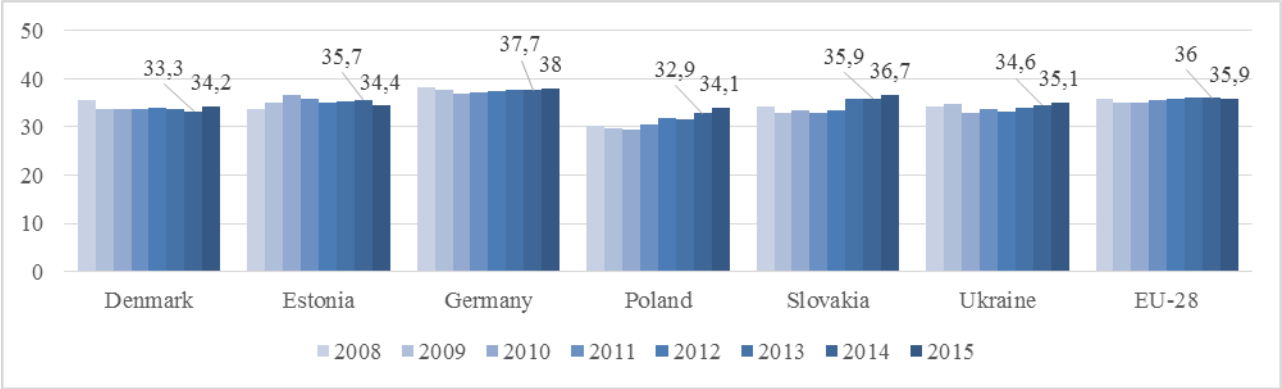


Fig. 9. Implicit tax rate on labour (%) [10]

For example, cuts in taxes or social contribution rates that are targeted on low-wage, low-skill workers or families with children may have a small impact on the overall ITR and yet be effective in raising take-home pay for the beneficiaries.

Conclusion

Although, reduction of payroll taxation can be compensated by higher wages with no effect on employment adequate tax policy should create all conditions for financial stability and prosperity. Countries can limit the negative impact of labor taxes on employment by three main ways:

• Improve the efficiency of the social security system by tightening eligibility, limiting system abuse, strengthening revenue collection, and curbing informality. If there were no early retirement schemes in Poland, social security contributions could be reduced by one-third, and if expenditures on disability pensions were reduced to the average EU-28 level, the rate of social security contributions could be reduced by an additional percentage point;

• Limit the insurance-based portion of the social protection system by moving more to tax-financed universal benefits. Examples include family and maternity benefits, health care, flat rate social pensions, flat rate unemployment benefits, and services to the unemployed;

• Reduce social security contributions, particularly for workers for whom the elasticity of labor demand is relatively high and the pass-through effect (whereby lower contributions are captured through higher wages) is limited.

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СОЦІАЛЬНО-ЕКОНОМІЧНІ НАСЛІДКИ ТА ПРОБЛЕМИ ОПОДАТКУВАННЯ ПРАЦІ

М. Клименко, О. Лабенко

Анотація. *Розвиток кожної країни та її економічне зростання безпосередньо пов'язані з кількістю факторів виробництва, таких як праця та капітал разом із підвищенням продуктивності їх використання.*

Достатньо часто у високому рівні безробіття та значному «тіньовому» працевлаштуванні звинувачують високий податковий тиск на працю. Проте, вплив змін в оподаткуванні на ринок праці залежить від чутливості економічних "гравців", яка вимірюється еластичністю. Чим вища еластичність пропозиції або попиту, тим вища чутливість до змін, де менш еластична сторона має більший податковий тягар.

Наведено огляд основних проблем у сфері оподаткування праці та соціально-економічні наслідки, використовуючи досвід Данії, Естонії, Німеччини, Польщі, Словаччини та України. Висвітлено основні складові оподаткування праці, фактори, що впливають на попит та пропозицію робочої сили, податкове навантаження, проблеми працевлаштування та групи, вразливі до цих проблем.

За результатами дослідження встановлено, що податки зменшують як попит на працю (за рахунок збільшення витрат на робочу силу для роботодавців), так і пропозицію (знижуючи реальну заробітну плату працюючих). Вони створюють "податковий клин" між вартістю робочої сили для роботодавця і реально отриманою заробітною платою працівником, і таким чином зменшують як зайнятість, так і економічне зростання.

Ключові слова: *податки, податкова система, оподаткування доходів громадян, податковий клин, податкові нарахування, валова заробітна плата, соціальні внески, податок на доходи фізичних осіб, ефективна податкова ставка*

СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ ПОСЛЕДСТВИЯ И ПРОБЛЕМЫ НАЛОГООБЛОЖЕНИЯ ТРУДА

М. Клименко, О. Лабенко

Аннотация. *Развитие каждой страны и ее экономический рост напрямую связаны с количеством факторов производства, таких как труд и капитал вместе с повышением производительности их использования.*

Достаточно часто в высоком уровне безработицы и «теневом» трудоустройстве обвиняют высокое налоговое давление на труд. Однако, влияние изменений в налогообложении на рынок труда зависит от чувствительности экономических "игроков", которая измеряется эластичностью. Чем выше эластичность предложения или спроса, тем выше чувствительность к изменениям, где менее эластичная сторона несет большее налоговое бремя.

В данной статье приведен обзор основных проблем в сфере налогообложения труда и социально-экономические последствия, используя опыт Дании, Эстонии, Германии, Польши, Словакии и Украины. Освещены

основные составляющие налогообложения труда, факторы, влияющие на спрос и предложение рабочей силы, налоговую нагрузку, проблемы трудоустройства и группы, уязвимые к этим проблемам.

По результатам исследования установлено, что налоги уменьшают как спрос на труд (за счет увеличения затрат на рабочую силу для работодателей), так и предложение (снижая реальную заработную плату работающих). Они создают "налоговый клин" между стоимостью рабочей силы для работодателя и реально полученной заработной платой работником, и таким образом уменьшают как занятость, так и экономический рост.

Ключевые слова: *налоги, налоговая система, налогообложение доходов граждан, налоговый клин, налоговые начисления, валовая заработная плата, социальные взносы, налог на доходы физических лиц, эффективная налоговая ставка*

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ПОДІЄВИЙ ТУРИЗМ В УКРАЇНІ ЯК СКЛАДОВА ІНДУСТРІЇ ГОСТИННОСТІ

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Анотація. *Розкрито сутність подієвого туризму під яким розуміється подорож з метою відвідування тієї чи іншої події культурного, спортивного, розважального чи громадського життя суспільства. Виділено тематичні види подієвого туризму. Подано класифікацію подієвого туризму за масштабом події. Виокремлено особливості подієвого туризму, головна з яких полягає в неповторності кожної поїздки, незабутніх враженнях і атмосфери свята. Розглянуто основні суспільні функції подієвого туризму: економічна, пізнавальна, рекреаційна та розважальна.*

Зроблено SWOT-аналіз конкурентоспроможності України щодо розвитку подієвого туризму для виявлення найсильніших та найслабших місць. Обґрунтовано доцільність реалізації провідних напрямів щодо успішного розвитку подієвого туризму, які стосуються управлінської, освітньої, економічної, інформаційної сфер діяльності. Надано рекомендації щодо напрямів розвитку подієвого туризму в Україні.

Ключові слова: *подієвий туризм, подія, туризм, туристичні ресурси*

Актуальність. Розвиток національного туризму в країні створює нові робочі місця, розбудовує інфраструктуру, диверсифікує економіку, підвищує рівень ділової активності та забезпечує залучення інвестицій у різноманітні галузі виробництва. Успішне функціонування туристичної галузі

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