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Innovation, Creativity, Financing and Growth in the Digital World

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Wiesława Caputa

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Introduction

In studies conducted so far, among the characteristics of the modern environment, a lot of attention has been devoted to the continuing process of digitization, which, on the one hand, has led to the spread of the virtual reality, offering organisations and individuals new possibilities, but, on the other hand, has brought along threats associated with being online. Although this description is still valid, it has taken on a new relevance in the face of the COVID-19 pandemic, which determines needs and ways of meeting them, as well as criteria of choices made by organisations and individuals. As a result, the competitiveness of entire economies and particular business entities is associated not only with creativity and innovation in the digital domain, new forms of financing (crowd-funding) but also with the dimension of digital intelligence, which ensures broadly understood security provided by the growing possibilities of using the Internet to meet various needs of organisations and society as a whole. The articles included in this volume describe and analyse selected aspects of this new reality.

The main aim of the article by Wiktoria Trzepizur, entitled *ICT as a benchmark for innovative enterprises*, is to define the role of information and communication technologies in innovative enterprises. After explaining the basic categories of ICT and highlighting the importance of ICT in innovative enterprises, the author presents results of a survey of industrial processing companies in Poland in the period 2015-2019. The analysis focuses on three important ICT factors: access to the Internet, having a company website and employing qualified workers in the company.

Agnieszka Wójcik-Czarniawska, in the article entitled *Cryptocurrencies as a capital investment in during the COVID-19 pandemic*, describes the possibilities of investing in cryptocurrencies during the COVID-19 pandemic. Her analysis shows that taking into account cryptocurrency deposits bitcoin is becoming increasingly popular with investors because of its characteristics and positive predictions concerning its future value.

Although the global market environment requires enterprise to be innovative, to offer innovative products and solutions that meet growing customer demands, creativity of businesses and their owners continues to attract research attention. In the article entitled *Creativity – the ambiguity of definitions and practical consequences*, Joseph Ohimor takes a look at how creativity is understood by theorists and practitioners in order to understand why business owners/managers fail to include creativity in the list of core competences necessary for innovation in the MSME sector. The study continues the research undertaken by the author regarding the owner-manager competency model of innovative enterprises.

In their article entitled *Trends in state policy with a view to improving structural characteristics of the digital economy*, Taras Vasyltsiv, Ruslan Lupak Marta Kunytska-Iliash, Tatiana Shtets identify the need for state regulation of the digital economy. The authors define and systematise tools (mechanisms, factors) of state regulation regarding the development of the digital economy, describing the environment and factors affecting the digitization of the Ukrainian economy and making comparisons with the neighbouring countries. They also identify priorities of state policy aimed at fostering the development of the digital economy, such as increasing the use and areas of application for artificial intelligence, implementing the Internet of things, creating digital platforms for user interaction (e-business), strengthening state support for digital transformation processes in basic economic activities, promoting business models based on the concept of the sharing economy, ensuring the virtualization of physical infrastructural IT systems and transition to service models. Finally, the authors describe the tasks of entities of the digital economy regarding the formation of systemic links between sector development and the country's economic growth.

In the article *Property taxes in the revenue structure of local governments: EU vs Ukraine,* Iryna Storonyanska, Iryna Hrynchyshyn, Andrii Dub, Khrystyna Patytska outline the European experience of property taxation (immovable property tax, land tax and vehicle tax), demonstrating that the system of immovable property taxation in Ukraine resembles those found in many European countries. The analysis focuses on factors responsible for the marginal role that real estate taxes play in revenues of local government units, namely the incomplete real estate register and inefficient policies of local governments regarding their role in the creation of local budgets. The main aspects of land tax regulations in Ukraine are discussed taking into account the experience of European countries, namely the separate treatment of land tax and immovable property tax, the legal basis of minimum and maximum rates of land tax and land estimation based on its market value. Directions of changes concerning vehicle tax in Ukraine are intended to strengthen its stimulating and fiscal function, expand the tax base and promote the role of local government in establishing conditions for vehicle tax collection.

The aim of the article by Voznyak Halyna Vasylivna, Kloba Lev Gnatovych, Kloba Taras Lvovich, entitled *Financial imbalances in the endogenous development of regions: an assessment attempt*, is to analyse stages in the assessment of financial imbalances in the endogenous development of regions. The authors analyse numerous factors that directly or indirectly contribute to the emergence and exacerbation of financial imbalances. The analysis of global debt reveals the worrying growth in the amount of debt incurred by the largest countries in the world, which suggests the presence of a significant number of financial imbalances in these countries. Many financial imbalances are the result of how states react to global threats, such as epidemics, financial crashes, natural disasters, and so on. State quarantine measures aimed at overcoming the effects of COVID-19 have exacerbated financial imbalances in the budgetary, social, transport and service sectors.

The purpose of the article by Olha Zhabynets, entitled *Foreign trade in goods and services in Ukraine and the EU: a comparative analysis*, is to evaluate trends, structural changes and prospects for the development of foreign trade in goods and services in Ukraine and to them with those observed in the EU-28. The authors evaluate the contribution of cities of regional importance located in the western part of Ukraine to the development of export-import activities of their respective regions analyse structural transformations in the export of goods and services in Ivano-Frankivsk, Chernivtsi and Rivne. A number of measures are proposed to intensify export activity in cities of regional importance in accordance with identified trends, patterns, features and problems.

Although the articles included in the current issue do not exhaust the range of existing problems, the provide an interesting overview, which can be relevant not only for researchers and students but also for practitioners. They make a contribution to the scientific discourse and justify the necessity of undertaking further actions, particularly regarding the impact of the COVID-19 pandemic on the economy and society.

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ICT as a benchmark for innovative enterprises

Abstract. *The main aim of the article is to define the role of information and communication technologies in innovative enterprises. After explaining the basic categories of ICT and highlighting the importance of ICT in innovative enterprises, the author presents results of a survey of industrial processing companies in Poland in the period 2015-2019. The analysis focuses on three important ICT factors: access to the Internet, having a company website and employing qualified workers in the company.*

Keywords: *technology, information and communication technologies, innovation*

1. Introduction

In the modern age, information and communication technologies are very important both from the perspective of the individual and the entire company. Many of us ask ourselves: Can a company function in the 21st century without ICT? The answer to this question is simple, because modern companies cannot operate without all the facilities that ICT gives them. Moreover, there is no need to isolate oneself from them; on the contrary, they should be implemented and used at a high level.

By conducting reflections and focusing on enterprises, it can be concluded that the owners, when deciding to implement ICT, make decisions which are the basis of a new form of organization. This gives companies the opportunity to enter a radically different stage of modernity. Constantly improved knowledge

and information significantly improve the competitive position of an enterprise on the market [Ziemba, Eisenbardt 2012: 165-166]. In the 21st century the introduction of information and communication technologies is a natural process often forced by the company's environment. Competition plays a crucial role in this respect, mainly the pressure and expectations of customers. Competitive advantage, customer satisfaction and improvement of company's efficiency are unquestionable advantages of ICT.

A very important aspect is that information and communication technologies are inextricably linked to innovation. They are determinants of an innovative enterprise. The implementation of ICT results in the adaptation of the company to operate in the era of widely developed modernity. The basic example is the access to the Internet, which is a technological innovation [Pawlik 2015: 562-565].

2. Information and communication technologies in enterprises

Information and Communication Technologies are very often found in the literature under the acronym ICT (Information and Communication Technologies). This issue is widely interpreted in various literature collections. However, both theoreticians and practitioners are constantly expanding this topic with new elements.

When considering the concept of ICT, the interpretation of the overarching element of technology is crucial. The basis of this word is the word from Greek, which means (techne), i.e. art, craft and (logos) the word, science. Normally, the term is defined as "science including a technical part concerning the methods of production or processing of raw materials, semi-finished products and articles" [*Słownik wyrazów obcych* 1980: 748]. Complementing the knowledge of interpretation there are many different interpretations in the collections of the literature on the subject. When considering the interpretation of this category, it should be noted that technology is a complex sequence of consecutive events in order to achieve planned effects, including specific products. Theorists conducting the considerations also pay attention to the resources of knowledge, which are extremely important for the correct, i.e. in accordance with the intended purpose of the course of certain activities or processes [Gwarda-Gruszczyńska 2013: 19-21].

Information and communication technologies concern the transmission of messages through all kinds of available technologies. They also aim to accumulate and process messages. All these activities are carried out in electronic form. ICT consists, among other things, of components such as:

– communication media include the Internet, bluetooth networks,

– devices such as computers,
– systems [Warzecha 2018: 115-116].

It should be noted that software is also a very important element, which is necessary for the proper functioning of the devices. Although information and communication technologies already cover such a diverse and large group of components, their scope is being extended from year to year [Warzecha 2018: 115-116].

It must be recognised that the use of ICT determines many benefits for businesses. The key benefits are presented in Figure 1.

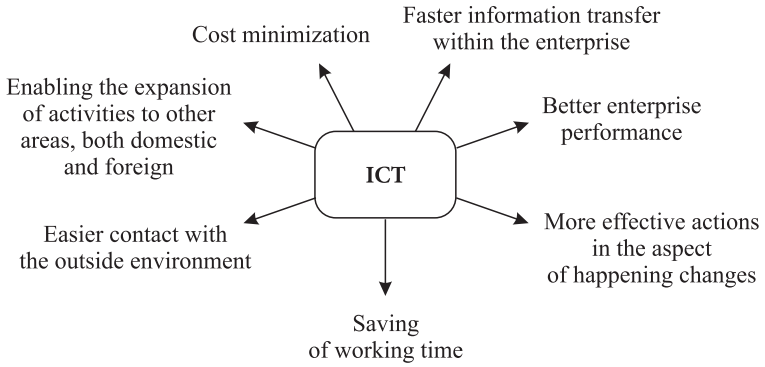


Fig. 1. Benefits of ICT use in enterprises

Source: own study based on: Tomaszewska 2011: 285.

The advantages of ICT use by companies include the possibility of achieving and improving their competitive position. Companies can achieve this in all areas of operation. From the company's perspective, the most important thing is to gain a certain number of satisfied customers [Caputa, Krawczyk-Sokołowska, Październik 2017: 14-25]. Therefore, companies having the superior element of ICT, which is access to the Internet, can easily and quickly expand their customer base. They do not have to limit themselves to local buyers only. An important issue in this respect is the website, which to a large extent enables this. Internet advertising also enhances the competitive advantage [Leoński 2014: 188-190].

3. ICT and innovation in enterprises

Innovations in enterprises can be simply defined as a completely new process created in a given organization, aimed in particular at improving various elements and structures of functioning. Implementation of innovations in enterprises requires from the owners a very large commitment both in financial and

Fig. 2. Types of innovation

Source: own elaboration based on: Janas 2019: 179.

organizational aspect. Investment in widely understood modernity is a priority element nowadays [Gorzelany-Dziadkowiec 2013: 46-55]. It is obvious that the level of innovativeness of Polish enterprises is still in the phase of continuous development. It depends on many different aspects. However, the functioning of a company developed in the area of information and communication technology has a significant impact on the implementation of innovation.

Due to the different categorisation of innovations, the scope of their division is very broad. In Figure 2, the selected division of types of innovations is presented.

ICT has a key impact on a company's level of innovation. They are an overriding element in eliminating restrictions that prevent innovation. The higher the availability rate of technology in an organisation, the easier and more efficient it is to innovate. What is more, entrepreneurs focus on the development of ICT in their companies because they gain a significant increase in the innovative potential of the company [Krawczyk-Sokołowska, Pierścieniak, Caputa 2019].

Attention should also be paid to the important aspect of sharing knowledge about innovation between businesses. ICT tools used by enterprises facilitate the flow of information. Companies can greatly increase their innovation potential. It can be stated that every innovation process is related to communication and information technologies [Wojnicka-Sycz 2013: 403-411].

Undoubtedly, the level of ICT use in enterprises indicates the degree of innovation of a given organisation. Particular attention should be paid to key factors such as Internet access, ICT qualified staff and having a website. These elements significantly increase the innovativeness of companies.

4. ICT analysis in enterprises from the industrial processing sector

Theoretical considerations allowed to define the area of information and communication technologies in enterprises and their significant impact on the name of an innovative enterprise.

The empirical research conducted concerns the use of information and communication technologies by companies belonging to the industrial processing department in the years 2015-2019. The analyses were based on data from the Central Statistical Office. The research covers key aspects of ICT:

– access to the global network,
– specialised ICT staff resources,
– the existence of the website, taking into account its purpose.

Table 1 presents data on Internet access of enterprises in Poland, specifying the companies in the analysed sector. This summary makes it possible to indicate the level of use of information and communication technologies in Polish enterprises and, consequently, the innovative progress of enterprises in the years 2015-2019.

Table 1. enterprises in Poland with access to the global network, specifying companies from the industrial processing sector [in %]

Years	Web access	
	Total enterprises in Poland	Enterprises in the industrial processing sector
2015	92.7	92.1
2016	93.7	94.1
2017	94.8	95.4
2018	95.6	95.9
2019	96.3	96.3

Source: own elaboration based on: GUS 2016, 2017, 2018, 2019.

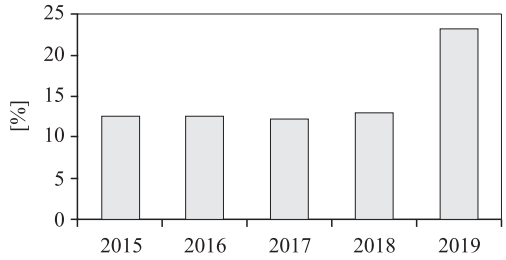
It should be noted that access to the global network is provided in a very large number of enterprises in Poland. This means that most companies use ICT to a significant extent. What is more, this number is increasing over the analysed years. In 2015, 92.7% of companies in Poland had access to the Internet. The analysis of Table 1 shows that year on year there was a progress by about 1%. In 2019, compared to 2015, there was an increase in Internet access in enterprises by 3.60%. This is a very positive phenomenon, as more and more entrepreneurs decide to implement information and communication technologies and thus to modernize their business.

When examining the industrial processing sector in 2015-2019, an upward trend was also noted. A significant 2% progress was recorded in 2016 in relation to 2015. In 2017 an increase of 1.30% in relation to the previous year was achieved. However, a significant slowdown in growth took place in 2018, as there was a 0.5% progress in relation to 2017. In 2019, the share of enterprises from the surveyed sector having access to the Internet increased slightly by 0.40%

as compared to 2018. Analysing the changes in value over the entire research period, it should be noted that in 2019 there was an increase in Internet access by 4.20% compared to 2015. The key in this statement is also the continuous increase in the share of enterprises in terms of Internet availability in Poland.

Qualified employees are of paramount importance in companies using ICT. Specialists in this field are needed to work properly and effectively on the basis of ICT. The analysis of changes in the number of employees in enterprises from the industrial processing sector in the years 2015-2019 is presented in Chart 1.

Chart 1. Enterprises in the industrial processing sector which employ people specialising in ICT over the research period 2015-2019

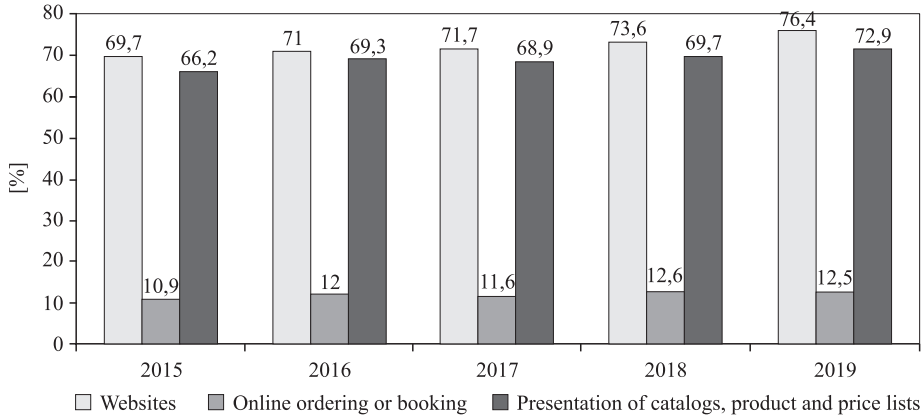


Source: own elaboration based on: GUS 2016, 2017, 2018, 2019.

The percentage of entities from the industrial processing sector which employ employees specialising in information and communication technology in the analysed research periods is characterised by fluctuations. Between 2015 and 2016, 12.5% of companies employed people with ICT skills. However, in 2017 there was an unexpected regression of 0.50% of companies. The recorded decline is a surprise in this comparison. The analysis of Table 1 indicated a continuous growth of enterprises from the surveyed sector in terms of Internet access. To a significant extent this is connected with the acquisition by companies, employees with the highest preferences in the field of ICT. In 2018, 12.70% of enterprises in the analyzed area were registered. A drastic increase took place in 2019, because 24.10% of enterprises in the surveyed sector had specialised employees in their staff. This was the highest progress in the years under consideration. Despite the recorded increase in 2019, few companies employ specialised staff in the field of ICT. This is not a beneficial phenomenon, as the use of technology in an enterprise is associated with the need to operate equipment, knowledge of complex processes and dependencies. It is therefore necessary to employ specialists.

It is also crucial to explore the area of businesses having their own website, as it is an important element in ICT-using businesses. By means of a website, companies in the 21st century are able to significantly increase the level of

Chart 2. Percentage of industrial processing companies that have a website with the target of having one between 2015 and 2019



Source: own elaboration based on: GUS 2016, 2017, 2018, 2019.

innovation. The analysis concerning websites and the purpose of their use is presented in Chart 2.

When analysing Chart 2, particular attention should be paid to the growing trend of industrial processing companies having their own websites. This trend is very satisfactory, and to a significant extent these activities enhance the innovative development of enterprises. Over the period covered by the study, it was noted that in 2015 69.70% of enterprises in the analysed sector used the website, and in 2019 it was as much as 76.40%. Thus, in 2019 there was a 6.70% progress in relation to 2015. Companies use their own websites to a small extent to order or book online. Significant fluctuations were noted, until 2016 there was an increase to 12%, but in 2017 there was a decrease of 0.40%. In 2018, 12.60% was recorded, and in 2019, a decrease in the ownership of websites for this purpose to 12.50%. From the data presented in Chart 2, it is clear that having own websites for the presentation of catalogues, products and price lists has proven to be dominant. However, this is not a continuous increase, as there are significant fluctuations between 2015 and 2019. In 2015, 66.20% of companies from this sector used the site for this purpose, and in 2016, there was a 3.10% progress. In 2017 the situation changed as a decrease to 68.90% was recorded. It should be noted that in 2018 and 2019 there was an increase. In 2019, 72.90% of industrial processing companies used their own websites to present catalogues, products and price lists.

The increasing number of companies that have a website is a positive development. It shows an increase in technological potential of the analyzed group of companies. First of all, it has a significant connection with innovations, as

websites are also a form of modernization of company processes. It turned out to be very interesting that companies from this sector do not have their own websites to order or book online. This function of the website is definitely not a key tool for companies. This is mainly due to the specificity of this sector.

5. Summary

The theoretical considerations on the essence of ICT in enterprises have allowed for the identification and definition of relevant categories. The advantages and benefits of using ICT in companies were identified. The wide range of benefits confirmed the importance of ICT in business operation. The conditions and types of innovation in a company have also been identified. In-depth consideration allowed to conclude that the degree of advancement of ICT in enterprises to a significant extent conditions and determines the level of its innovation.

The empirical analysis made it possible to assess the level of key ICT factors in Polish enterprises from the industrial processing sector.

The results of the research concerning Internet access of industrial processing companies and all enterprises in Poland in 2015-2019 are very optimistic. The analysis showed that every year more and more companies in Poland have access to the global Internet. The growth trend in this area is also characterized by enterprises from the surveyed sector. Access to the Internet is an overriding element of ICT, which enables the innovativeness of an enterprise and dynamic development, as well as an increase in its value and improvement of its competitive position in a specific sector.

The analysis covering the share of industrial processing companies employing specialised staff in the field of ICT proved that the results in this aspect are not satisfactory. Companies need to employ people with a broad knowledge of ICT. This is essential for proper use of ICT. Moreover, a high level of ICT usage results in the possibility to create and implement innovative changes.

The empirical analysis of the ownership of an industrial processing company's website showed an increase over the period under examination. The results of the analysis of the purpose of having a website by companies from the sector under investigation were a surprise. The presentation of catalogues, products and price lists proved to be dominant in this area. It should be noted that there was a small share of companies that had a website for ordering or booking online. It can be concluded that the websites allow for a significant degree of innovation.

In summary of the theoretical and empirical considerations, ICT is a key determinant of an innovative enterprise. Companies with highly developed in-

formation technology are able to create and implement innovations. Without access to ICT, companies significantly reduce and isolate themselves by remaining within the internal structure of companies, which means their lack of openness to the environment. It can be stated that the lack of access to ICT tools slows down the innovation process of enterprises and often means that they are unable to create and implement innovations.

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ICT jako wyznacznik innowacyjnego przedsiębiorstwa

Streszczenie. *Głównym celem artykułu jest określenie roli technologii informacyjno-komunikacyjnych w innowacyjnym przedsiębiorstwie. Przedstawiono interpretację podstawowych kategorii z obszaru ICT oraz wskazano specyfikę i znaczenie technologii informacyjno-komunikacyjnych w innowacyjnym przedsiębiorstwie. Przeprowadzono badania empiryczne przedsiębiorstw przetwórstwa przemysłowego w Polsce w latach 2015-2019. Analizę skupiono na trzech ważnych czynnikach ICT: dostęp do Internetu, posiadanie własnej strony internetowej oraz zatrudnienie w przedsiębiorstwie wykwalifikowanych pracowników.*

Słowa kluczowe: *technologia, technologie informacyjno-komunikacyjne, innowacje*

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Cryptocurrencies as a capital investment during the COVID-19 pandemic

Abstract. *The purpose of the article is to show the possibilities of investing in cryptocurrencies during the COVID-19 pandemic. As regards cryptocurrency deposits, Bitcoin is the most frequently selected option, thanks to its simplicity and transparency. It is therefore becoming increasingly popular not only with investors but also with ordinary citizens who want to secure their finances during the pandemic. In addition, the key feature of cryptocurrencies is the fact that the amount of bitcoins in circulation is fixed and cannot exceed 21 million. For the time being, i.e. in 2020, the annual Bitcoin inflation rate is very similar to that of gold (about 1.6%), and will only decrease over time (it decreases by half every four years). For this reason, Bitcoin is frequently compared to gold and is becoming an increasingly attractive capital investment option, especially given its virtual nature; during the coronavirus pandemic it seems to be an ideal alternative in terms of security in the area of health protection as it eliminates the need for human contact.*

Keywords*: Bitcoin, capital investment, COVID-19, cryptocurrency, dollar, saving*

1. Introduction

Bitcoin is the first money which issue is not controlled by any entity (in the current monetary system it is the state that is the issuer of money). In the case of Bitcoin, its issuer is the Bitcoin protocol, i.e. a set of rules that determine under what conditions transactions can be carried out in the network and under what conditions new Bitcoins are created, but these rules cannot be changed. In the case of traditional money, the central bank can print money as required. Such a need may be to cover budget expenses, but as you know, along with

printing money, existing ones lose their value. So there is inflation, i.e. prices are rising, and with the same amount of money in your wallet, you can buy less goods and services for it. In the case of Bitcoin, the situation is different, i.e. we have predefined rules for creating new coins. They are paid to "miners" in the form of a reward for maintaining the network. (currently this reward is 12.5 Bitcoin for the transaction block created). This award is regularly reduced by half. This change occurs approximately every 4 years and the nearest will take place around May 2020. As a result, over time, less and less new Bitcoins are created, to eventually reach around 2140 Bitcoins around 2140, which will result in the cessation of new coins. Currently, 17,774,450 of 21,000,000 has already been extracted, i.e. 2020. Nearly 85% of Bitcoins have been mined in less than the first decade of Bitcoin existence, and just over 15% for the remaining 120 years of mining. This means that in the near future we will have to deal with a small amount of Bitcoin arriving on the market. Due to this situation and the growing interest and demand for Bitcoin, we will be dealing with a situation affecting its long-term price increase [Misiurek 2019].

In the case of saving cryptocurrency, e.g. bitcoin is an excellent option, which in the long run may prove to be an ideal solution for investing capital in the era of COVID-19 and moving away from traditional saving (saving in tangible goods – money, coins).

2. Transaction mechanism of a digital coin

The digital currency peer-to-peer Bitcoin debuted in 2008 and ushered in a new era of cryptocurrencies. There are currently over 500 different cryptocurrencies, but Bitcoin still remains a pioneer. While tax, law enforcement and regulators are still investigating this phenomenon, one important question remains: is Bitcoin legal or illegal? This answer depends on the user's location and activity. Bitcoins are not issued, approved or regulated by any central bank. Instead, they are created by a computer generated process known as mining. In addition to being a cryptocurrency unrelated to any government, Bitcoin is also a peer-to-peer payment system because it does not exist in any physical form and must be exchanged online. As such, it offers a convenient way to conduct cross-border transactions without fees for exchange rates. It also allows users to remain anonymous. When trying to construct a transaction using a digital coin, there is the problem of "double spending". After creating the data, restoring it is a simple matter of copying and pasting. Most e-cash scenarios solve this problem by dumping some of the controls into a central body that tracks the balance of each account. DigiCash, an early form of digital money based on pioneering cryptography of David Chaum, passed this oversight to banks. This was an un-

acceptable solution for Szabo. "I tried to mimic the security and trust of gold in cyberspace, and the most important thing is that it doesn't depend on a trusted central authority," he says [Szabo 1997]. Bit gold proved that it was possible to decentrally transform solutions into difficult ownership calculations. But ownership is not enough cash, and the proposal leaves many unsolved problems. How do you assign the right value to different data strings if they are not as difficult to do? How to encourage people to recognize this value and adopt currency? And what system controls the transfer of currency between people? After b-money and bit gold did not get wide support, the e-money scene became quite quiet.

Then, in 2008, a mysterious character appeared who wrote under the name "Satoshi Nakamoto" [Nakamato 2008], offering something called Bitcoin. As befits the creator of a private digital currency, Nakamoto's true identity remains a mystery. "I've never heard of someone who knew the name before," says Szabo [1997]. "And I'm not going to speculate who he may be and who he may be" [Szabo 1997].

To create a working system, Nakamoto began with the idea of a data chain similar to bit gold. But instead of creating a digital property chain, Bitcoin records the transaction chain [Hileman, Rauchs 2007: 1223].

The easiest way to understand bitcoin is to think of it as a digital book. Imagine a group of people at the table who all have real-time access to the same financial book on the laptops in front of them. The account book records how many bitcoins each person has at the table at any given time. By necessity, the balance of each account is public information, and if one person wants to transfer funds to the person sitting opposite him, he must announce this transaction to everyone present at the table. The whole group then appends the transaction to the ledger, which everyone must agree on. In such a system, money never has to exist in physical form, but it cannot be spent twice. Basically, this is how Bitcoin works, except that participants are dispersed in a global peer-to-peer network, and all transactions take place between addresses in the network, not people. Address ownership is verified by public key cryptography, without revealing who the owner is. The system replaces traditional banking privacy: all transactions are made in public, but they are difficult to combine with human identity. Dissociation requires vigilance on the part of the Bitcoin user and careful decision about which external applications and exchange methods are in use [Wójcik-Czerniawska 2019].

3. Bitcoin as an investment capital ratio dollar

Let's try to see how the ratio of bitcoin to dollar looks like; based on the bitcoin investment calculator tool – Dollar Cost Averaging Bitcoin – dcaBTC (dcabtc.com, bitcoin.pl).

We would put $10 a week in Bitcoin every week for the last two years and then four years as a typical example. We would have invested a total of $1050 for which we would have bought 16,388,000 satoshi (or 0.163 BTC) throughout this period which today have a value of around USD 1,489, which means 41.89% positive against the dollar – see Fig. 1 [Kubiak 2020].

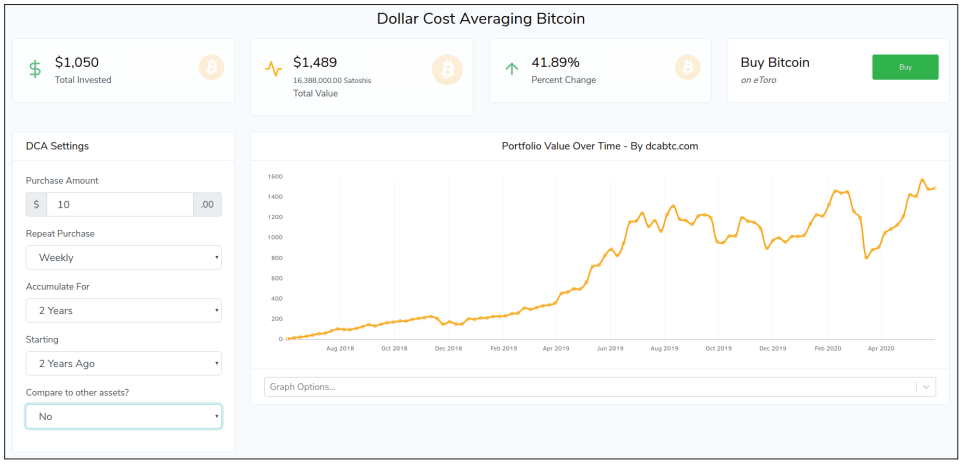

Fig. 1. Dollar Cost Averaging Bitcoin (2-Years)

Source: Kubiak 2020.

If we had started putting off the same thing ($10 a week) 4 years ago, we would have invested $2090 at the moment, which would give us 91,580,000 satoshi (0.915 BTC) worth $8325 at the moment, which means 298.35% plus against the dollar – see Fig. 2 [Kubiak 2020].

This way of investing, i.e. buying small amounts from time to time, is called DCA (Dollar Cost Averaging). This is an interesting solution because we save not only money, but also time, because we do not have to follow the charts and we are not interested in the current, short-term, even very large price variability. You can do DCA for ordinary online shopping.

Cashback services come in handy and they usually offer a refund of a few percent of the price of a product purchased via the Internet – at BTC. You can do DCA without directly investing in bitcoin on the stock exchange or in an exchange office.

Cashback services usually offer a refund of a few percent of the price of a product purchased via the Internet – at Bitcoin. You can do DCA (Dollar Cost Averaging) without directly investing in Bitcoin on the stock exchange or in an exchange office (in Poland has recently appeared Satsback which give such a possibility) [*Włochy otwarte na cyfrowe euro*, 2020].

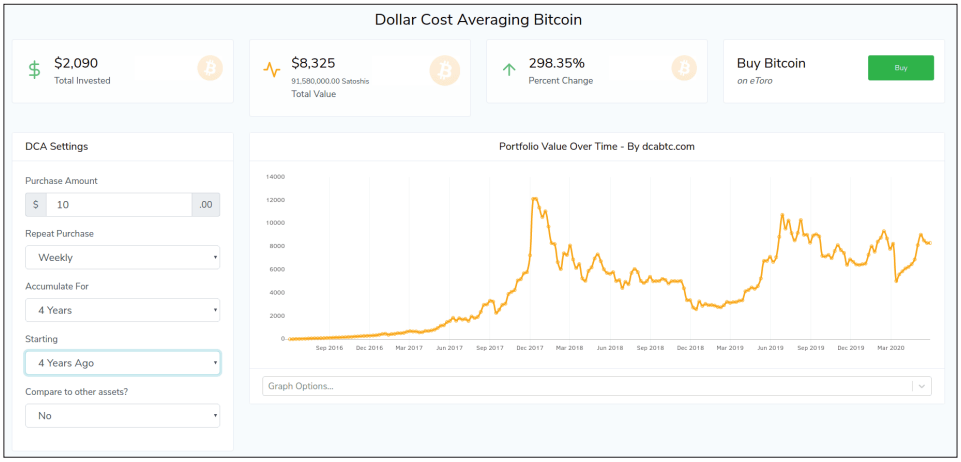

Fig. 2. Dollar Cost Averaging Bitcoin (4-Years)
Source: Kubiak 2020.

We shop as always, and the platform returns a part of the amount spent in Bitcoin. Thanks to the use such a service, we will be able to pay out very small amounts to our wallet.

What in the era of COVID-19 and non-paper money trading as well as widely recognized secure online shopping we will not only have a product but also a cryptocurrency that is starting to grow in the world of „flat finance" as a new element of capital investment.

Companies that offer such an opportunity on the Polish market are: Allegro, Philips, Media Markt, Sephora, Orsay, Eobuwie.pl [Kubiak 2020].

4. Conclusion

To sum up, it can be said that money is one of the most valuable and sought-after goods in the world, affecting people in almost every aspect of their lives. Cryptocurrencies are one of the most controversial innovations in this field. It is a currency that is not protected by government laws or laws, making it immune to government interference. Currency is fully decentralized and, unlike fiat money, the government cannot influence its value. The first cryptocurrency created, and the most used, is the aforementioned bitcoin. The book, called the blockchain, publicly records all transactions with bitcoin maintenance and users are completely anonymous. The supply of bitcoins comes from 'mining', i.e. a process that involves calculating a complex algorithm with increased difficulty over time, making it more expensive and resource-consuming, and therefore less profitable

over time. The demand for bitcoins mainly results from their decentralization and anonymity, transaction costs, use for illegal transactions and as a financial instrument to profit from its price, volatility or portfolio diversification. Other possible uses of bitcoin include measures to avoid currency controls or other sources of government interference and tax evasion. However, cryptocurrencies also have disadvantages. Because the currency is decentralized, there is very little consumer protection, stolen bitcoins are lost forever, and bitcoins are very vulnerable to code-based attacks. The price is very high, unstable, and therefore it is very risky to maintain many bitcoins as well as lack of liquidity. This currency is also taxable in many countries, such as the USA, Japan, Finland and Germany. Countries with strict capital control, such as China and Iceland, also have a recognized currency and have banned transactions, eliminating the possibility of circumventing restrictions on capital control.

In the current version, bitcoin is unlikely to become an official currency for the general public because it has too many disadvantages and too many threats, while its strengths are not necessarily what the general public wants in a fixed currency. To define it as an innovative currency and for it to succeed, it must improve what the debit card and credit card have to offer. Cryptocurrencies must therefore be more convenient, safer and accepted by sellers around the world.

In Poland, where cryptocurrencies are banned and not considered a secure source of financing, there are many benefits to be seen [Wójcik-Czerniawska, 2020].

In addition to the significant increase in tax revenues – especially when appropriate regulations stimulating market development are introduced – we can expect other, less measurable benefits, including:

1. Increased interest in the aspect of "mining" cryptocurrencies, which currently generate several dozen million zlotys of daily income on a global scale. This will translate into electricity demand, and thus – hard coal to power the power plant.

2. Increased interest in blockchain technology and its application. This means that the country's cyber security will increase, transaction costs in the economy will decrease, costs of the financial system will decrease, the country's innovativeness will increase, its competitive position in the world will improve.

3. Increasing the level of education of blockchain specialists – they come mostly from the cryptocurrency sector in the world. (With few exceptions, it's difficult to develop blockchain technology without first developing cryptocurrencies.)

4. There will be an inflow of foreign portfolio investments (subject to appropriate regulations) on a scale of up to several hundred million dollars a year. It is possible that companies with high market value will appear (several blockchain projects in the world have a valuation of over USD 1 billion) [Wójcik-Czerniawska 2020].

However, due to the fact that cryptocurrencies are still in their initial stages, their actual impact on the traditional financial system will not be noticed until a few years, when many countries will definitely address this phenomenon as a new virtual world of finance, which arose and unexpectedly moved to the traditional world of flat finance.

In addition, it is worth mentioning that due to the coronavirus pandemic, some of the countries most affected by the pandemic decided to introduce a virtual version of traditional currencies in this Euro, which was done by Italy, i.e. the country most affected in Europe COVID-19. The Italian Banking Association (ABI – Associazione Bancaria Italiana) associating over 700 Italian banking institutions implements digital currencies supported by the European Central Bank (ECB) by participating in projects and experiments related to this process. In 2019, ABI also set up a working group to study digital and cryptocurrency resources. Among other things, it was written that: "priority must be to preserve monetary stability and full compliance with the European regulatory framework" [*Włochy otwarte na cyfrowe Euro*, 2020].

The group also prioritized the need for the digital currency framework to be fully in line with EU legislation. This is to help win public confidence. According to Italian experts, banks will play a key role in maintaining this trust. According to the group, the Central bank digital currency (CBDC) would lead to future innovations in the traditional banking system, such as: peer-to-peer transactions, machine-to-machine transactions, and the ability to manage exchange rate and interest rate risks thanks to the programmable capabilities of the digital currency [*Włochy otwarte na cyfrowe Euro*, 2020].

"The programmable digital currency is an innovation in finance that can profoundly revolutionize money. It is a transformation that can bring significant potential added value, especially in terms of the efficiency of operational and management processes" [ABI – Associazione Bancaria Italiana].

One may be tempted to say that COVID-19 may lead to the transformation of traditional financial structures and schemes adopted so far, which may lead to a situation where finance-technology and the virtual world of finance may become the future of the global financial market and cryptocurrencies will become one from widely accepted payment methods in the world next to the already slowly introduced virtual euro.

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Kryptowaluty jako lokata kapitału w dobie COVID-19

Streszczenie. *Celem artykułu jest pokazanie możliwości, jakie niesie ze sobą lokata kapitału w kryptowaluty w dobie COVID-19. Kryptowalutą najczęściej wybieraną przez inwestorów, a także zwykłych obywateli, którzy chcą zabezpieczyć swoje finanse na czas pandemii, jest bitcoin. Cechą stałą kryptowalut, w tym bitcoina, jest to, że nikt nie może go dodrukować i nigdy nie będzie go więcej niż 21 mln. W 2020 r. roczna inflacja bitcoina jest bardzo zbliżona do złota (ok. 1,6% w skali roku), a z upływem czasu będzie tylko mniejsza (obcinana jest o połowę co 4 lata). Dlatego też bitcoin jest coraz częściej porównywany do złota i coraz częściej rozpatrywany w kategorii lokaty kapitału. W dobie koronawirusa jest on idealną alternatywą dla zwykłej waluty ze względu na bezpieczeństwo w obszarze ochrony zdrowia, gdyż redukuje kontakt ludzki do minimum, a nawet do zera.*

Słowa kluczowe: *kryptowaluta, lokata kapitału, COVID-19, bitcoin, dolar, oszczędzanie*

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Creativity – the ambiguity of definitions and practical consequences

Abstract. *Although the global market environment requires enterprises to be innovative, to offer innovative products and solutions that meet growing customer demands, creativity of businesses and their owners continues to attract research attention. Current challenges, for example COVID-19-related restrictions, call for increased creativity to ensure business survival. The author takes a look at how creativity is understood by theorists and practitioners alike in order to understand why business owners/managers fail to include creativity in the list of core competences necessary for innovation in the MSME sector. The study continues the research undertaken by the author regarding the owner-manager competency model of innovative enterprises. The discussion is based on a detailed review of the literature and results of an interview survey. The key finding is that the pragmatic approach owners/managers of MSMEs to their roles/functions and achievement of goals is more important than considering what competences are required at a given time.*

Keywords: *competences, creativity, MSME, innovation, ambiguity*

1. Introduction

The global economic environment is in no doubt experiencing volatile growth trends as a result of multiple social, political and technological trajectories of modern times. Consumerism, on the other hand, continues to exert pressure on businesses to satisfy their growing demands for quality products, services and/or solutions. Businesses, irrespective of their locations, thanks to borderless markets have to contend with the growing phenomenon – competitiveness and survival.

Innovation, by means of which businesses can offer innovative solutions is seen as the out-pouring of human ingenuity in turning available resources into tangible and desirable outputs for their potential consumers. Human ingenuity or thought patterns which when applied to material resources for innovation is the human creative mind. Indeed, management and organizational studies have emphasized the divide between creativity and innovation in both theory and practice [McAdam, McClelland 2002; Cropley, Kaufman, Cropley 2011]. However, there are sources, for example, Anderson, Potočnik, Zhou [2014], that see creativity as a necessary requirement of a competent manager who engages in innovation and hence should be treated together and not in isolation. This argument is also supported by others like U.E. Haner [2005]. Such contrasts of view-points regarding creativity do not only play out in research studies but also in practice. This dualism/dichotomy of views in scientific literature, the author contends can impact on how the issue of creativity is understood and attended to at organizational levels.

The aim of the study was to analyze these views to understand why business owners/ managers failed to include creativity in the list of core competences necessary for innovation in MSMEs. The paper is a continuation of researches undertaken by the author regarding owner-manager competency model of innovative enterprises. In using the comparative analysis, the author wishes to uncover similarities and differences between theoretical and practitioners' perspectives regarding creativity as a key component of managerial competences for innovation. First, the paper carries out a brief review of literature on creativity as a core component of competency of managers in order to successfully engage in innovation to ascertain divergences in approaches. Next, there is a presentation of an outcome the author's on-going doctoral dissertation titled "Owner-Manager's Competences as Determinants of Innovativeness of SMEs in Podkarpacie Province". The research revealed that SME owners interviewed failed to list creativity as a core competence necessary for innovation. The discussion that follows juxtaposes creativity, defined from both perspectives, pointing out areas of similarity and possible discrepancies. Finally, the concluding paragraph with possible recommendations for further research to enrich studies in the area of creativity as a managerial competence for innovative drives.

The paper applies the critical literature review and interview survey methods to achieve the objectives of the study.

2. Creativity: divergent view-points

While it cannot be denied that creativity permeates every aspects of human endeavour, its peculiarity in organizational management calls for detailed

understanding since it is only then its potentials can be fully harnessed for the benefits of enterprise development. Moreover, this would facilitate innovativeness, considered as the leeway for enterprise's achievement of competitive advantage in the global market. The existence of creativity favourable climate in enterprises is considered an incentive that enables the conversion of emerging opportunities into innovation [Roffe 1999; Krawczyk-Sokołowska, Pierścieniak, Caputa 2019], which is central to organizational performance. Edward de Bono [Serrat 2009] was more categorical in his words "creativity is the most important component of human capital of all, without which, there would be no progress….". Creativity is, however, commonly and variedly defined in subject literature, relying on varied perspectives, some of which are presented in this article.

Some of the commonly discussed definitions in subject literature are based on varied perspectives or approach, including person/individual, team/group, organizational, process, mixed product-ideas, integrative, and the innovation phase perspectives.

Both the integrative and innovation phase approaches to defining creativity look at the interplay between it and innovation, which should not be seen to be taking place simultaneously. While Haner [2005] emphasizes the complexity of the interaction, R. Luecke and R. Katz [2003], emphatically point to the invention stage as creativity. The invention stage embodies the idea generation and evaluation stages in the staged innovation development. This view-point is corroborated by definitions provided by N. Anderson, K. Potočnik, J. Zhou [2014] and D.H. Cropley, J.C. Kaufman, A.J. Cropley [2011].

J. Korkosz-Gębska [2014] definition of creativity as being the creation of useful and valuable products, services, ideas, procedures or ideas by entities engaged in cooperation reflects the mixed product-ideas approach.

Creativity is also viewed from the organizational/ process perspective in subject literature as the ability of an individual to think creatively, combining varied ideas/concepts in an original and unique way, based on varied assumptions or completely new perspective [Krawczyk-Sokołowska 2018].

Relying on the presentation so far, creativity can be assumed to be a thought path, involving seeking unique linkages between components that yield new valuable products or solutions that brings benefits to customers. E. Urbanowska-Sojkin [2018] adds that the creativity pathway can be accomplished individually from one's own initiative or in teams of formal or informal collaboration.

The person/individual approach, on the other hand, defines creativity as a mental and social process [Serrat 2009] useful in exploiting available social and intellectual capital to provide novel and desired outputs; or an expression of complex interactions existing between an individual, irrespective of their position, and their work environment [Anderson, Potočnik, Zhou 2014; Pierścieniak, Kos 2014]. The definition pictures interactions of the mental state directed at

other resources, including material, transforming them into finished products or solutions to meet the needs of customers. This in essence indicates that creativity, despite being a forerunner of innovation activities runs through the entire process of innovation creation. This bundling of two separate constructs, namely creativity being the production of new and useful ideas and/or products [Amabile 1988] can result in less focus being paid to understanding the immense role of creativity in enterprise innovativeness.

In discussing creativity from the individual's perspective, one should not lose focus on the fact that each individual in the workplace possesses and expresses distinctive personality and learning abilities [Udwadia 1990; Kaliszczak 2013]. Indeed, T.M. Amabile [1988] had earlier referred to this creativity as a cluster of personality and intellectual traits displayed by persons engaged in a creative process at whatever level of the organization and stage/phase of the innovation process. Since the individual and his mental state is susceptible to influences of external exigencies, it is to be expected that the quality of his creativeness and hence the awareness of his creative input could be affected by other factors.

Some of the commonly mentioned factors that may impact on the quality of one's creativity and by deduction on his assessment of his creative impacts on the innovative process are illustrated in Table 1.

Table 1. Factors affecting the creative capabilities of the individual engaged in innovation

Factor	Description	Sources
Knowledge and abilities	Tacit and factual knowledge that steers one through the stages of resolving problems or accomplishing tasks.	Anderson, Potočnik, Zhou 2014; Talandier 2015
Thinking styles	The cognitive/learning patterns that enables one to capture and explore new ideas, guiding them through to new products or solutions.	Krawczyk-Sokołowska 2018; Talandier 2015; Anderson, Potočnik, Zhou 2014
Motivation	The individual intrinsic and extrinsic motivation to assigned tasks. The lack of motivation can inhibit the proliferation of skills.	Talandier 2015; Anderson,, Potočnik, Zhou 2014
Goal orientation	Individual's goal orientations do affect his levels of motivation, hence the level of creativity. Learning orientation positively correlates with creativity	Hirst, Van Knippenberg, Zhou 2009; Anderson, Potočnik, Zhou 2014
Traits	Personality features do exercise influence on attitudes to creativity, directly or indirectly	Anderson, Potočnik, Zhou 2014; Baer 2010
Values	Personal values serve as guides and convictions for actions taken, especially when one has to make choices between emerging ideas/ solutions	Anderson, Potočnik, Zhou 2014

Source: own elaboration based on literature study.

The creative capacity of any person, functioning as individual or in a group at any level of the organizational is subject to influences of varied factors, which may facilitate or inhibit creativity as well as its identification. It is also observable that although creativity is abundantly discussed in subject literature there is lack of a universally acceptable definition as it can, as a concept, be discussed from varied perspectives. Nonetheless, creativity from the literature perspective can be summarized as follows:

Creativity is a cluster of personality and intellectual traits of the individual that enables the individual to exploit / or develop available opportunities, in form of tangible/intangible resources, transforming them into useful outputs to fulfil customer expectations.

It is worth pointing out that creativity is not identifiable neither with a single stage of innovation development, nor a specific position in the organization. More importantly, an individual might be contributing a peace-meal of the creativity process. Can this observation constitute any difficulty in identifying the level of one's contribution to in-company creativity?

3. Research methods

Creativity is agreeably a key component of manager's competences put to use in their innovation drives. The paper aims to look at definitions of creativity, both from theoretical and practitioners' perspectives to ascertain similarities and/or discrepancies in these approaches. To achieve the objective, the critical literature analysis and an interview survey will be applied as research methods. The interview instrument will be administered to a randomly selected sample of owners of micro, small- and medium-scaled enterprises (MSMEs) engaged in innovation activities in Podkarpacie province.

The study was carried out in March-April 2020, using the interview survey method. Due to existing restrictions on human contacts as a result of the prevailing COVID-19 pandemic, contacts with potential respondents was via audio with recording possibilities. The respondents were asked to expatiate on the possibilities of why "creativity" was not designated as a core competence by business owners engaged in innovation activities in Podkarpacie province, despite its prominence in academic literature. For reasons of clarity to enhance the ease of response the question was translated into Polish, the native language of the respondents. A multi-level translation technique was applied. Key findings are presented in Table 2, followed with a discussion.

Although 12 people were targeted for the interview only 6 finally agreed to share their knowledge on the subject matter. The males and females constituted

Table 2 An illustration of opinions expressed by respondents, codified and summarized

Respondents	Summary of views expressed
R1	Creativity is not limited to specific positions as it can be expected at various levels of the organization and at various phases of project execution. It is hence not uncommon that people may have difficulties identifying oneself with creativity.
R2	Many entrepreneurs find it difficult to designate their innovation as creative as many of such endeavours involves mere adaptation or outright copying of existing solutions.
R3	My industry sector is unequivocally identified with creativity. The quest to invent quick solutions that meet customer expectations is key to staying competitive in the sector.
R4	Looking from my own perspective, micro and small enterprise owners focus on resolving emergent issues, especially market sustainability rather than think in categories of types of competences.
R5	Creativity exists, though not tangible since it is mostly put to play in ideas generation, which may not translate to physical product. This could be a reason why some find it perplexing to deem their actions creative.
R6	That seems bizarre to me if entrepreneurs failed to list creativity as a key competence. As a sole-owner of a business creativity, especially in generating ideas and managing in difficult times is crucial in product development.

Source: own elaboration, based on research.

50% each of the sample population. Majority (over 83%) of those interviewed were aged 30-45 years. The interviewees are holders of university degrees, undertaking businesses in various sectors, including IT, production and marketing. While the males owned small business with tentacles spreading to international markets, the females were spread across micro and small businesses limited to the national market.

4. Results and discussions

The aforementioned responses represent opinions expressed by the sampled group of owners of innovative enterprises, participants of the "Podkarpacie Nagroda Gospodarcza" (Podkarpacia Economic Award) contest. The responses do affirm their awareness of what "creativity" is as a body of knowledge and person/work-related trait. In order accomplish a key aim of the paper a comparison of elements contained in both perspectives are presented in Table 3.

Key issues worthy of attention in the responses are "invention" and "adaptive/adoptive", "innovation" as well as "idea generation", which some seem not to consider as acts of creativity contrary to perspectives presented in the literature

Table 3. Business owner v theorists' perspectives regarding creativity competency

Elements of creativity competence	
According to research findings	According to literature*
• a key competence in innovation development; • expected at varied levels of the organization but not a necessity for owner-managers; • not easily identified with individual persons; • adaptive/ adoptive innovation not seen as results of creativity; • outbursts of creativity do not necessarily translate to tangible products; • not seen as a thought pattern due to pragmatic approaches to resolving issues; • useful in idea generation.	• a cluster of personality and intellectual traits; • results in the creation of valuable products, solutions, ideas, etc., • identified with invention; • restricted to idea generation/formulation stage of innovation; • a thought path – a planned progressive action; • manifests itself in persons engaged in innovation, irrespective of the position

* Based on literature research.

Source: own elaboration, based on studies.

review. Their approach to the issue can therefore be considered pragmatic. The emerging question at this stage is if this pragmatism is reconcilable in management studies, where creativity is viewed as a planned or staged activity.

5. Conclusions

Creativity as a competence necessary for individuals engaging in innovation is accepted by both theorists and practitioners. A key difference in approach is that business owners or managers seem to assume that it is enough to have creative persons employed, thus restricting themselves to pure managerial activities. Another disparity of views is that parts of literature equate creativity with innovation process that results in novel products or solutions. The interview survey revealed that many SME business owners do not concord with this view as products of adaptive/adoptive innovation are not radical solutions and perhaps devoid of creativity. Could this be adjudged as a key reason why they failed to indicate "creativity" as a component of core competences for innovation? More, the interview revealed that since creativity may spread over various stages of the innovation development and might be contributed by several participating members of a team, it is difficult to identify it with a person, the business owner for example. Could this be another possible reason why business owners failed to include "creativity" in the list of competences deemed core for innovation in SME?

The paper has enriched the body of knowledge by throwing some light into existing discrepancies that exists between theorists and practitioners, regarding core competences for innovation. The findings open avenues for further research into understanding practitioners' perspectives regarding competences, especially creativity, for innovation.

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Kreatywność – niejednoznaczność definicji i praktyczne konsekwencje

Streszczenie. *Globalne otoczenie gospodarcze doświadcza niestabilnych trendów wzrostu w wyniku wielu społecznych, politycznych i technologicznych ścieżek rozwoju współczesnego świata. Z drugiej strony konsumpcjonizm wywiera presję na firmy, aby zaspokoić ich rosnące zapotrzebowanie na produkty, usługi i/lub rozwiązania wysokiej jakości. Kreatywność jest uważana za kluczowy element kompetencji menedżera. Celem badania była analiza tych poglądów, aby zrozumieć, dlaczego właściciele czy menedżerowie firm nie zaliczyli kreatywności do grona kluczowych kompetencji niezbędnych do innowacji w mikro, małych i średnich przedsiębiorstwach. Artykuł jest kontynuacją badań podjętych przez autora dotyczących modelu kompetencji właściciela/menedżera innowacyjnych przedsiębiorstw. Jako metody badań wykorzystano przegląd literatury i badania ankietowe. Kluczowym odkryciem jest to, że pragmatyczne podejście właścicieli czy menedżerów mikro, małych i średnich przedsiębiorstw do ich funkcji i osiągania celów ma większe znaczenie niż rozważenie, które kompetencje są wymagane w danym momencie.*

Słowa kluczowe: *kompetencje, kreatywność, mikro, małe i średnie przedsiębiorstwa, innowacja, dwuznaczność*

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Trends in state policy with a view to improving structural characteristics of the digital economy

Abstract. *The article identifies the need for state regulation of the digital economy, which is mainly due to trends in digital technology development. The authors define and systematise tools (mechanisms, factors) of state regulation regarding the development of the digital economy sector. They describe the environment and factors affecting the digitalization of the Ukrainian economy and make comparisons with the neighbouring countries. They also identify priorities of state policy aimed at fostering the development of the digital economy, such as increasing the use and areas of application for artificial intelligence, implementing the Internet of things, creating digital platforms for user interaction (e-business), strengthening state support for digital transformation processes in basic economic activities, promoting business models based on the concept of the sharing economy, ensuring the virtualization of physical infrastructural IT systems and transition to service models. Finally, the authors describe the tasks of entities of the digital economy regarding the formation of systemic links between sector development and the country's economic growth.*

Keywords: *digital economy, public policy, digital technologies, economic growth*

1. Introduction

Ensuring the high effectiveness of state policy of the development and realization of the digital economy sector potential requires the awareness of its strategic priorities, which must be achieved. The effectiveness of state policy of the economy digitalization increases many times if it focuses not only on the activities of economic agents, but also on society and public administration, which simultaneously complicates the strategic planning process, significantly increases financial, institutional, organizational, resource, time and other components of cost capacity.

These and other features highlight the importance of both identifying strategic priorities and justifying the stages of their achievement, which allowed defining the next strategic stages of state regulation in the analyzed area – (1) formation of the potential of the national sector of the economy digitalization, (2) establishment and strengthening of its competitiveness, (3) implementation of the digital economy sector potential in the system of the development of the national economy and information society. It is this sequence of state design of the digital economy sector development in which it is possible to determine the structural characteristics of its future trends. In addition, the tasks for entities of the digital economy sector, which will be able to ensure the country's economic growth, should be set in the state system of economic regulation.

2. Research purpose

The study of the scientific research results on the development of the country's economy and strengthening in digital technologies has confirmed the importance and need for the interference of the executive branch with ensuring the necessary level of effectiveness of such trends. Accordingly, the tools should be implemented in the system of state regulation on the basis of which it will be possible to achieve the desired results. All this requires the development of state policy areas that will serve as guidelines for improving structural characteristics of the digital economy.

The purpose of the article is to substantiate the state policy trends to improve structural characteristics of the digital economy sector, taking into account the tasks of entities of the digital economy sector on forming systemic links between the sector development and ensuring the country's economic growth.

3. Research methodology

The study of the methodological principles and characteristics of the economy digitalization processes has provided the opportunity to identify and systematize the main mechanisms and tools of state regulation in order to influence the processes of creating an appropriate environment for the formation and development of a digital economy; resource provision of planning and implementation of digitalization processes; development of a related and supporting infrastructure of the digital economy; and the changes in the business climate are related to the state of the market of innovative and digital technologies in order to form and develop the digital sector and ensure the growth of the economy's competitiveness (Table 1).

Studying the experience of the world's leading countries on the methodology of formation and implementation of the processes of digitalization and development of the digital economy, the dominance and active use of legal, economic and administrative groups of methods should be noted. Thus, Great Britain became the first country to establish the Ministry of Digital Economy as a state institution responsible for managing the country's digitalization processes and to introduce a wide, large-scale use of "cloud technologies" with the creation of "Data centers", "G. Clouds" [Pilorget, Schell 2018: 55-71].

The important aspect of functioning of the Digital Single Market in the EU countries and around the world is digital integration, namely the compatibility of standards, protocols, interfaces. Today, EU and US standards are widespread throughout the world [Curran 2018: 210-215]. Accordingly, the introduction of unitary digital standards is an important and necessary condition for successful integration of countries into the European and world economic space.

According to the survey of 31 countries conducted by the OECD experts, the main tools for overcoming the "digital divide" during 2020-2023 will be: intensification of private investment; development of programs for digital transformation of public finances, active use of electronic payment systems, development of the implementation and regulation of state programs for the development of a digital economy [OECD Digital Economy Outlook 2017: 22-37].

Thus, the study of methodological tools for state regulation of the development of the economy's digital sector makes it possible to distinguish a key role of the state in initiating and developing such processes both at the level of adoption and implementation of state concepts, strategies and targeted programs of the digitalization of the country's industries and spheres of life and in creating a set of mechanisms and tools to overcome the "digital divide" between the

Table 1. Tools for state regulation of the digital economy

Mechanisms	Factors in the development of digitalization			
	Environment	Resource provision	Infrastructure	Conjuncture
Institutional and legal	Development and adoption of the Law "On Digital Economy", Strategies for Digital Development of the National Economy, targeted programs for digitalization of areas and sectors of the economy	Development and adoption of concepts: "Industry 4.0.", "Digital Production", "Internet in Industry", "Open Production"; changes in legislation on the recognition of crypto currencies	Creation of a body for coordination of actions on digitalization of economy; building institutions for the development of the digital economy	Development of the concept of industrial transformation and formation of a single digital space with the EU; ensuring intellectual property rights
Economic	Conducting analysis and research of industrial sectors in order to assess their competitiveness and development prospects; improvement of tax, customs, investment, innovation policy	Improving the instruments of tax and customs policy on the introduction of special import duties on machinery and technology; creation of special funds for joint venture investment; public procurement and procurement in the digital economy sector	Introduction of concession and service models of financing and management of investment projects of infrastructure development; lending for digitalization development projects	Liberalization of state policy in the field of non-cash payments, currency regulation, free access to the use of international payment systems
Administrative and organizational	Transition to e-government systems to expand access to broadband Internet; licensing of technologies and services	Development of regulations for the transition to electronic document management and digitalization of technical documentation; recognition of international Industry 4.0 standards; standardization and certification of technologies	Development and operation of innovation-industrial and digital infrastructure	Improving the legal framework for intellectual property, protection of private data, cyber security
Information and socio-psychological	Adoption and implementation of national digitalization projects, implementation of effective models of public-private partnership	Formation of educational programs with the definition of new educational (digital) competencies of staff; making changes to the classifier of professions with the development of a list of new professions	Connection to broadband Internet and mass use of digital platforms, tools and devices	Introduction of digitalization in the social sphere, public administration; improving digital education, skills of citizens
Technical and technological	Development and implementation of projects of gradual digitalization of industries, social sphere and public administration	Introduction of "cloud technologies" for information storage and resource allocation, transition to mass production of robotic production technologies	Stimulating the introduction of devices, mobile technologies for control and management of business processes	Development of e-commerce technologies, transition to sales via the Internet; introduction of e-business processes, digitalization of production

Sources: author's own research.

existing state of engineering and technology and ensuring the rapid development of fundamentally new (particularly in the technical and technological aspect) industries and economic activities.

4. Results

4.1. Comparative characteristics of the digital economy (on the example of Ukraine)

In today's world, the prerequisites for economic development increasingly depend on the level of digital technologies and development of the digital economy sector, which provides economic growth through the integration and positive impact of digital technologies on the quality and effectiveness of socio-economic processes [Ilyash, Dzhadan, Ostasz 2018: 317-318]. Assessing the potential of the digital economy and financial efficiency, scientists point out that the expected revenue from digitalization in the coming years by 2025 could reach $ 30 trillion USA [Richardson 2020: 318-320].

Regarding Ukraine, the formation of the digital economy sector at the current stage of development is in the focus of strategic priorities of state policy [Vasyltsiv, Lupak, Shtets 2020: 14-19]. Thus, according to the annual ranking of countries by the level of network readiness of the economy, Ukraine in 2019 ranked 67th out of 121 countries, i.e. the Ukrainian economy had the state of network readiness below average.

The low technological readiness of Ukraine's economy for the active development of the information sector has become both a consequence and a reason for the country's lag in the ranking of the Global Innovation Index. In 2019, Ukraine ranked 47th out of 129 countries analyzed. Although, in 2012-2019, Ukraine's position in the ranking improved: in 2019 compared to 2012 – by 16 rating positions, and compared to 2013 – by 24 rating positions, which is significant.

This shortcoming is exacerbated by still low values of high-tech exports in the structure of industrial exports of Ukraine compared to other countries (Table 2). Thus, in Ukraine in 2018 the share of high-tech exports amounted to slight 5.4% and over the past eight years the number has increased by only 1.1 p.p. (from 4.3% to 5.4%) and over the past year, on the contrary – has decreased by 0.9 p.p., which hinders the information and technological progress of the national economy.

It should be noted that the world average value of this indicator in 2018 was 17.9% (which was 13.5 p.p. more than for Ukraine), and the European average – 15.9% (by 10.5 p.p. more). The values of the analyzed indicator are much higher

Table 2. The share of high-tech exports in the structure of industrial exports of Ukraine and other countries in 2010-2018 [in %]

Countries	Years									Absolute deviations, ±	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2018 / 2005	2018 / 2017
Ukraine	4.3	4.9	6.9	6.7	7.5	8.5	7.2	6.3	5.4	+1.1	–0.9
World	20.6	18.7	19.0	19.1	19.1	20.0	20.0	21.6	17.9	–2.7	–3.7
EU, including	17.0	16.3	17.0	17.1	17.2	17.8	18.0	16.4	15.9	–1.1	–0.5
Poland	7.7	6.6	7.9	8.8	10.2	11.0	11.0	10.9	10.6	+2.9	–0.3
Hungary	25.9	25.2	21.2	19.4	16.7	17.2	17.5	17.3	16.9	–9.0	–0.4
Romania	12.5	11.6	8.1	7.4	8.4	9.4	10.4	9.8	10.1	–2.4	+0.3
Slovakia	7.1	7.4	9.6	11.0	11.1	11.2	10.7	11.8	10.6	+3.5	–1.2
Russian Federation	9.6	8.5	9.2	10.7	12.1	16.4	10.1	11.6	10.9	+1.3	–0.7
Belarus	3.0	2.5	2.9	4.5	4.1	4.4	4.8	4.3	3.9	+0.9	–0.4
Moldova	9.7	7.4	5.1	2.7	5.3	4.6	3.4	5.3	2.5	–7.2	–2.8

Sources: compiled by IMD World Digital Competitiveness Ranking 2020.

for Ukraine's neighbouring European countries, and at the same time Ukraine is ahead of only Belarus and Moldova of the neighbouring countries.

As a result, these circumstances can be considered both a factor and a reason for the low digital competitiveness of Ukraine's economy. If in 2014 Ukraine ranked 50th out of 60 countries, by 2019 it had dropped to the 60th place out of 63 countries.

In other words, only three countries analyzed in 2019 in this ranking had the worst value of the integrated indicator of digital competitiveness, which directly proves the low level of development and competitiveness of the digital economy of Ukraine.

4.2. Substantiation of strategic priorities of the state policy of digital economy development

The strategic stage of state regulation of the digital economy sector development is to expand the sector's scale and increase the economic activity volume [Lupak, Kunytska-Iliash 2017b: 40-41]. This is facilitated not only by increasing the range of goods (services) with the content of information technology in most economic activities, but also directly by expanding the range of modern technologies used in the economy. It should be remembered that the information technology field is developing rapidly and the technologies which are leading today, in the near future may be considered obsolete and irrelevant [Varnaliy,

Onishchenko, Masliy 2016: 22-23]. Thus, it is necessary to work ahead, taking into account current trends in digitalization (Table 3).

As a result of summarizing modern research results in the digital economy field, a number of conclusions can be drawn related to the specialization of state policy aimed at increasing the economic activity volume in the sector. This is, firstly, the popularization of the idea that information (digitalization of goods and services) is increasingly becoming a key factor of competitiveness, because it increases the level of the enterprise product accessibility and improves its quality characteristics [Ilyash et al. 2020: 96-101]. Along with popularization, it is important to work on leveling the existing barriers to the spread and use of digital technologies, in particular by institutionalizing norms, rules, standards, procedures, regulations for working with information data; elimination of imperfections of the system of protection and defense of intellectual property; increasing the level of cyber-security; development of competencies of the population, as well as employees of enterprises regarding the work with digital data [Kutsyk, Protsykevych 2018: 141-143; Vasyltsiv, Lupak 2016: 53-57].

Table 3. Staging of digital technology development trends

Stages	Current digital technologies
Trends of the beginning of the XXI century	• a personal computer; • smartphone; • high speed internet; • cloud information databases; • social networks
Current trends	• virtual reality / augmented reality / mixed reality; • portable devices; • smart homes; • connected cars; • drones; • sensors, sensors; • nanotechnology; • big data analytics
Landmarks in the development of trends	• implant technology; • Artificial Intelligence; • robotics; • blockchain and cryptocurrencies; • 3D printing; • distributed calculations; • self-driving machines; • shared economics; • new technologies in energy

Sources: author's own research.

The use of artificial intelligence can be considered a promising trend for the development of the digital economy market and increasing its capacity [Manyika 2016: 50-71]. Today, artificial intelligence technologies are becoming more widespread in robotics, machine and tool engineering, image visualization techniques, complex and in-depth research, and natural language processing. The development of this segment of digitalization market will take place naturally, but it is possible to significantly accelerate necessary processes through the participation of state regulation, aimed at supporting educational programs to train specialists, creating a favourable environment for investment attraction in the sphere of the artificial intelligence use, development, financing and implementation of programs with clearly defined projects for the artificial intelligence development in basic economic activities, in particular at the level of regions with high potential for innovation and technological development, IT and staffing, coordination of directions and parameters of IT development and digitalization infrastructure in accordance with the needs of artificial intelligence segments.

Another important trend in this area concerns the development of the Internet of things [Gorbulin, Kaczynski 2010: 105-116]. It involves connecting to the Internet and digitalizing almost all physical things and objects, which can then be accounted for and exchanged, bought/sold, consumed, etc. in digital form. The formation of the Internet of things market today is one of the global trends and it is expected that in the near future this market can almost completely displace the market of traditional goods and services. Accordingly, it is also important for businesses to develop in this direction, digitizing more and more of their own products.

From the point of view of the public administration system, it is important to promote such initiatives, in particular, to develop the awareness of business representatives on the benefits of using technologies of the Internet of things, to support and stimulate various initiatives of innovation and technology, as well as start-ups in the Internet of things to train specialists and engineers in the field of operational technologies.

Such digital platforms as so-called virtual environments of user interaction for communication and business cooperation (e-business) use no less potential for development in the world practice today. The peculiarity of their operation is that the interaction takes place not on a specially created information platform, but on the basis of users' resources – participants of such a system, when each user creates so-called utility (network effect) for others, which together becomes a development resource [Vasyltsiv et al. 2019: 315-318]. The economic advantages of such systems are the improvement and digitalization of business processes (not only internal but also inter-subjective ones), obtaining synergy effects due to building up both vertical (from the producer to the consumer) and horizontal (between enterprises of one area) information relations and electronic interaction.

The strategic advantage of the formation and development of digital platforms is the ability to create digital clusters, where their participants stay within a closed (partially closed or open) internal electronic and digital system [Kutsyk, Protsykevych 2019: 6-10].

In the future, the prospect leads even to the formation of a single digital domestic market with not so much traditional structuring of the economy into economic activities and industries, but into digital segments of the domestic market, vertical and horizontal systems, local production and trade complexes, corporate structures [Lupak, Kunytska-Iliash 2017a: 118-121].

In the EU, such processes are already developing. This is a Digital Single Market project, organized to establish e-business interaction between companies from different countries of the Euro-zone. Each country has a chance to join this system and, thus, not only accelerate European integration aspirations, but also reach a better stage of development of the digital economy sector, in particular – e-business. To do this, we should work now on the implementation of e-IDAS regulations, joining the programs: Interoperability Solutions for European Public Administrations 2, e-CODEX, e-Invoicing, Single Digital Gateway, harmonization of digital interaction with EU customs services on the basis of a single unified document (SAD) and goods movement monitoring systems (NCTS).

The state support of digital transformation processes in basic economic activities is also important. The question is primarily about the development and implementation of state and regional strategies and programs to intensify activities in the digital economy in various industries, sectors of the economy, economic activities at all the levels – macro-, meso-, sectoral, micro- [Havlovska et al. 2019: 2217-2221]. The implementation of such programs allows further developing the infrastructure of the digital economy, stimulating businesses to use digital tools and solutions, creating new industries, cooperating with the research sector, development and implementation of technological innovations, promoting the development of digitalization from the bottom up, including from school to business.

The spread of business models that belong to the ideology of a sharing economy is becoming increasingly important [Alcácer, Cantwell, Piscitello 2016: 501-205]. It is a question of digitalization and transfer of various kinds of relations to the information field, such as joint use of office and warehouse premises, fixed assets, financial, human and other resources, technologies, business operations, etc. To develop this area of the digital economy, it is necessary to implement a number of institutional and organizational tools aimed at improving the legislation in terms of functioning of economic agents within a sharing economy, accession to international legal practices regulating financial and economic relations (including international), the sharing economy, simplification of business conditions in the system of relations of a sharing economy, stimulation

of the creation and development of new marketplaces and participation of business entities in projects within the limits of commercial digital globalization.

The most promising areas of the development of the digital economy sector and expansion of its capacity should also include the virtualization of physical infrastructural IT-systems and transition to service models [Willcocks, Lacity 2006: 77-101]. This business direction can be fully attributed to elements of the digital economy infrastructure, as it concerns the creation of an appropriate service for users, which they use for a certain period of time. At the same time, a sufficient level of the cyber-security of data is guaranteed. The project of the virtualization of physical infrastructural IT-systems and service models is based on the use of cloud technologies and software-defined architecture.

Within the framework of state regulation of the development of this segment of the digital economy sector [Vlasiuk et al. 2016: 144-152], it is necessary to discuss the formation of relevant legislation regulating relations and rights in the field of cloud technologies, initiating and implementing pilot projects on the virtualization of physical infrastructural IT- systems and creating service models

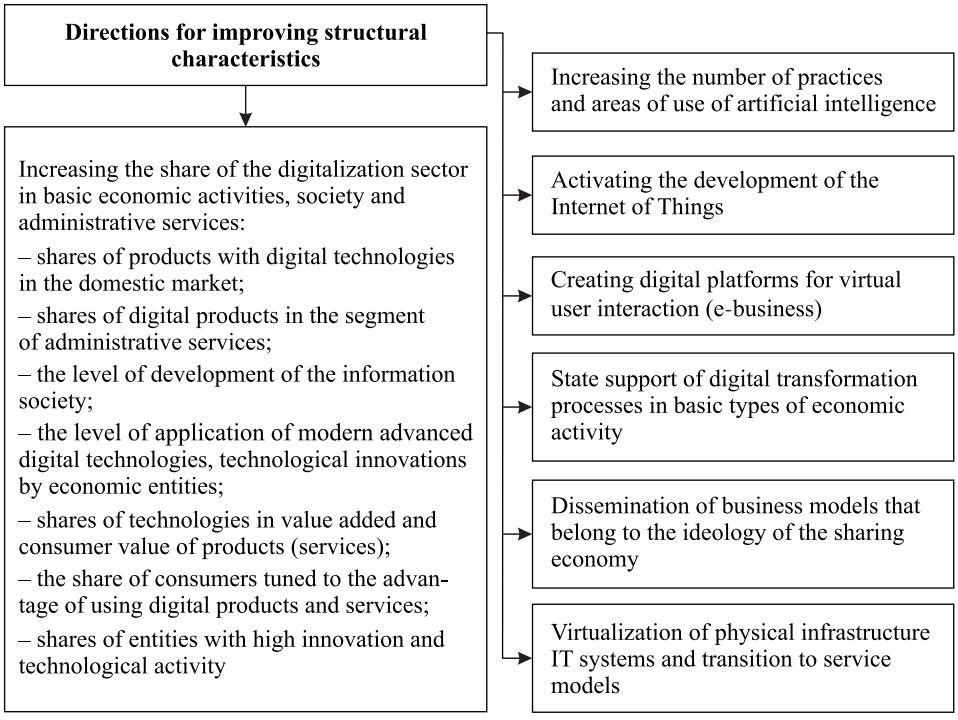

Fig. 1. Directions of state policy to improve the structural characteristics of the digital economy sector

Sources: author's own research.

in public administration, functioning of establishments of social infrastructure, consumer services, improving the business environment and implementation of a number of incentives for cloud service providers.

The implementation of the above mentioned directions of the development of the digital economy sector will objectively contribute to the formation and strengthening of its competitive position. At the same time, trends should be further developed which have the effect of improving structural characteristics of the national economy sector and increasing its share in the economy [Vasyltsiv et al. 2020: 3175-3179]. This is the next of the strategic priorities of state policy, defined by the authors.

It should be understood that the rational structure of the digital sector has two interrelated components: 1) internal – development and expansion of activities in the priority areas of the national economy digitalization, 2) external – posi-

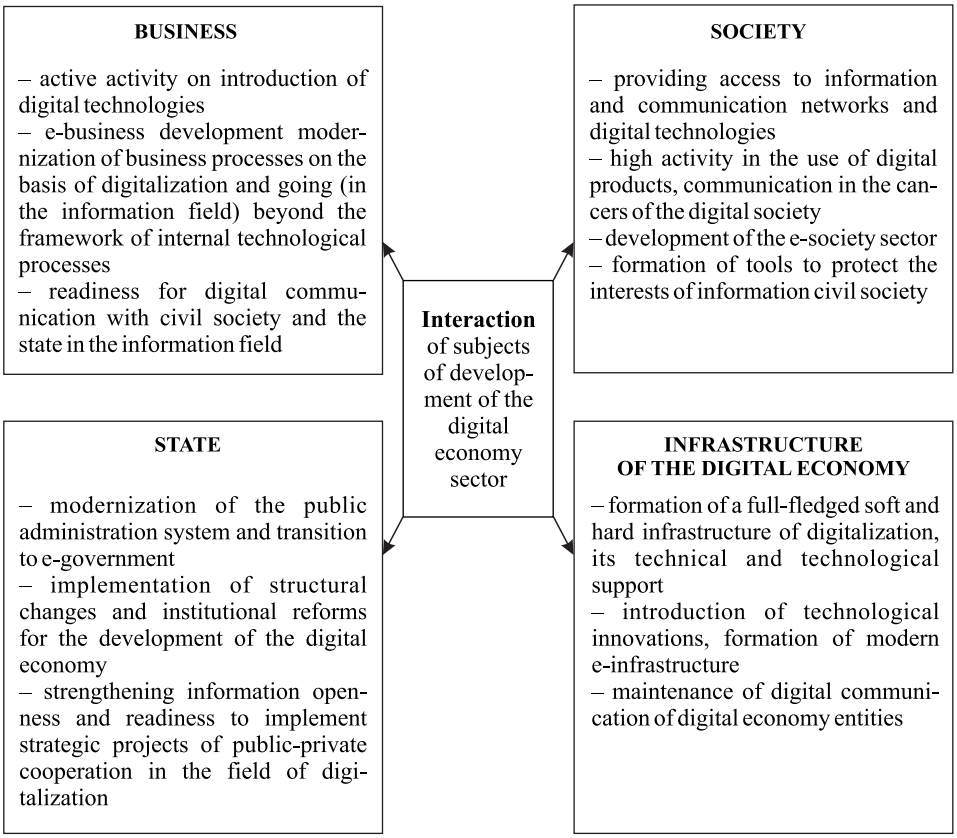

Fig. 2. Tasks of subjects of sector of digital economy in the context of formation of system communications of development of sector and maintenance of economic growth of the state

Sources: author's own research.

tive impact and contribution of digitalization to increasing the share of digital technologies in traditional economic activities in particular basic economic ones (Fig. 1).

The implementation of the above defined measures will contribute to the formation and strengthening of competitive positions of the digital economy sector, which will allow moving to the next strategic stage of state regulation. This is the realization of its economic potential in the national economy and the information society development.

And this can be possible only as a result of achieving such a strategic priority of state policy in this area as the formation of systemic links and a strong contribution of the digital economy sector to economic growth. Such relationship and contribution are possible when the initiative comes from both the top and bottom, from key entities – business, the public and state, based on the model (Fig. 2).

5. Conclusions

Given the implementation of the identified tasks and inclusion of the main entities in a single system of functioning and development of the digital economy sector, full conditions will be created for the implementation of large-scale national projects in the field of the country's social and economic development. Accordingly, it is necessary to take advantage of this, having achieved such a strategic priority of state regulation in the analyzed area as the effective implementation of strategic national projects in the digital economy.

Without resorting to the disclosure of instruments and means of state regulation, the specialization of such projects should relate to:

– building up a hard and soft national infrastructure for the digital economy development;
– digitalization of social infrastructure facilities;
– e-government development;
– creation of "smart" cities;
– modernization of customs on the basis of the formation of electronic customs;
– transition to Industry-4.0;
– full-scale digitalization;
– creation of high-tech clusters;
– stimulating inter-corporate electronic interaction and creation of branch digital platforms.

This list of national projects is not exhaustive and should be developed, changed, supplemented as the digital economy develops, as well as taking into account globalization trends, features of functioning and the state of use of the

economic potential of development of the economy's certain sectors, territories. But, under any circumstances, the vector of state policy for the development and the widest possible use of opportunities of the digitalization sector should be strategic. To do this, public administration bodies need to remove all institutional barriers, form a proper regulatory framework, and introduce a system of measures to stimulate the digitalization of economic and business sectors, initiate and complete a number of large-scale national and local public and private partnership projects.

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Kierunki polityki państwa w celu poprawy cech strukturalnych sektora gospodarki cyfrowej

Streszczenie. *W artykule wskazano na potrzebę państwowej regulacji gospodarki cyfrowej, która wynika głównie z trendów w technologii cyfrowej. Zdefiniowano i usystematyzowano narzędzia (mechanizmy, czynniki) państwowej regulacji rozwoju sektora gospodarki cyfrowej. Przeprowadzono analizę otoczenia i czynników wpływających na przebieg cyfryzacji gospodarki na Ukrainie oraz dokonano porównania z krajami sąsiednimi. Opisano priorytetowe kierunki polityki państwa mające na celu zapewnienie rozwoju gospodarki cyfrowej w zakresie zwiększania obszarów wykorzystania sztucznej inteligencji, wdrożenia Internetu Rzeczy, tworzenia cyfrowych platform umożliwiających interakcje użytkowników (e-biznes), wsparcia transformacji cyfrowej w podstawowych rodzajach działalności gospodarczej, rozpowszechniania modeli biznesowych w ramach ekonomii współdzielenia, wirtualizacji infrastruktury fizycznej systemów informatycznych i przechodzenia do modelu usługowego. Określono zadania podmiotów sektora gospodarki cyfrowej w kontekście tworzenia powiązań systemowych między rozwojem sektora a zapewnieniem wzrostu gospodarczego kraju.*

Słowa kluczowe: *gospodarka cyfrowa, polityka publiczna, technologie cyfrowe, wzrost gospodarczy*

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Property taxes in the revenue structure of local governments: EU vs Ukraine

Abstract. *The article outlines the European experience of property taxation (immovable property tax, land tax and vehicle tax). The authors demonstrate that the system of immovable property taxation in Ukraine resembles those found in many European countries. The analysis focuses on factors responsible for the marginal role that real estate taxes play in revenues of local government units, namely the incomplete real estate register and inefficient policies of local governments regarding their role in the creation of local budgets. The main aspects of land tax regulations in Ukraine are discussed taking into account the experience of European countries, namely the separate treatment of land tax and immovable property tax, the legal basis of minimum and maximum rates of land tax and land estimation based on its market value. Directions of changes concerning vehicle tax in Ukraine are intended to strengthen its stimulating and fiscal function, expand the tax base and promote the role of local government in establishing conditions for vehicle tax collection.*

Keywords: *property taxation, immovable property tax, land tax, land fee, vehicle tax, local budget*

1. Introduction

The need to strengthen financial capacity of local public governance bodies brings to the fore the research of the efficiency of some taxes as well as the reasoning of efficient mechanisms of their collection and growing role in filling of local budgets. Property taxes as important source of local budgets' revenues are characterized by stability and importance of revenues, predictability for payers, opportunity of indirect inclusion of "shadow income", etc. Moreover, it should be mentioned that the income from property taxation forms a substantial share of local budgets in some European countries. In such conditions, it is necessary to outline the perspective directions to enhance the property taxation system in Ukraine from the viewpoint of the best practices of European experience. Taking into account the structure of tax revenues, special attention should be paid in the first place to recurrent property taxes, represented in Ukraine by tax on immovable property other than a land plot, land fees and vehicle tax.

2. Brief Literature Review

Property taxation is widely represented in domestic and foreign research. G. Strovolidis and T. Vappas [2013] outline the procedure of immovable property taxation in various countries of the world. L. Maličká [2017] analyzes the impact of immovable property tax on the income of subnational government in conditions of decentralization in European countries. However, the role of local governments in immovable property tax management and the problems that reduce its importance in the revenues to local budgets are underresearched.

The issue of efficient land fee management is relevant at all stages of taxation development in Ukraine and in the countries with well-developed tax systems, therefore, many economists address the issue. In particular, M. Ali, O.-H. Fjeldstad and L. Katena [2017] mention the "progressive nature" of the tax, because the property subject to taxation belongs to relatively rich persons, thus contributing to efficient distribution of tax burden. The Western scientists pay substantial attention to land fee management in terms of determining of the tax base. The issues were addressed by R.W. Bahl and J.F. Linn [1992], H.M. Kitchen and E. Slack [1993], J. Janoušková and S. Sobovicová [2019: 30-36], who focused on the problems of tax benefits establishment and tax exemption. Equally noteworthy are the works of Timothy J. Bartik [1991], Daphne A. Kenyon, Adam H. Langley, and Bethany P. Paquin [2012], who argue that tax benefits in some cases influence the choice of economic entities' location, yet in most cases they lead to reduced tax revenues to local budgets and reduced

quality of public services. Nevertheless, the issue of improvement of property taxation system in Ukraine remains to be open.

The purpose of the paper is to substantiate the directions of improvement of property taxation system in Ukraine based on the experience of European countries.

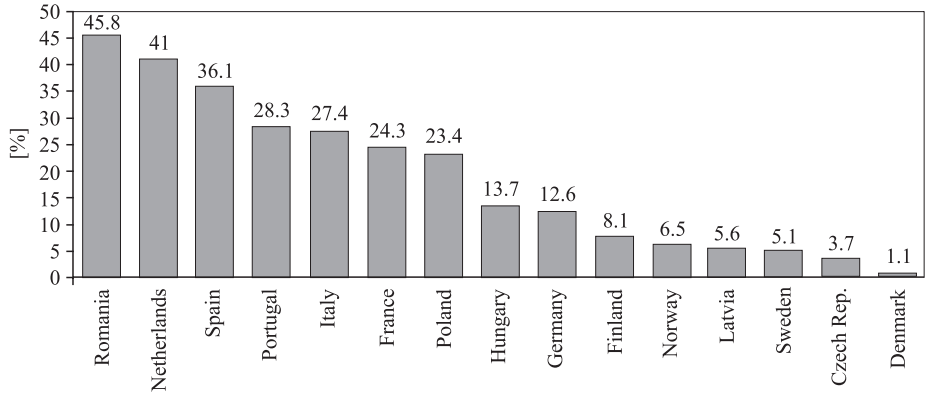
3. Tax on Immovable Property

Tax on immovable property other than a land plot (hereinafter – immovable property tax) is imposed in many European countries. It is the predictable and stable source of revenues, because all immovable property is included in registers, based on which the predictions are made. It does not depend on the efficiency of payer's activity, like direct taxes do. Moreover, it is hard to hide and "optimize" the tax base, unlike financial income of a payer, which is subject to direct taxation [Dubrovskyi, Cherkashyn 2016].

Usually immovable property tax exists as a separate tax, but in Greece and some Swiss cantons its value is added to overall income of a person subject to taxation. Most countries collect immovable property tax at local level. However, in Sweden, Switzerland, Belgium, France, Greece and Iceland the tax is distributed between the budgets of various levels.

Immovable property tax is one of the main sources of local budgets' revenues in many countries. Yet, its share in overall tax revenues of local budgets in European countries is different (Chart 1). It is stipulated by the specifics of

Chart 1. The share of recurrent taxes on immovable property in the tax revenues of local budgets in 2018



Source: based on: Eurostat. Tax revenue statistics: database, https://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics?fbclid=IwAR2xlw_0sP7haRQ9anyySQ_k833zVn-jHUm5dERSXGwXYvLepe-qr4olQWw_[accessed: 29.04.2020]; OECD. Revenue Statistics: 2016, database, http://www.oecd-ilibrary.org/taxation/revenue-statistics_19963726 [accessed: 29.04.2020].

forming of local budgets. For instance, in Scandinavian countries the share of immovable property tax in overall tax revenues of local budgets is relatively small (1.1-8.1%), because income tax is the main source of filling of local budgets. In some well-developed countries in Europe (France, Italy) it ranges within the fourth part of all tax revenues of local budgets. While in Estonia the tax on immovable property other than a land plot is not collected at all, there is only the land tax, which is entirely included in local budgets.

The revenues from tax on immovable property other than a land plot (recurrent taxes on immovable property without the land tax/fee) dominate in revenues from all property taxes (vehicle tax, immovable property alienation tax, capital gains tax, etc.) in almost all countries under research.

Usually the immovable property tax is paid both by individuals and legal entities. However, in some countries only individuals are the payers (Great Britain, Switzerland, Sweden), or, less often, only legal entities (Hungary). But in Hungary local governments have the right to impose immovable property tax on individuals as well.

There are two fundamentally different ways to determine the tax base in European countries: 1) cost-based – the base is the market or estimated (or cadastral) value of immovable property (in the ideal case, estimated cost should be as close to market one as possible); 2) area-based – the base is the area of immovable property measured in square meters.

Estimated (less often cadastral) value (sometimes in France – the rent) is used for immovable property taxation in most countries (Great Britain, Denmark, Finland, Germany, Greece, Italy, Portugal, Romania, Sweden, Bulgaria, Slovenia, Spain, Switzerland, Lithuania, etc.). It is generally established by public institutions. Some countries (Norway, Macedonia, Montenegro, Serbia, Bosnia and Herzegovina, the Netherlands) take market value of immovable property as the tax base, which is established by public authority (usually the fiscal service) or municipality. But each country has the system of benefits for certain categories of individuals, who cannot afford paying the necessary tax volumes. Moreover, public assessors in European countries tend to reduce the value by 25-30% compared to the market one (Austria, Bulgaria, Finland, Germany, Slovenia, Spain, Sweden, Switzerland). Such underassessment of tax base is related to prevention of excessive and unfair taxation of population [Strovolidis, Vappas 2013].

The area of immovable property measured in square meters is taken as the tax base in some countries of Central and Eastern Europe (Poland, Czech Republic, Hungary, Albany) and in Ukraine as well. The approach is hardly fair as far as it does not take into account the individual differences of immovable property items (essential flaw for tax payers in the first place) and prevents local governments from receiving adequate revenues from taxation of

immovable property located at their territory. In Hungary, for instance, local governments have the right to individually determine the base to be established for taxation of immovable property in their respective territorial communities (either immovable property area or market value of immovable property). In Poland, although the area is used as the base to collect tax, yet the works on implementation of cadastral value for taxation of immovable property are also being carried out.

In Ukraine, the tax on immovable property other than a land plot also belongs to local taxes. It is paid by individuals and legal entities. Competences on tax management are divided between state authorities (which define the items subject to taxation, tax base and benefits) and local governments (which establish rates of taxation and additional benefits). Tax base is the overall area of residential or non-residential property measured in square meters, which is calculated by State Tax Service of Ukraine based on the data of State Immovable Property Rights Register.

The rate of the tax on immovable property other than a land plot is established by local governments in percent to the minimum salary as of January 1 of fiscal year per 1 square meter of tax base, but not exceeding 1.5% of the minimum salary per 1 sq. m. of tax base. Ceiling rate of the tax is established at state level. Tax rates are often differentiated within the local community depending on location and types of immovable property items [Verkhovna Rada of Ukraine 2010].

In addition to benefits established at the state level (area of immovable property not subject to taxation), local governments have the right to grant benefits to individuals based on their property status and income level.

The volumes and share of immovable property tax in overall tax revenues of local budgets remain to be insignificant in Ukraine. The share of revenues from the tax on immovable property other than a land plot amounted to 1.6% of all tax revenues of local budgets in 2018. The main reasons are the following: (1) incomplete state immovable property rights register; (2) passive policy of local governments (especially in rural areas) on tax collection, which is stipulated by reluctance to cause social discontent among the population of local community.

Therefore, total inventory of all immovable property in the country is the major step towards the increase of local budgets' revenues from taxation of immovable property other than a land plot. It will contribute to forming of complete tax base to collect immovable property tax – the immovable property register. It can be implemented through providing of legislative framework for the commitment of property owners to check the data in ownership documents with the respective data of State Immovable Property Rights Register. The second necessary condition is the clear position of local governments – political will – to fill local budgets through immovable property taxation.

4. Land Tax

Land fee is a version of property tax, when only the land cost is subject to taxation. In most countries immovable property taxation includes land taxation and improvements (of buildings, structures, etc.). If only the land tax is established, the improvements are not subject to taxation; tax payer is urged to use the plot more efficiently, which is a substantial advantage of such taxation mechanism. Land tax promotes construction, on the contrary to the property tax that includes the land and other immovable property, which hampers the property investment.

Currently about 30 countries in the world use land taxation as an efficient version of property tax. Among the EU countries, the land tax is used in Denmark, Estonia, Lithuania, Poland, Romania, Slovenia, Hungary, France and Croatia. The shares of land tax in the recurrent taxes on immovable property differ considerably in the countries (Chart 2), testifying to various systems of property taxes in the EU countries.

Determining of tax base is the key issue in establishment of land fee. Tax exemption of some items deserves special attention in this context. Such "exceptions" are criticized in the researches of many scientists regarding the impact of existence of items exempt from property taxation. In the first place, property of state authorities at the territories of municipalities is exempt from taxation in many countries; however, state authorities that own the property receive respective social services on par with the other taxable entities, therefore, they should pay

Chart 2. The shares of land tax in the recurrent taxes on immovable property in some EU countries and Ukraine, 2018

Source: based on: Eurostat. Tax revenue statistics: database, https://ec.europa.eu/eurostat/statistics-explained/index.php/Tax_revenue_statistics?fbclid=IwAR2xlw_0sP7haRQ9anyySQ_k833zVn-jHUm5dERSXGwXYvLepe-qr4olQWw [accessed: 29.04.2020]; OECD. Revenue Statistics: 2016, database, http://www.oecd-ilibrary.org/taxation/revenue-statistics_19963726 [accessed: 29.04.2020].

taxes according to the social justice principle [Bahl, Linn 1992]. In the second place, taxable property is characterized by higher value than the one exempt from taxation, which disturbs economic competition between economic entities – tax payers [Kitchen, Slack 1993]. In the third place, tax exemption restricts tax base and increases tax burden on the other tax payers (in some countries, while establishing property taxes local governments define their volumes depending on the needs to fill local budget), as well as reduces the level and quality of local services [Janoušková, Sobotovičová 2019].

Establishment of tax base and land assessment are the foundation of land tax. Currently EU countries use three methods of land assessment (Fig. 1). Assessment based on market value is characterized by essential advantages in comparison with assessment based on plot area, namely: 1) market value of land plot includes all its features, which is not taken into account in determining

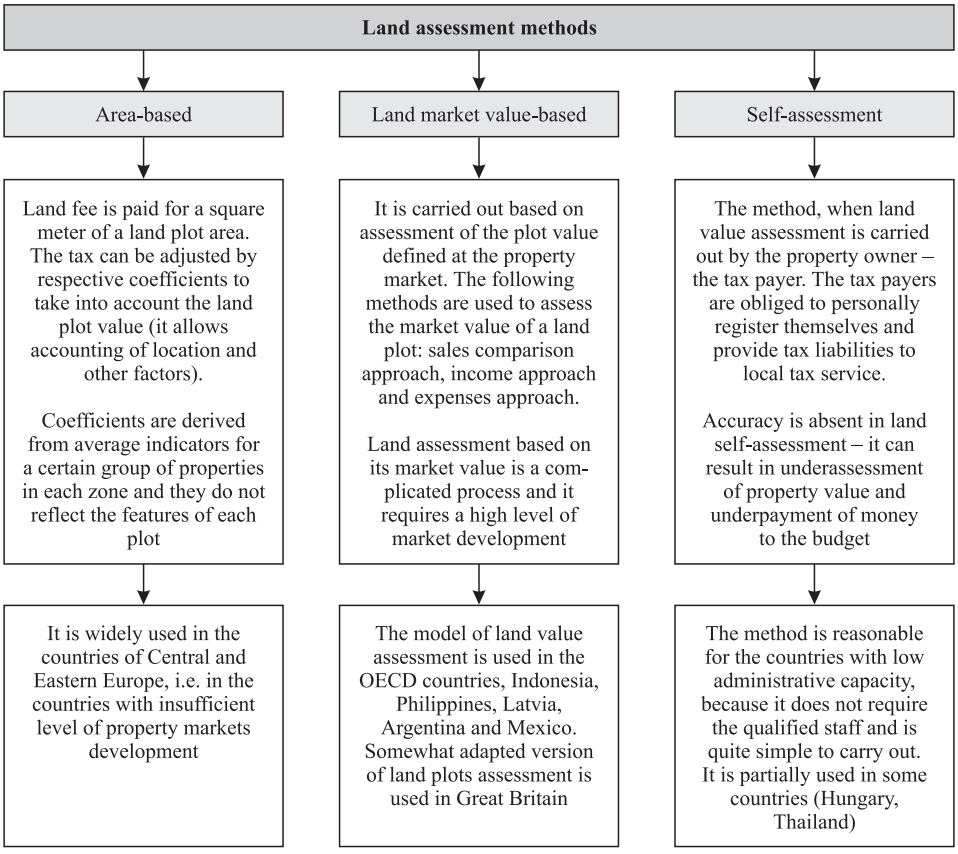


Fig. 1. Methods of land value assessment used in the world

Source: developed by authors.

of its area; 2) land market value includes such factor as the level of territory's development due to providing of social services by local governments and state authorities; 3) assessment based on the area of land plot leads to greater tax burden on tax payers with low income, because the factors that define the real value of an object are not taken into account.

Regarding the establishment of tax rates for land fee collection, it is necessary to determine the level the tax rates are established at and whether the tax rates are differentiated and in what way. Rates establishment is possible at central, regional or municipal levels, or with their combination. Rates establishment at local level is the most common, because local authorities have an opportunity to impact the revenues to respective budget to provide local services. However, the economists that have been researching the issue of tax rates establishment for a long time prove that it is reasonable to establish maximum and minimum tax rates at the central level, because minimum and maximum rates help avoiding the problems of tax competition distortion.

Land fee is the compulsory local tax in Ukraine. Establishment of tax base for the tax is grounded on normative monetary assessment of the land, which is determined as the capitalized land rate calculated according to the law by central executive authority that implements state policy in land relations. Assessment is approved by either the decision of executive authority or local government or based on agreement. Calculations are done by land planning companies that elaborate the reference documentation for normative assessment.

The following can be noted in the research of the methodics of normative monetary assessment of the land dependence of the assessment of agricultural lands on the quality of soil parameters that are currently outdated and do not show the real condition of soil cover in Ukraine; 2) dependence of such assessment within the settlements on the scale of functional purpose coefficients established at the central level, which do not contribute to proper land assessment [Patytska 2018].

5. Vehicle Tax is the component of property taxation system

Vehicle tax is the component of property taxation system in Ukraine in addition to tax on immovable property other than a land plot and land fee. European experience shows that vehicle taxes in some countries generate substantial revenues to budgets of all levels of public governance, while in other (including Ukraine)−their role in filling of local budgets is insignificant. Thus, as of the end of 2018 the revenues from vehicle tax to local budgets of Ukraine amounted to

UAH 315 million, which constitutes for 0.14 % in the structure of tax revenues to local budgets and 1.0 % in the structure of property taxes.[1]

Analysis of legal framework shows that the tax has faced substantial changes lately. It has been functioning in its contemporary version since 2015. Recent transformation of the nature of the vehicle tax in Ukraine has caused the change of approaches to determining of the tax base and rate and its role in filling of local budgets. Thus, the tax belongs to local taxes. Local public governance body is the sole beneficiary. However, the tax base and rate are established at state level. Single fixed rate is legally defined, individuals and legal entities are the payers, only light vehicles are the tax base. Overall revenues to local budgets are insignificant, which is caused by its nature as "luxury tax" [*Transportnyy podatok: vybirkovyy podatok na rozkish*, 2019].

From this viewpoint, it is necessary to define the perspective directions of its improvement. Experience of European countries shows different approaches to vehicle tax establishment and determining of its base, rate and management procedure. The main features of vehicle taxation in European countries are the following:

– vehicle tax belongs to the group of taxes on the use of fixed assets, both individuals and legal entities are the payers;

– vehicle tax management in European countries indicates the priority role of central authorities in establishment of tax base and rate and in accounting of the vehicle tax revenues in central budget. However, local governments receive revenues only in Belgium, Bulgaria, Spain, Poland and Croatia. In Austria, Hungary, the Netherlands, Portugal and Italy the vehicle tax is distributed between state and local levels of public governance;[2]

– most of EU Member States impose taxes on light vehicles, which are partially or entirely grounded on assessment of CO2 emissions and/or fuel consumption. However, there are six countries that do not use taxation based on CO2 (Bulgaria, Estonia, Hungary, Lithuania, Poland and Slovakia);[3]

– taxation of expensive vehicles (luxury tax) (for instance, such tax exists in Greece) is not the common practice for the EU countries as in most countries the vehicle tax is the component of movable property tax rather than the "luxury tax."[4]

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[1] State Treasury Service of Ukraine: database, https://www.treasury.gov.ua/en [accessed: 28.04.2020].

[2] Eurostat. European Commission Taxation and Customs. Taxes in Europe Database v3: database, http://ec.europa.eu/taxation_customs/tedb/splSearchForm.html [accessed: 29.04.2020].

[3] European Automobile Manufacturers' Association, Overview – CO2-based motor vehicle taxes in the European Union, 18.06.2020, https://www.acea.be/publications/article/overview-of-co2-based-motor-vehicle-taxes-in-the-eu [accessed: 24.04.2020].

[4] European Automobile Manufacturers' Association, *ACEA Tax Guide*, 27.04.2020, https://www.acea.be/publications/article/acea-tax-guide [accessed: 29.05.2020].

Therefore, we can argue that the vehicle tax mostly plays the stimulating, fiscal and redistributing role in European countries:

– most often the vehicle tax is related to restriction of emissions and promotion to buy more environmentally friendly vehicles;

– in a range of countries the transport vehicle is a substantial fiscal source of revenues to local budgets, such financial resources are mostly directed at improvement of transport infrastructure;

– in some countries the vehicle tax is established based on such parameters as price and age of a vehicle and is the mechanisms of "expensive" property taxation.

Based on European experience, it is worth transforming the vehicle tax while complexly combining its stimulating and fiscal functions. The primary measure is the need to expand the vehicle tax base, namely the motor boats, yachts, helicopters and other expensive movable property items should be included in the tax base. From the viewpoint of the need to promote the purchase of environmentally friendly vehicles, it is worth taking into account an opportunity to improve the vehicle tax in the perspective through restriction of emissions level. The experience of European countries shows that in order to efficiently collect the vehicle tax in Ukraine it is necessary to raise the role of local public governance bodies in establishment of the vehicle tax rates and benefits.

6. Conclusion

Summing up the abovementioned, it is worth noting the following:

1.The system of immovable property taxation in Ukraine corresponds to the systems of many European countries by the procedure of establishment of tax rates, benefits and base. However, the role of immovable property tax in the revenues of local budgets of Ukraine is insignificant. It is caused by incomplete state immovable property rights register and excessively loyal policy of local governments on tax collection, which is stipulated by reluctance to cause social discontent among the population of local community. Elimination of these two barriers in Ukraine will help increase the role of immovable property tax in the revenues of local budgets.

2.Establishment of land tax and immovable property tax as separate payments (as it is in Ukraine) is positively assessed by economists, because it promotes development and efficient use of land plots. The main problem with land fee collection in Ukraine and in many European countries is that the land assessment based on its market value is absent. It causes the risks of inadequate land cost and its inefficient taxation. The problem can be eliminated only in case of achieve-

ment of a certain level of land market development in the country. Legislative setting of minimum and maximum land fee rates is seen as the positive point leading to securing of fair tax competition at local level. Instead, the minimum rate in Ukraine is 0%, i.e. having established the land fee as a compulsory tax the local governments have an opportunity to not collect it at the territory of the community. The problem can be eliminated through establishment of the minimum tax rate at the level other than 0% to increase revenues and avoid tax competition distortion and possible corruption.

3.Taking into account the positive experience of European countries, transformation of the vehicle tax in Ukraine should take place in the following key directions: improvement of the mechanism of the vehicle tax collection in terms of strengthening of its stimulating and fiscal functions; expansion of the vehicle tax base (motor boats, yachts, helicopters, etc.); promoting the role of local public governance bodies in establishment of essential conditions of the vehicle tax (rate and benefits establishment).

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Podatki od nieruchomości w strukturze dochodów samorządów lokalnych. Unia Europejska a Ukraina

Streszczenie. *W artykule przedstawiono europejskie doświadczenia w zakresie opodatkowania nieruchomości (podatek od nieruchomości, podatek od gruntów i podatek od środków transportu). Udowodniono, że system opodatkowania nieruchomości na Ukrainie odpowiada systemom wielu krajów europejskich. Czynnikami odpowiedzialnymi za niewielkie znaczenie podatków od nieruchomości w dochodach budżetów lokalnych są przeważnie niepełny państwowy rejestr praw własności do nieruchomości i nieefektywna polityka samorządów lokalnych w kształtowaniu dochodów budżetów lokalnych. Autorzy określili główne elementy zarządzania opłatami za grunty na Ukrainie z uwzględnieniem doświadczeń krajów europejskich, tzn. odrębne traktowanie podatku od nieruchomości i podatku od gruntów, ustawowe ustalenia minimalnych i maksymalnych stawek opłat za grunty oraz szacowanie gruntów na podstawie ich wartości rynkowej. Zmiany w zakresie podatku od środków transportu na Ukrainie idą w kierunku wzmocnienia jego funkcji stymulującej i fiskalnej, rozszerzenia bazy podatkowej oraz promowania roli samorządów w tworzeniu istotnych warunków poboru podatku od środków transportu.*

Słowa kluczowe: *podatek od nieruchomości, podatek od gruntów, podatek gruntowy, podatek od środków transportu, budżet lokalny*

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Financial imbalances in the endogenous development of regions: an assessment attempt

Abstract. *The article considers the sequence of stages in the assessment of financial imbalances in the endogenous development of regions, i.e. the changing number of political parties participating in parliamentary elections and those that have passed the electoral threshold, GDP in 2012-2019, GDP per capita in the period 2003-2019, CPI in 2013-2018, changes in unemployment in Ukraine in 2009-2019, indices of Hryvnia devaluation in relation to foreign currencies in 2014-2010, world debt in 2011-2018, aggregate external debt of the G7 countries in 2018-2019, as well as changes in energy consumption in 2007-2018. The article is an attempt to assess financial imbalances of endogenously oriented development of regions.*

Keywords: *stages in the assessment of financial imbalances, gross domestic product, inflation index, Hryvnia devaluation index, energy consumption*

1. Introduction

In the modern conditions of economic development, in particular regional development, financial imbalances attract the attention of economists to scientists. Strengthening the role of regions in the country's economic system and in the global

economic arena increases the risks of crises due to financial imbalances. Thus, financial imbalances, which manifest themselves in the form of unjustified deviations in the development of the region's financial sector, can lead to a deepening of the imbalance between the financial and real sectors of the region's economy.

2. Theoretical basis

Financial imbalances arise in various areas of economic activity, which is why the assessment of financial imbalances should be a comprehensive and consistent process (Fig. 1).

The need for a comprehensive analysis of financial imbalances is due to: first, the need to identify possible threats to the functioning of the financial system; secondly, the formation of financial imbalances at the regional level, in addition to global imbalances, national imbalances, is significantly influenced by various factors (both external and internal), which should not be underestimated; third, the territorial/geographical features of the region can lead to the formation of various imbalances. In this case, it should be noted that imbalances often arise between imbalances, especially financial imbalances.

Let us consider stage II of the proposed sequence in more detail. In the study of the problem of imbalance, many factors are noted, in particular: increasing uneven economic development by groups of countries by level of development and by region; growing imbalances between the main sectors of the country's economy and the region's economy; change in the sectoral structure of the economy caused by the introduction of innovation and informatization [Khesin 2013; Borzenko 2019]. Examining the factors of financial imbalances and assessing their impact on the development of the region, in our opinion, it is worth noting the economic and political instability in the country.

Political instability can cause destabilization in the country and, as a consequence, financial imbalances. O. Maksymova [2013: 329] identifies the general contours of political dysfunction:

– in quantitative terms: the mismatch between the number of social divisions in society and the number of electoral parties that represent their interests; lack of potential opposition (ideological one-vectorism); high degree of independence of the party system, as a result of which the party system has low concentration and high fragmentation;

– in terms of quality: lack of aggregation of social interests of political parties; weakness of civil society organizations; the dominance of parliamentary elements of the form of government in combination with the proportional electoral system in the conditions of transitional development.

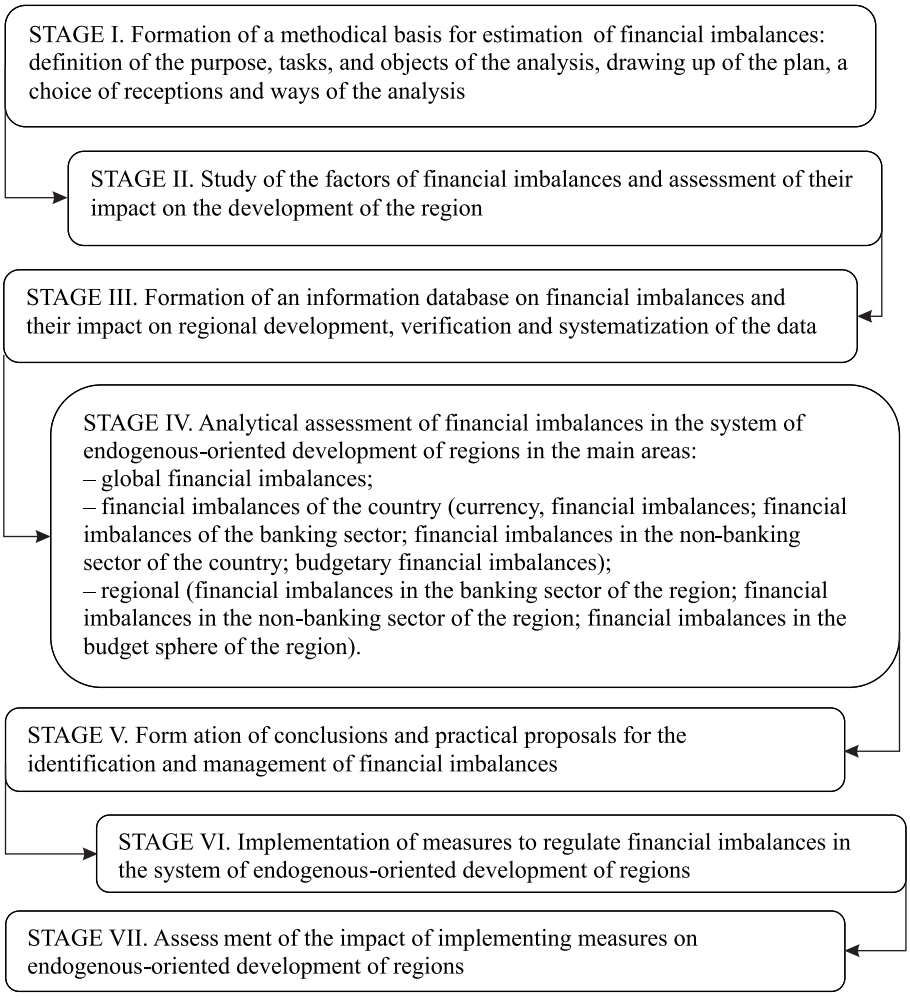


Fig. 1. The sequence of assessment of financial imbalances in the system of endogenous-oriented development of regions

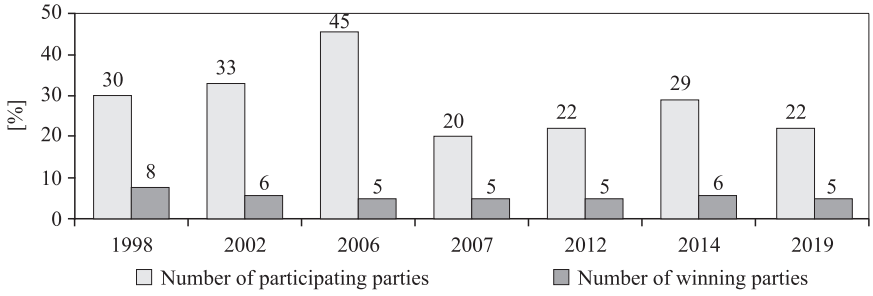
Source: own study.

We share the opinion of D. Korotkova [2009],that political instability in Ukraine is the cause of significant inequality in the financial capabilities of different political parties, which, in turn, leads to inequality of their chances in the political struggle. The crisis of political instability is exacerbated by the desire of the oligarchic elite to influence the political situation in the country by funding "their" political parties.

3. Results

According to the register of political parties of the Ministry of Justice of Ukraine [2020] as of January 1, 2020, 348 political parties are registered and functioning, 3 of which are in a state of termination. In our opinion, such data suggest a high fragmentation of political parties, which is a dangerous factor in the political environment. At the same time, out of 348 parties, only 22 political parties took part in the last parliamentary elections in Ukraine (Chart 1).

Chart 1. Dynamics of the number of political parties participating in the parliamentary elections and the number of parties that passed the barrier



Source: compiled according to the data [Ministry of Justice of Ukraine, 2020].

Thus, only 6.3% of all political parties registered in Ukraine participated in the elections, and only 1% of the parties were able to cross the barrier and represent the interests of citizens in parliament.

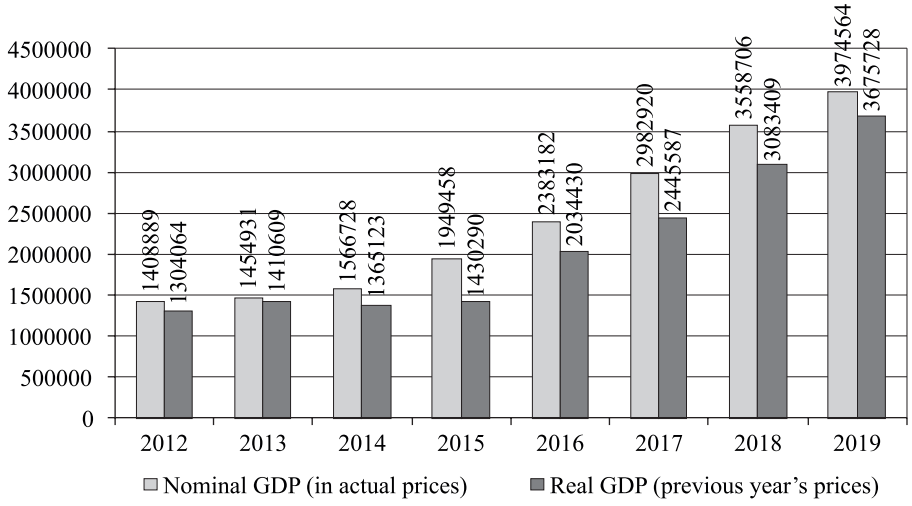
Such data, in our opinion, indicate too much fragmentation of political parties, along with inequality of financial opportunities, which makes it impossible for the lion's share of the parties to participate in elections.

At the same time, the presence of 5 political parties in the parliament, given the costly campaigning, allows us to note their significant financial opportunities, which may indicate, in our opinion, the risk of control of individual parts by oligarchic groups.

We assess the impact of political instability on the emergence of financial imbalances in the country and in the region as significant, as the political environment in Ukraine can be considered unstable, as evidenced by the drastic changes in parties and party lists after each presidential election and the risks of control oligarchic groups lobbying for bills that benefit them.

As for the factor of economic instability and its impact on the occurrence of financial imbalances, to assess the level of economic instability, we propose to use the following indicators: GDP growth, GDP per capita, inflation, unemployment and the growth rate of the Ukrainian Hryvnia to the US dollar (Chart 2).

Chart 2. Dynamics of GDP volumes during 2012-2019 [UAH million]



Source: compiled according to the data [State Statistics Service of Ukraine].

Assessing the dynamics of GDP, we can say that there is a positive trend to increase its volume during 2014-2019, which is a positive indicator. At the same time, in 2014, the growth of nominal GDP compared to 2013 reached UAH 111,797 million, or 107.7%, while the volume of real GDP in the same period decreased by UAH 45,586 million. Fluctuations in nominal GDP, in particular, its growth along with the decline in real GDP are observed during significant inflation in the economy, when along with rising prices for goods and services there is a reduction in production, consumption of these goods. The consequence of such processes is a decrease in the purchasing power of citizens' living standards and provokes financial imbalances.

In general, analyzing the period 2012-2019, we can note that during this period the volume of nominal GDP and real GDP increased by 2,821 and 2,818 times, respectively. Note that in the structure of GDP in 2019, 43.4% is the salary of employees, and 42.4% are gross income, mixed-income, and only 14.2% in the structure of GDP are taxed (excluding subsidies for production and imports).

Consider in more detail the dynamics of GDP per capita in the Table 1. According to Table 1, we can note a positive trend in GDP growth per capita. In 2009 alone, there was a decrease in the volume of this indicator by UAH 666.4. In our opinion, this was a consequence of the impact of the crisis in the world economy, which was reflected in the economy of Ukraine. At the same time, it is worth emphasizing the declining population trends during the analyzed period. Thus, during 2003-2019 the population of Ukraine was 7,782 thousand people,

Table 1. Dynamics of GDP per capita during 2003-2019

Year	UAH	Growth [UAH]	Growth [%]	Population [thousand people]
2003	5592.9	911.0	19.5	47801
2004	7273.5	1680.6	30.0	47448
2005	9374.3	2100.9	28.9	47091
2006	11634.3	2260.0	24.1	46771
2007	15499.1	3864.8	33.2	46501
2008	20502.8	5003.6	32.3	46240
2009	19836.3	–666.4	–3.3	46044
2010	23603.6	3767.3	19.0	45865
2011	28813.9	5210.2	22.1	45693
2012	30912.5	2098.6	7.3	45577
2013	31988.7	1076.2	3.5	45483
2014	35834.0	3845.3	12.0	43722
2015	46210.2	10376.1	29.0	42836
2016	55853.5	9643.3	20.9	42668
2017	70224.3	14370.8	25.7	42477
2018	84192.0	13967.7	19.9	42269
2019	94589.8	10397.8	12.4	42019

Source: compiled according to the data [State Statistics Service of Ukraine].

the main reasons for this decrease were high mortality and low birth rate in the country.

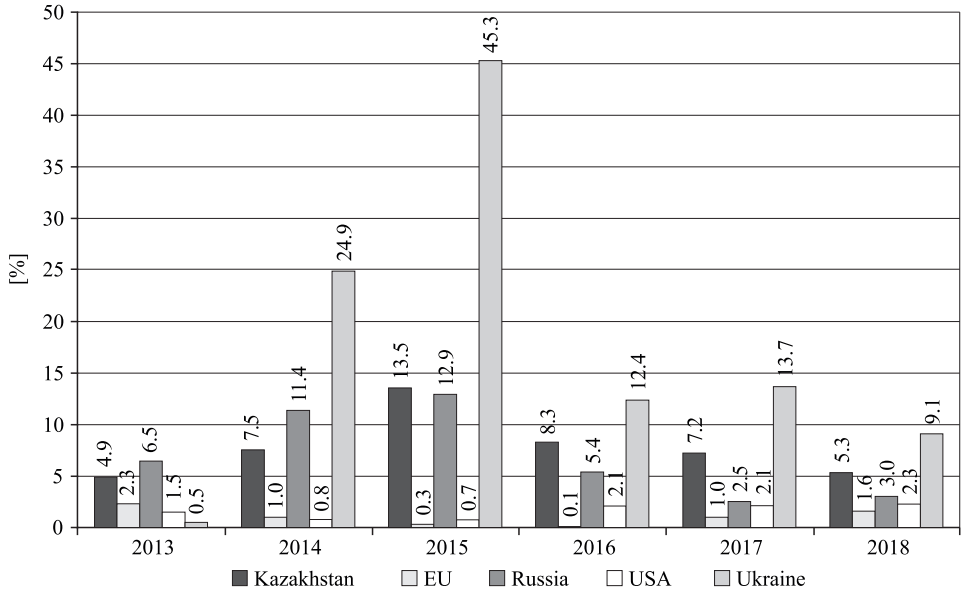
The negative factor influencing the emergence of financial imbalances is the high rate of inflation in the economy, which often causes economic instability in the country. Analyzing the rate of inflation in Ukraine, we note that the core inflation index in Ukraine in May 2020 was 100.1% (Chart 3).

According to the above figure, it can be argued that high inflation is not typical of highly developed countries (EU, US) and Russia, as these countries are politically stable and have sufficient economic potential to support internally oriented development. Another feature, given the integration of these countries into the international environment, is the lack of significant fluctuations due to the lack of significant global crises after 2013.

Only Russia stands out from this trend because after the annexation of Crimea, international sanctions were applied against it, which directly affected the economy, but the domestic potential allowed to reduce this influence in 2016 to 5.4%.

As for Ukraine, due to the annexation of the ARC and hostilities on the territory of Ukraine, as well as mass protests, part of the economically active

Chart 3. Dynamics of inflation indices during 2013-2018



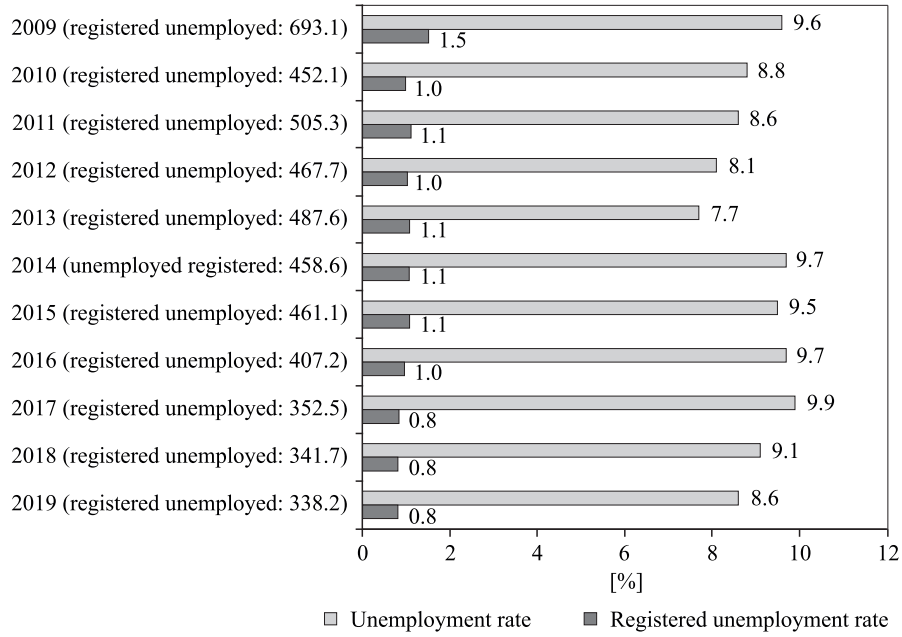
Source: Compiled by the author according to the data [State Statistics Service of Ukraine; Inflation rate].

population and business became unavailable for fiscal measures, which caused significant inflation, and hence the financial imbalance of 2014-2017, which is especially negatively affected the economy of Ukraine in 2015.

Examining inflationary processes as a manifestation of economic instability and a factor influencing the formation of financial imbalances, we note that in conditions of inflation in economic entities increases the desire to get rid of money in exchange for goods (works, services), which leads to reduced investment, household savings, and thus destabilizes the financial market. There is an increase in financial imbalances, in particular the imbalance of supply and demand of investment resources.

At the same time, it is necessary to study the dynamics of unemployment in Ukraine as one of the indicators of economic stability to determine the impact of this indicator on financial imbalances that arise in the economy (Chart 4). Analyzing the data of Chart 4, we note that the lowest unemployment rate was observed in 2013 and amounted to 7.7%, and the highest level of 9.9% unemployment was reached in 2017. At the same time, the current economic conditions are complicated by the introduction of quarantine, and as a consequence of the termination of a significant number of businesses, reducing the number of jobs, vacancies, rising unemployment. Thus, according to the forecast of the State Employment Service, the unemployment rate in 2020 will be 9.4%, instead of

Chart 4. Dynamics of unemployment of the population of Ukraine in 2009-2019, thousand people



Source: compiled by the author according to the data [State Statistics Service of Ukraine].

8.1% of the projected [State Employment Service],although, in our opinion, we should expect higher unemployment rates, assessing current trends to increase the number of patients with COVID-19 and continue the introduction of quarantine measures.

According to the State Employment, as of early May 2020, unemployment in Ukraine increased by 48 percent compared to last year.

During the quarantine period, the number of people registered with the State Employment Service has increased by 27% – currently there was already 401 thousand officially unemployed people. Estimates of informal unemployment, IE unregistered at the labor exchange, indicate about 3 million people who do not have employment. However, such figures are not final, and the NBU predicts that this year's unemployment rate will be measured by double-digit "percentages", which has not been the case in Ukraine since 2002 [*Bezrobittya v Ukrayininarostaye – yak uporatysya z tym derzhavi*, 2020].

It should be noted that during the analyzed period, the unemployment rate ranged from 7.7 to 9.9%. According to Eurostat [Unemployment statistics] Ukraine belongs to the group of countries where the unemployment rate is 5-10%. The same group includes countries such as Austria, Great Britain, Belgium, Den-

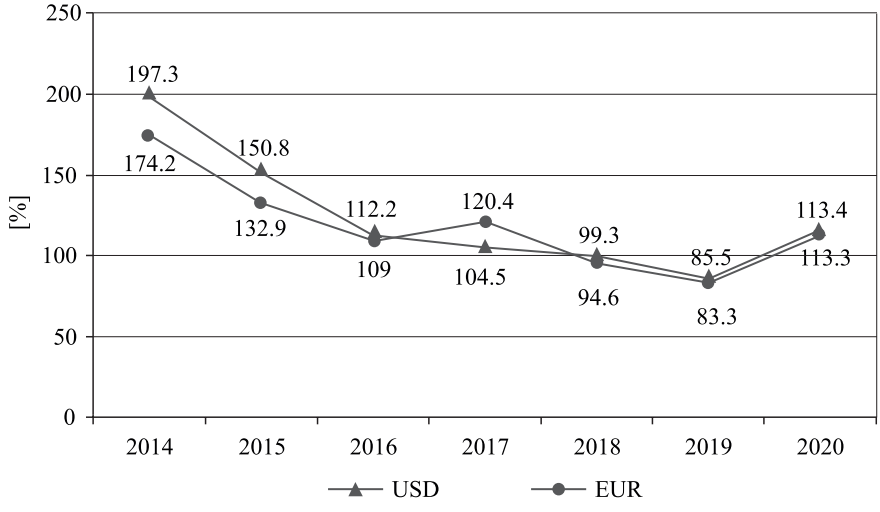
mark, Iceland, Sweden, Finland, the Netherlands, Romania, Estonia, Turkey. Low unemployment rates of up to 5% are observed in Norway, the Czech Republic, and Germany. At the same time, the unemployment rate is over 20% in Spain and Greece, which is known to be characterized by high levels of economic instability and significant financial imbalances. [Unemployment statistics].

Thus, high unemployment leads to deteriorating living standards, reduced budget revenues, growing budget imbalances, growing public discontent, reduced pension fund revenues, which leads to imbalances between pension fund revenues and pension benefits, and in as a whole destabilizes the country's economy. Indices of devaluation of the Hryvnia in relation to foreign currencies during 2014-2020 are shown in the Chart 5.

High inflation rates during 2014-2015 (see Chart 3), inefficient fiscal policy, lack of reforms in the fuel and energy sector and debt dollarization led to the devaluation of the national currency and the introduction of a number of measures to strengthen its stability. In particular, in February 2015, the NBU abandoned the policy of a fixed exchange rate and moved to the formation of a floating exchange rate, which is determined by the interbank foreign exchange market. As a result of this transition, there was a significant devaluation of the national currency, and the exchange rate became unpredictable.

During 2016, the NBU implemented anti-crisis reforms and measures, which had a positive impact on the parameters of macroeconomic stability, stabilized the national currency, and reduced the level of risks. The most pronounced fi-

Chart 5. Indices of devaluation of Hryvnia in relation to foreign currencies during 2014-2010



Source: Compiled by the author according to the data [State Statistics Service of Ukraine].

nancial imbalances in this area manifested themselves in the form of an imbalance between supply and demand for foreign currencies in the foreign exchange market. This in turn has led to speculation and the development of the shadow currency market. In general, the devaluation of the national currency complicates the process of repaying credit debts in other countries, IE there is a debt imbalance, which significantly reduces the country's ability to attract investment in the development of the national economy.

In our opinion, all the above factors influencing the formation of financial imbalances are interrelated, and their mutual manifestation can significantly affect the growth of various risks and lead to crises in the national economy. For example, the devaluation of the Hryvnia against foreign currencies has led to higher prices for imported food and non-food necessities; the outflow of labor and high unemployment in Ukraine deepens financial imbalances between the number of pension contributions and pension payments, reduces revenues to state and local budgets, which leads to a deepening of budget imbalances (increasing budget deficits), etc.

Among the factors influencing the formation of regional imbalances, experts call: the production potential of the region; economic and geographical location; the level of infrastructure development; mineral condition; ecological condition of the region; the educational level of the population; financial security and purchasing power of the population; unemployment and social tensions; crime rate; political stability in the region; public confidence in local authorities [Skrypnychenko (ed.) 2015: 417].

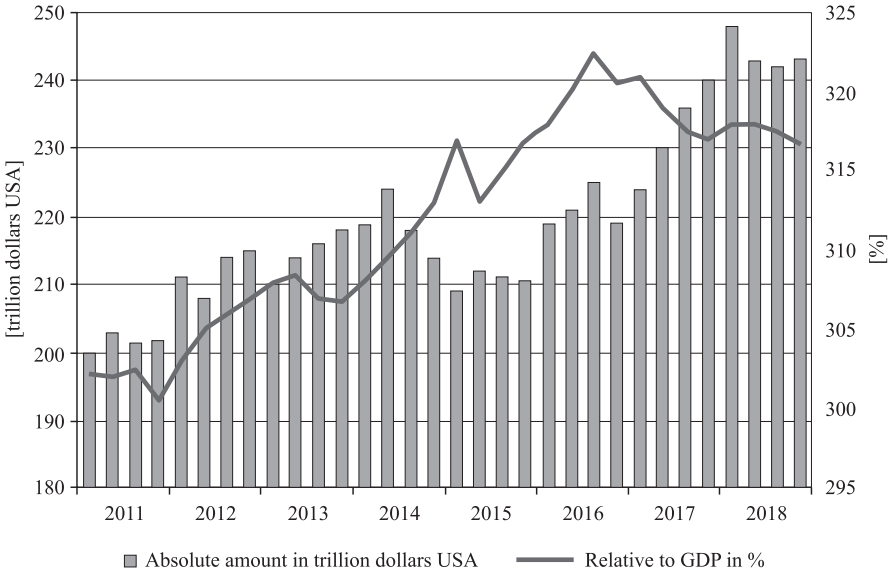
As for the third stage of the proposed sequence of assessment of financial imbalances in the system of endogenous-oriented regional development (see Fig. 1), this stage involves the formation of an information database on financial imbalances and their impact on regional development, verification and systematization of the data.

Let us dwell in more detail in the IV stage of the proposed sequence. Thus, the analysis of external financial imbalances will assess their impact on the development of the region.

First of all, it is worth paying attention to the assessment of global debt, which is an important risk factor for the development of the world economy. Thus, the excessive amount of global debt of the country can cause default, which in turn provokes crises in the economies of other countries. Under the global debt, in this study, we understand the total debt of governments, corporations, financial institutions, businesses and households of all countries (Chart 6).

It is important to note that the largest debtors in the world are the United States, Japan and China, IE countries that are considered rich and show rapid growth. The IMF estimates that these countries account for more than 50% of global debt, well above their share of world GDP.

Chart 6. Dynamics of world debt during 2011-2018



Source: compiled by the author according to the data [Institute for International Finance].

Examining the main trends in the dynamics of global debt, we note a decrease in its growth rates from 2008 to 2014, when there was a rapid increase in the absolute amount of debt, which analysts attribute to China's debt expansion [Institute for International Finance. *Global Debt Monitor. Slowdown in 2018*]. According to Chart 6, the upward dynamics of the relative magnitude of global debt relative to GDP was observed until the end of 2016. Further, the amount of debt gradually decreased: from 322% to 317% of GDP.

According to the Institute of International Finance at the end of 2018, the global debt amounted to 243.2 trillion dollars. US or 317% of global GDP. It is worth noting that 72.5% of the total world debt was a debt of developed countries. In terms of GDP, the level of debt in developed countries has reached almost 380%, and in countries with emerging markets – 212%.

Let's take a closer look at the analytical data on the external debt of the group of countries, which are commonly referred to as the "Big Seven" in Table 2. According to Table 2 we see that the total gross external debt of the G7 countries increased by 4.2% and amounted to 49.8 trillion dollars. USA (64% of gross external debt). The highest growth rates of gross external debt were recorded in France (+0.9 trillion US dollars).

Gross US external debt increased by $ 0.8 trillion. USA, i.e. by 3.8%. We note a slight increase in the external debt of Germany, Britain and Italy.

Table 2. Volumes of total external debt of the G7 countries during 2018-2019*

G7 countries	2018	2019*	Change [trillion dollars USA]	Change [%]
Canada	1.9	2.0	0.1	7.3
France	5.8	6.4	0.9	10.5
Germany	5.5	5.6	0.1	1.5
Italy	2.4	2.5	0.0	0.7
Japan	4.0	4.3	0.3	7.8
United Kingdom	8.4	8.5	0.1	1.3
USA	19.7	20.4	0.8	3.8
Total volume	47.8	49.8	2.0	4.2

* Data for the end of the third quarter of 2019.

Source: compiled according to the data [*Debt report*, 2020].

At the current stage of development of the world economy, in the second quarter of 2020, world debt continues to show an upward trend and has already reached a record high of 188 trillion dollars. The USA, which is 230% of global production. Thus, to cover the global debt, given current productivity, the world's population needs to work for 2.5 years without spending on consumer spending to repay this debt [*Svit zahnav sebe v borhy*, 2019].

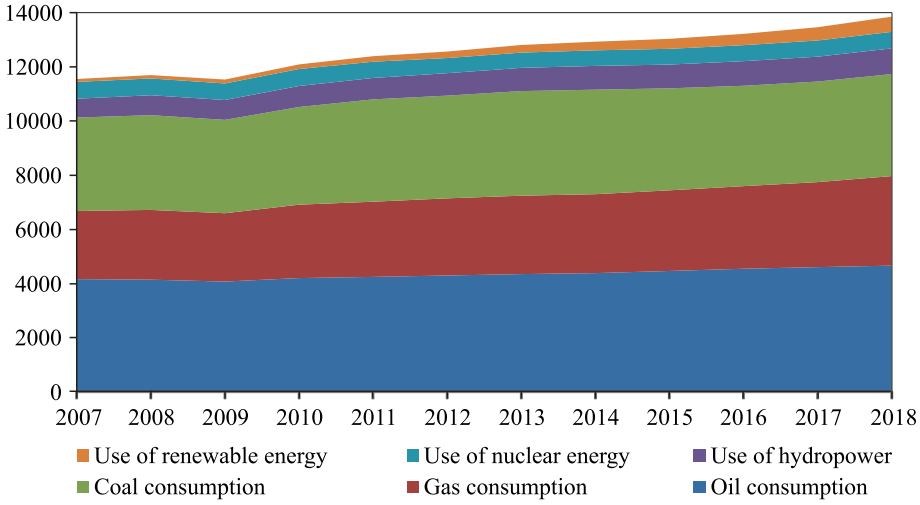
Summarizing the above, we note the financial imbalances in the world economy and the economies of most countries, as evidenced by the identified trends in global debt. The greatest danger is posed by financial imbalances in the G7 economies, particularly in the United States, as this country, or rather the imbalances that have arisen in it gave rise to the global financial crisis of 2008, which was described in the first section of this study.

In general, the emergence of global financial imbalances is influenced by a number of deep factors, primarily the energy potential (Chart 7) and the level of world consumption. The lack of affordable and cheap energy, in any case, will lead to higher prices for goods and services, and thus to an increase in the imbalance between supply and demand.

According to Chart 7, And based on the analysis of BP's reporting, there are slight fluctuations in the consumption of oil, gas, and coal with its gradual increase. There are significant fluctuations in the use of energy produced by nuclear power plants, but in 2018 this figure increased by 2.4% compared to the previous period, due to the commissioning of some power units on the African continent.

At this stage, it should be emphasized that the stability of the energy received, as well as the ratio of resources expended to the result obtained, is an incentive to use these energy resources in the future.

Chart 7. Dynamics and structure of energy consumption for 2007-2018, m.t.e. (equivalent in million tons of oil)



Source: compiled by the author on the basis of elaboration [BP Statistical Review of World Energy 2019].

At the same time, the share of electricity consumed from renewable sources (solar panels, wind turbines, etc.) increases annually by about 15% during the study period.

What are the financial imbalances in the focus on renewable energy? First of all, the fragmented energy flow, and therefore enterprises or organizations that need electricity, need compensatory compensation from non-renewable energy sources, and therefore additional purchases, which directly affect the reduction of the country's financial stability.

In addition, the payback point of such power plants is not much longer than the service life. However, government energy-saving policies (transition to renewable energy sources) focus more on social than economic effects.

The already mentioned COVID-19 virus directly affected the financial imbalance in international energy, as some companies closed, and therefore energy consumption decreased, which negatively affected the amount of energy produced: coal consumption is 8% lower than in 2019, oil about 40% [Global Energy Review 2020].

Continuing the theme of financial imbalance, we will consider the international transport connection, which has significantly decreased as a result of the negative flow of COVID-19 since the beginning of 2020. Thus, international traffic in the 2nd quarter of 2020 decreased by 15% compared to the same period last year [*Lohistyka v umovakh karantynu…* 2020].

An important point is that the global specialization of countries without quality transport links has led to significant financial imbalances that have created social tensions, such as Greece and Spain in early 2010.

Lack of quality transport links also has a negative impact on labor migration, which makes it necessary for countries to open borders for migrant workers, despite the deteriorating epidemiological situation [*Uryad Italiyi oholosyv pro vidkryttya kordoniv z 3 chervnya*, 2020].

4. Conclusions

Summarizing the above, it can be argued that numerous factors of financial instability directly or indirectly affect the emergence and deepening of financial imbalances. Assessment of global financial imbalances, in particular, the analysis of global debt, suggests a threatening trend of increasing debt of the largest countries in the world, which in turn suggests the presence of a significant number of financial imbalances in these countries.

Many financial imbalances are the result of the reaction of states, including the largest, to global threats: epidemics, financial crashes, natural disasters, and so on. State quarantine measures aimed at overcoming the effects of COVID-19 have exacerbated financial imbalances in the budgetary, social, transport and service sectors.

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Nierównowaga finansowa endogenicznego rozwoju regionów – próba oceny

Streszczenie. *W artykule rozważono kolejność etapów oceny nierównowagi finansowej endogenicznego rozwoju regionów: dynamikę liczby partii politycznych uczestniczących w wyborach parlamentarnych oraz partii, które przekroczyły próg wyborczy, wielkość produktu krajowego brutto w latach 2012-2019, wielkość produktu krajowego brutto na mieszkańca w latach 2003-2019, wskaźniki inflacji w latach 2013-2018, dynamikę bezrobocia na Ukrainie w latach 2009-2019,*

wskaźniki dewaluacji hrywny względem walut obcych w latach 2014-2010, światowe zadłużenie w latach 2011-2018, zagregowane zadłużenie zagraniczne krajów G7 w latach 2018-2019, a także dynamikę zużycia energii w latach 2007-2018. Celem artykułu jest próba oceny nierównowagi finansowej endogenicznie ukierunkowanego rozwoju regionów.

Słowa kluczowe: *etapy oceny nierównowagi finansowej, produkt krajowy brutto, wskaźnik inflacji, wskaźnik dewaluacji hrywny, zużycie energii*

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Foreign trade in goods and services in Ukraine and the EU: a comparative analysis

Abstract. *The purpose of the article is to evaluate trends, structural changes and prospects for the development of foreign trade in goods and services in Ukraine and to compare them with those observed in the EU-28. In particular, the authors evaluate the contribution of cities of regional importance located in the western part of Ukraine to the development of export-import activities of their respective regions analyse structural transformations in the export of goods and services in Ivano-Frankivsk, Chernivtsi and Rivne. A number of measures are proposed to intensify export activity in cities of regional importance in accordance with identified trends, patterns, features and problems.*

Keywords: *foreign trade in goods and services, Ukraine, EU-28, cities of regional importance, Western region of Ukraine, export-import activities, structural transformations*

1. Introduction

In the current conditions of development of interstate cooperation and integration of Ukraine into the world economy, foreign trade in goods and services is a powerful factor in ensuring macroeconomic equilibrium and maintaining foreign economic relations with other countries. The key place in the implementation of export-import operations at regional and national levels belongs to cities as centers of business activity and concentration of production, agro-industrial, investment and trade potential.

Ukraine's foreign trade in recent years has been carried out under difficult conditions, determined by many external and internal factors. The dominant external factor that has influenced the development of foreign trade in Ukraine in recent years has been the introduction of a free trade area with the EU. At present, the EU is already Ukraine's largest trading partner. Thus, according to the results of 2017, its share in the export of goods and services from our country reached 38.8%, and in imports – 42.3%. In turn, national exports to the EU are steadily increasing: exports of goods and services increased by 27.2% in 2017 compared to the previous year, and imports increased by 19.3% [Bohdan 2018: 10]. At the same time, despite favorable external factors, political and economic instability in Ukraine and military conflict with Russia are major inhibitory factors in foreign trade. However, it is the Russian Federation that remains one of the main trading partners of Ukraine, in particular with regard to the export of high-tech products [Heiets, Ostashko (eds.) 2016: 10]. At the same time, it is worth noting that in 2017, compared to 2012, there is a significant decrease (by almost 60%) of both exports of goods to the Russian Federation and the share of this country in total exports of goods from Ukraine (from 25.6% in 2012 to 16.7% in 2017).

External trade in goods and services in the EU-28 has also been characterized by some complications in recent years. Functioning in the global economic environment and actively supporting Ukraine in its fight against Russia by imposing sanctions on the Russian Federation, the European Union has encountered appropriate countermeasures that have affected the dynamics of its foreign trade and partnership with Russia. Thus, in 2012, Russia ranked 3rd among the EU's trading partners after the US and China, and in 2015-2017 it lost its position in favor of Switzerland [Kovtun 2019: 27-28]. During 2012-2017, we observe a slight increase, however, in the main indicators of export-import activity in the EU-28: exports increased by 7.5%, imports increased by 4.7%.[1] The largest and for many years the EU-28's unchanged trading partner in foreign trade in goods and services is the United States. The share of US exports of goods to the EU in 2017 was 20%, and in imports – 14%;[2] in terms of export of services, in the export of services in 2016, the US share was 26%, in the import of services – 31%.[3]

[1] Calculated by author based on: unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en [accessed: 28.08.2019].

[2] ec.europa.eu/eurostat/news/themes-in-the-spotlight/trade-in-goods-2017 [accessed: 26.08.2019].

[3] ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20180109-1?inheritRedirect=true&redirect=%2Feurostat%2Fweb%2Finternational-trade-in-services%2Fpublications [accessed: 26.08.2019].

The natural geographical location of the Western region of Ukraine on the borders with the EU member states and the functioning of the free trade area determine the geographical structure, volumes and tendencies of development of foreign trade activity. In particular, the average share of exports of goods from the regions of the region to the EU is over 70%, and the import of goods is over 60%. Exports tend to be dominated by product groups such as machinery, equipment and mechanisms, electrical equipment; timber and wood products; products of vegetable origin; textile materials and textiles; various industrial goods. Imports are represented by machinery, equipment and mechanisms, electrical equipment, polymeric materials, plastics and products from them; textile materials and textiles [Ishchuk, Sozanskyy 2016: 49-50].

The purpose of the article is to evaluate trends, structural changes and prospects for the development of foreign trade in goods and services in Ukraine and to perform comparative analysis with the EU-28.

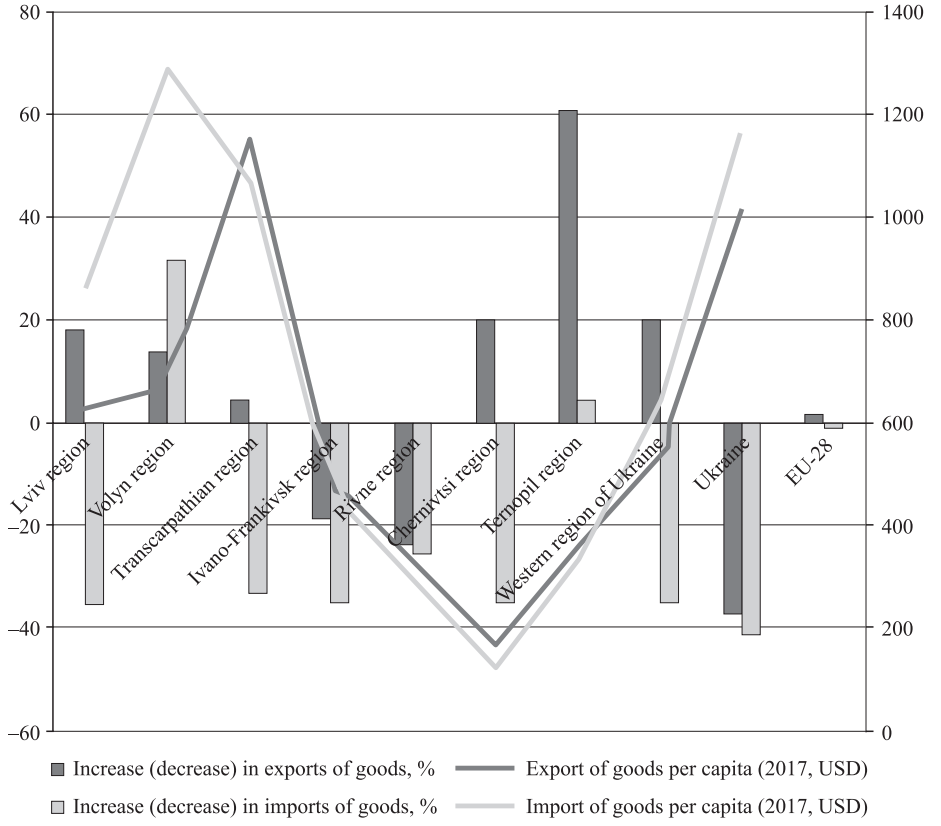
2. Analysis of trends and patterns of foreign trade in goods and services in Ukraine and the EU-28

Against the background of the overall significant decline in exports and imports of goods in Ukraine over the analyzed period (by 37.1% and 41.4% accordingly), in the Western region there is an increase of goods exports by 19.9% (Chart 1). At the same time, the decline in imports in the region reflects a national trend. The same tendency of significant decrease of export-import operations is also observed in Ivano-Frankivsk and Rivne regions. At the same time, Volyn region stands out among other regions of the region. It shows a significant increase in exports and imports of goods – 13.8% and 31.5% accordingly.

It should be noted that export growth in the Western region of Ukraine was largely achieved due to its significant increase in Ternopil region. This region stands out from other areas, showing an increase in exports of goods over the analyzed period of more than 60%. In terms of exports of goods per capita in 2017 (see Chart 1), Transcarpathian region is leading with an indicator of $1149.7. That is 12.7% higher than the national average ($1020.7).

As for foreign trade in goods, unlike in Ukraine, there is a slight increase in exports of goods (by 1.7%) and a decrease in their imports (by 1%) in the EU-28. The same tendency, though with a significant gap, is characteristic of the Western region of Ukraine as well. A significant gap is also observed in terms of exports and imports of goods per capita. In 2017, these figures for the EU-28 were $11561.3 and $11354.3, accordingly, which is 10 times more than in Ukraine.

Chart 1. Trends in foreign trade in goods in the Western region, Ukraine and the EU-28 during 2012-2017*

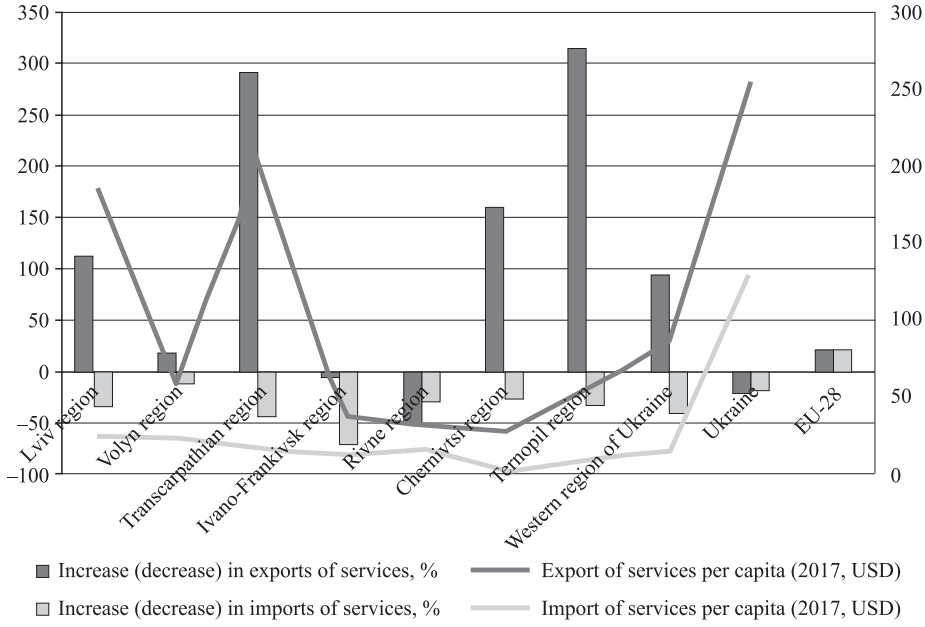


* It is presented the average value of export and import per capita in the Western region of Ukraine; EU-28 commodity export and import per capita are given below.

Source: calculated and built on www.ukrstat.gov.ua/ [accessed: 2.06.2019]; unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en [accessed: 28.08.2019].

The trends of export-import services in Ukraine and the Western region of Ukraine reflect a similar situation as with goods, but are characterized by some peculiarities (Chart 2). As in foreign trade in goods, against the background of a general decline in exports and imports of services in Ukraine over the analyzed period (by 21.2% and 18.7% accordingly), in the Western region there is an increase in exports of services. The export of services grew by 94.4%. That is, an increase in the export of services is much more significant than an increase in trade in goods. At the same time, the rate of decline in imports of services in the region not only reflects a national trend, but it is significantly ahead of the recession.

Chart 2. Trends in foreign trade in services in the Western region, Ukraine and the EU-28 during 2012-2017*



* It is presented the average value of export and import per capita in the Western region of Ukraine; the volume of export and import of services per capita in the EU-28 is given below.

Source: calculated and built on www.ukrstat.gov.ua/ [accessed: 2.06.2019]; unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en [accessed: 28.08.2019].

External trade in services in most regions reflects the tendencies that are characteristic of the Western region of Ukraine (increase in export of services and decrease in import of services), with the exception of Rivne and Ivano-Frankivsk regions. In contrast to foreign trade in goods, there has been a significant revival in the services sector in most regions of the Western region of Ukraine. This is evidenced by the significant increase in the volume of exports of services, which is not peculiar to the export of goods (see Chart 2). Ternopil region (315.8%) shows the highest increase for the analyzed period. Transcarpathian and Chernivtsi regions also recorded significant gains in exports of services (292.2% and 160.4% accordingly). In addition, the Transcarpathian region also leads the way in exports of services per capita (see Chart 2), which was $204.2 in 2017.

In contrast to commodity trade, international trade in services in the EU-28 is showing greater growth. Exports increased by 20% and imports increased by 21.5%. However, during the analyzed period, the EU-28 is lagging behind the Western region of Ukraine in terms of growth in exports. At the same time, in terms of export and import of services per capita, as well as in commodity trade,

we see a significant gap with Ukraine. In the EU-28, these figures were $4593.2 and $3911.8 in 2017, which is 18 and 30 times higher than in Ukraine, accordingly.

Therefore, our analysis of tendencies and patterns of foreign trade in goods and services in Ukraine, the Western region of Ukraine and the EU-28 allows us to draw the following conclusions:

– the import of goods and services in the Western region of Ukraine is characterized by national trends (overall decrease in the volume of imports of goods and services);

– unlike the Ukrainian tendency (decrease in export of goods and services), there is an increase in export of both goods and services in the Western region of Ukraine. Moreover, the trade in services shows significant gains (the maximum increase over the analyzed period reached more than 300%);

– Ternopil region is the undisputed leader in the growth of goods and services exports in the region. Transcarpathian region is the leader in export of goods and services per capita in 2017.

– international trade in services in the EU-28, unlike commodity trade, is showing more significant growth;

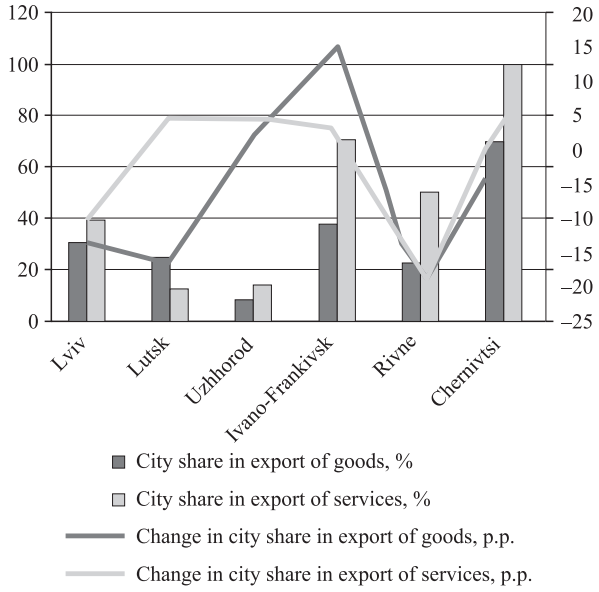
– trends in commodity trade in the EU-28 (albeit with a significant gap) are also characteristic of the Western region of Ukraine. However, in terms of exports and imports per capita, Ukraine is far behind the EU-28. These figures in exports and imports of goods in Ukraine are on average 10 times lower. It is also noteworthy that we import services per capita 30 times less than EU-28 imports, and we export services per capita 18 times less.

3. The contribution of cities of regional importance of the Western region of Ukraine to the development of foreign trade in goods and services of their regions

Due to the increase in the volume of export activity in most regions of the Western region of Ukraine, especially in the area of international trade in services, we will analyze the contribution of cities of regional importance to the development of foreign trade in goods and services of their regions (Charts 3 and 4).

As we can see, among the analyzed regional centers of the Western region of Ukraine, the largest share in the volume of foreign trade in goods and services in 2017 is in Chernivtsi, Ivano-Frankivsk and Rivne. Moreover, the shares of Chernivtsi and Ivano-Frankivsk during the analyzed period increased both in export of goods and in export of services. In addition, we observe a predominance of shares of all analyzed cities (except Lutsk) in the export of services, which confirms the decisive role of cities in the export of services in the region.

Chart 3. The share of regional centers of the Western region of Ukraine in export of goods and services in 2017 and its change during 2012-2017

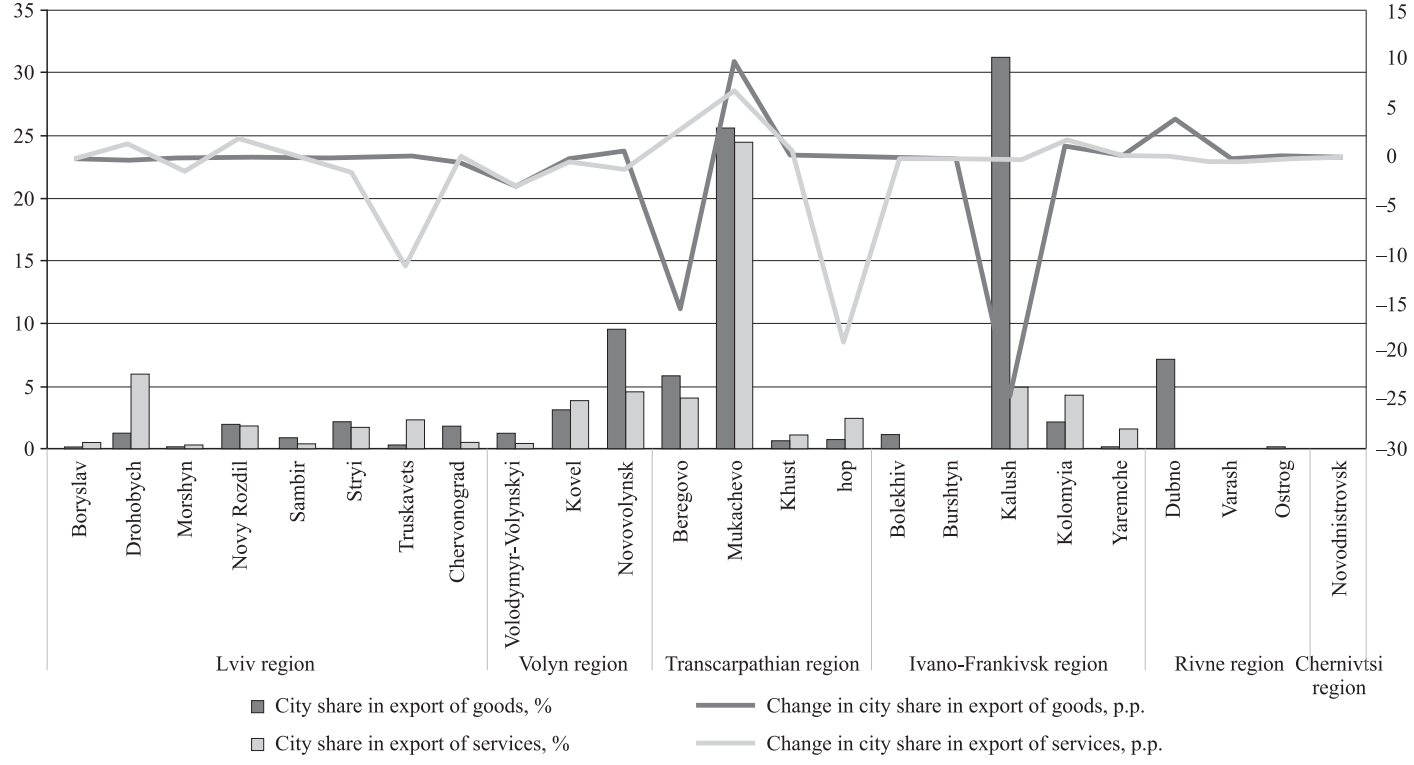


Source: calculated and built on www.ukrstat.gov.ua/ [accessed: 2.06.2019].

Among the cities of regional importance, except for cities – region centers, Kalush (Ivano-Frankivsk region) and Mukachevo (Transcarpathian region) make the largest contribution to the export activity of their regions. This is evidenced by the Chart 4. However, if the share of the city among the cities of the region in export of goods and services is observed in Mukachevo during the analyzed period, then the city of Kalush shows a significant loss of its share in foreign trade in goods in the region. This is confirmed by its decrease (up to 25% points) in the total volume of export-import operations in Ivano-Frankivsk region. The leadership of Kalush in exporting goods is ensured through the production and export of plastics, polymeric materials, chemical products, and mineral products. A significant contribution to the strengthening of the export position of the city is provided by the enterprise of the chemical industry of Karpatmsol LLC. It is the only manufacturer of low-toxic resins in Ukraine today. The company modernized its existing production facilities during 2011-2012. Also the company purchased latest technologies from the renowned European innovation firm Chimar Hellas. This made it possible to diversify products, to establish low-toxic resin production and to start cooperation with European consumers of products.[4]

[4] karpatsmoly.com/ru/ [accessed June 15, 2019].

Chart 4. The share of cities of regional importance of the Western region of Ukraine in export of goods and services in 2017 and its change during 2012-2017



[06]

Source: calculated and built on www.ukrstat.gov.ua/ [accessed: 2.06.2019].

A commodity export potential of Mukachevo is formed thanks to such major enterprises as LLC with foreign investments "Fisher-Mukachevo" (export of skis and sticks), plant "Flexstronics TOV" (export of mobile communications, computer equipment, consumer digital devices and etc.), JSC Tochprylad Mukachevo Plant (export of telecommunication loudspeakers and cables for the automotive industry), ENO Furniture Ltd. (wood processing and furniture production), Inter-Kashtan LLC, Mukateks SE, Viad Sayles – Mukachevo JV, JSC Mukachevo Knitwear Factory Mriya and others. Although almost all of them work in toll raw materials imported from abroad, they create thousands of jobs, pay taxes and secure foreign exchange earnings into the budget.

In addition, according to Chart 4, the contribution of the vast majority of cities analyzed is higher in exports of goods than in exports of services, as opposed to regional centers (see Chart 3). This demonstrates the key role of the major cities of the Western region of Ukraine in the export of services. Chart 4 also shows a significant decrease in the share of Chop and Truskavets in the export of services. Beregove and Kalush reduced their shares in the export of goods. However, despite this, it can be stated that the export activity of most of the analyzed cities is characterized by relative stability.

4. Assessment of structural transformations in export of goods and services in Ivano-Frankivsk, Chernivtsi and Rivne

As we can see, the cities of regional importance of the Western region of Ukraine have significant export potential. This is especially evident in Ivano-Frankivsk, Chernivtsi and Rivne (see Chart 3), which is confirmed by their key role both in the export of goods and in the export of services in the regions. So let's analyze the commodity structure (Table 1) and the export structure of services (Table 2) of these cities.

As we can see from the Table 1, a significant share in the export of products in the analyzed cities is occupied by such group of goods as machinery, equipment and mechanisms, electrical equipment, which corresponds to the general export trends in the Western region of Ukraine. And the undisputed leader in the share of export of this product is Ivano-Frankivsk. This city also provided 8.5 percentage points increase in the share of this commodity position in the export during the analyzed period (see Table 1). At the same time, this commodity group in terms of export shows a significant decrease in Chernivtsi and Rivne.

The second largest share in export of goods in 2017 belongs to products of vegetable origin, including cereals, which also corresponds to both Western

Table 1. Assessment of structural transformations in export of goods in Ivano-Frankivsk, Chernivtsi and Rivne

Commodity group	Ivano-Frankivsk				Chernivtsi				Rivne			
	Structure, %		Structural changes, in p.p.	Growth rate, %	Structure, %		Structural changes, in p.p.	Growth rate, %	Structure, %		Structural changes, in p.p.	Growth rate, %
	2012	2017			2012	2017			2012	2017		
I. Live animals; products of animal origin	15.0	4.4	–10.6	38.1	0.0	0.1	0.1	571.6	0.0	0.2	0.2	c/i*
II. Products of vegetable origin	3.8	24.4	20.6	84.6	2.9	24.0	21.1	999.5	5.4	27.8	22.4	201.6
III. Fats and oils of animal or vegetable origin	0.1	0.3	0.2	504.8	0.0	0.3	0.2	2330.4	0.2	4.8	4.6	1098.2
IV. Finished foods	2.9	0.7	–2.3	30.2	0.4	10.7	10.3	3512.4	2.9	2.2	–0.7	30.1
V. Mineral products	0.0	0.0	0.0	35.4	0.0	0.0	0.0	60.9	1.0	0.3	–0.7	11.3
VI. Production of chemical and related industries	9.1	0.7	–8.4	9.5	5.2	2.4	–2.9	54.8	64.4	15.2	–49.2	9.3
VII. Polymeric materials, plastics and products from them	0.7	0.3	–0.3	64.3	3.2	1.3	–1.9	49.7	0.5	0.7	0.2	52.1
VIII. The skins are raw; the skin is cleaned	6.7	1.2	–5.5	23.9	0	0.8	0.8	c/i	0.1	0.1	0.0	41.8
IX. Timber and wood products	5.9	5.1	–0.8	113.3	4.8	10.2	5.4	257.3	0.6	11.5	10.9	717.2
X. Pulp of wood or other fibrous cellulosic materials	0.2	0.2	–0.1	99.4	0.2	0.1	–0.1	83.7	0.1	0.3	0.2	115.8
XI. Textile materials and textiles	1.7	1.1	–0.6	86	26.8	17.6	–9.2	79.3	1.1	5.4	4.3	193.2
XII. Shoes, hats, umbrellas	0.0	0.0	0.0	c/i	4.8	1.5	–3.2	38.6	0.0	0.0	0.0	28.5
XIII. Articles made of stone, plaster, cement	0.0	0.0	0.0	671	0.2	0.0	–0.2	7.2	0.1	0.1	0.0	48.2

XIV. Natural or cultured pearls, precious or semi-precious stones	0.0	0.0	0.0	c/i	0.0	0.0	0.0	c/i	3.3	4.0	0.7	48.1
XV. Inexpensive metals and articles made of them	0.6	0.3	–0.4	51.8	5.9	1.1	–4.8	22.6	1.5	4.8	3.3	127.9
XVI. Machinery, equipment and mechanisms, electrical equipment	51.4	59.9	8.5	153	35.6	19.8	–15.9	67.2	17.1	18.3	1.2	42.3
XVII. Land transport facilities, aircrafts, floats	0.2	0.0	–0.1	19.4	6.4	0.0	–6.3	0.5	0.8	2.9	2.1	143.1
XVIII. Optical and photographic instruments and apparatus	0.7	0.3	–0.4	56.2	0.1	0.2	0.1	171	0.8	0.1	–0.7	4,0
XX. Various industrial goods	1.1	1.3	0.1	144.3	3.4	9.9	6.5	353.1	0.1	1.3	1.2	399.3

* c/i – calculation is impossible

Source: calculated and compiled on www.ukrstat.gov.ua/ [accessed: 2.06.2019].

Table 2. Assessment of structural transformations in export of services in Ivano-Frankivsk, Chernivtsi and Rivne

Kinds of services	Ivano-Frankivsk				Chernivtsi				Rivne			
	Structure, %		Structural changes, in p.p.	Growth rate, %	Structure, %		Structural changes, in p.p.	Growth rate, %	Structure, %		Structural changes, in p.p.	Growth rate, %
	2014	2017			2014	2017			2014	2017		
Services in processing of material resources	31.1	72.4	41.3	215.3	39.1	34.4	–4.7	145.7	2.7	0,0	–2.7	c/i*
Transport services	31.3	6.4	–24.9	18.8	17.4	17.8	0.4	169.5	92.9	91.6	–1.3	81.4
Travel services	12.2	13.0	0.8	99.0	23.5	23.4	–0.1	165.6	1.2	1.7	0.5	114.6
Computer and information services	2.4	5.0	2.6	193.2	14.9	22.7	7.8	252.6	0.7	1.2	0.5	132.2
Business services	2.9	2.3	–0.6	75.7	5.1	1.7	–3.4	56.2	1.9	0.0	–1.9	c/i

* c/i – calculation is impossible

Source: calculated and compiled on www.ukrstat.gov.ua/ [accessed: 2.06.2019].

Ukrainian and national specificity of the export structure. The data in Table 2 indicate a significant increase in the share of this product group in all analyzed cities in 2017 compared to 2012 by more than 20 percentage points, which confirms the status of the supplier of raw materials for Ukraine. Thus, the average share of exports of food products and raw materials for their production (commodity groups I-IV Table 1) from the cities analyzed in 2017 was 33.3% against 11.2% in 2012. Thus, we have seen this share increase almost 3 times in 5 years. This tendency is confirmed by the intensity of changes, both in the export of products of plant origin (see Table 1), as well as fats, oils and prepared foods. The most intense changes in the direction of export growth of finished goods and raw materials for their production are characteristic of Chernivtsi. This is due to the fact that the city's food industry is one of the key in its economic activity. This is especially true for the processing and canning of fruits, as well as the production of oil and animal fats [*Na Bukovyni zroslo vyrobnytstvo* 2017]. Export growth of these types of products was ensured by So'oK LLC, JSC "Chernivtsi Oil and Fat Plant" and other enterprises of the city.

The raw material structure of national exports raises such major problems [Heiets, Ostashko (eds.) 2016: 10; Bohdan 2018: 11]:

1. The volatility of world commodity prices, and thus significant fluctuations in Ukraine's foreign exchange earnings and the hryvnia exchange rate. In particular, the loss of Ukraine's export earnings in 2014, driven by a decline in world commodity prices, ranged from $4.8 to $5.5 billion and from $11.6 to $12.2 billion in 2015;

2. The downward dynamics of real commodity prices over a long period of time leads to a low profitability of raw material exports. In particular, the phenomenon of the decline in real prices for commodities in the long term, proven by scientists, is expressed in the Prebish-Singer hypothesis. In practical terms, this means that export operations to supply low value-added products will, for the most part, generate little profitability, and therefore, even a substantial increase in exports will not lead to a significant increase in government budget revenues;

3. Slow and unstable growth rates of national production and the level of domestic incomes in the country, and therefore there are insufficient both jobs created and budget taxes deducted.

The third place in export structure in the analyzed cities in 2017 is wood and wood products. This commodity position increased both in the structure of exports of the analyzed cities (except for a slight decrease in Ivano-Frankivsk, by 0.8 percentage points), as well as in the volume of exports during 2012-2017. The increase in exports of this product item is quite significant, in particular, more than 600% in Rivne. In addition, Rivne's share increased by 10.9 percentage points in the analyzed period, which is quite significant. The increase in the share of exports of this product group reflects the export trends inherent in the Western region of Ukraine.

Among exports of products in 2017 also occupite large share such product groups as textile materials and textiles, as well as chemical products and related industries.

In the EU-28 commodity exports, three commodity groups prevail during the analyzed period. These are machinery and transport equipment, other industrial goods, as well as chemicals and similar products. These groups together account for about 4/5 of the total export value. In general, we can point out the tradition of the commodity structure of EU exports, which was formed earlier [Kovtun 2019: 29]. The similarity in the structure of export of goods from the Western region of Ukraine, including from the analyzed cities, and from the EU-28 lies in the fact that such goods group as machinery and transport equipment occupies the largest share there. In addition, a significant share of the export of goods belongs to the products of the chemical industry. Totally, it can be argued that the commodity structure of exports to the Western region of Ukraine is more characteristic of the tendencies that are characteristic of the EU-28 than of Ukraine as a whole.

In the structure of export of the services of Ivano-Frankivsk and Chernivtsi the significant part is occupied by services in processing of material resources (100% of them are exported abroad). Moreover, the intensity of changes of this type of services during the analyzed period is quite high (215.3% and 145.7% respectively), and the share of services structures of these cities is significant (see Table 2). The share of these cities in the export of transport and travel related services is also significant.

Rivne is the leader in export of transport services. The share of exports of these services in the overall structure of exports of services of the city is more than 90%, which distinguishes this city from other regional centers of the Western region of Ukraine. This indicates its specialization in this field. The specialization of export of Rivne services is explained by the favorable geographical position and the developed transport network, including to the neighboring countries (Poland, Belarus, etc.). The transport network includes such major highways as Kiev-Warsaw, Kiev-Brest, Kiev-Chop.

Exports of computer and information services account for the largest share in the structure of Chernivtsi. At the same time, despite the small share of Ivano-Frankivsk and Rivne in the export of computer services, there is an increase in the volume of their provision in all analyzed cities. Moreover, in terms of changes (growth rates), the export of these services ranks first among the export positions of the structure of services of the analyzed cities.

It is worth noting that the structure of export of services in the analyzed cities of the Western region of Ukraine corresponds to the structure of export of services, which is characteristic for all Ukraine.

Thus, according to the State Statistics Service, in 2017, transport services accounted for the largest share of services exports – 54.7%, and exports of computer and information services accounted for 16.4%. The share of material resources processing services was 13.3%, and 96.4% of them were goods processing services for the purpose of selling them abroad[5]. Unlike in Ukraine, other business services prevail in the structure of exports of services to the EU-28 [Kovtun 2019: 31]. At the same time, both in Ukraine and in the EU, transport and computer services play a significant role.

5. Conclusions

Today, almost half of GDP in Ukraine is generated through exports of goods and services (in 2018 its share in GDP was 45.2% [Storonyanska 2019: 30]). Therefore, one of the main factors for the effective functioning of the national economy and the key to its dynamic development should be the activation of export activities of cities of regional importance. The cities of the Western region of Ukraine occupy a special place. This arises given their importance in creating the export potential of the state. Due to the fact that a large share of the overall structure of exports belongs to the export of goods, the role of cities of regional importance in enhancing the export activity of their regions should be clearly differentiated, in particular:

[5] www.ukrstat.gov.ua/ [accessed: 2.06.2019].

1. Mukachevo's experience (see above) in producing and exporting goods should be explored when developing Regional Development Strategies. Taking this experience into account can be a prerequisite for the creation of strong production both from our own raw materials and from raw materials from foreign partners. Indeed, in today's economic environment, where most businesses suffer from a shortage of working capital and are limited in obtaining credit to replenish them (while having significant production capacities), manufacturing on the basis of tolling raw materials can ensure their stable production activity. This kind of cooperation is widely used in world practice. In this direction, firstly, it is necessary to identify priority export-oriented sectors of the urban economy. Secondly, to take active steps to attract companies with foreign investments as an integral part of the foreign economic activity of each city.

2. Given the identified trends in the growth of export of services in the field of information technology, to strengthen the specialization of regional centers in this direction. It is also necessary to strengthen the development of commodity exports, including based on the criterion of manufacturability. After all, recent scientific studies prove [Storonyanska 2019: 30], that the shares of high– and medium-tech products in the commodity structure of Ukrainian exports have decreased significantly. The share of transport industries (XVII commodity group) decreased more than 6 times; the share of chemical industries (VI commodity group) has almost halved;

3. Ukraine has considerable potential in the development of tourism services. Therefore, all cities of regional importance must be involved in ensuring export growth in this area of services. Thus, according to the results of 2017, the share of the tourist industry of Ukraine was 1.5% of GDP, which is more than 6 times lower than the global value. Therefore, the industry has significant growth potential in terms of both the volume of services it can provide and the employment growth of the population in the sector. However, regional centers should give priority to such types of tourism as cultural, business, and educational. Exports of ecotourism, extreme or religious tourism activities should be developed in small and medium-sized cities in the Western region of Ukraine.

The transition of the national economy to an innovative industrial-agrarian model of development, in our opinion, will help to expand the export opportunities of the state and its regions. The key role in this process should be occupied by cities as centers of business activity and concentration of production, agro-industrial, investment and trade potentials. We believe that further integration of Ukraine into the world economic relations system will facilitate the more effective use of international cooperation for sustainable economic growth, increase of export potential, stabilization of social and other spheres of economy of cities, regions and the whole country.

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Handel zagraniczny towarami i usługami na Ukrainie i w Unii Europejskiej. Analiza porównawcza

Streszczenie. *Celem artykułu jest ocena trendów, zmian strukturalnych i perspektyw rozwoju handlu zagranicznego towarami i usługami na Ukrainie oraz analiza porównawcza z krajami UE-28. Dokonano oceny udziału miast o znaczeniu regionalnym w Ukrainie Zachodniej w rozwoju działalności eksportowo-importowej poszczególnych obwodów i przeprowadzono analizę przemian strukturalnych w eksporcie towarów i usług w Iwano-Frankowsku, Czerniowcach i Równem. Zaproponowano także szereg działań mających na celu intensyfikację działalności eksportowej w miastach o znaczeniu regionalnym, zgodnie z ujawnionymi trendami, wzorcami, cechami i problemami.*

Słowa kluczowe: *zagraniczny handel towarami i usługami, Ukraina, UE-28, miasta o znaczeniu regionalnym, zachodni region Ukrainy, działalność eksportowo-importowa, przemiany strukturalne*

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  Janowska Z., 2002, *Zarządzanie zasobami ludzkimi*, Warszawa: PWE.
- **rozdział pracy zbiorowej** – nazwisko autora rozdziału, inicjał imienia, rok, tytuł rozdziału (prosto), w:, inicjał imienia, nazwisko redaktora + (red.), *tytuł pracy zbiorowej* (kursywą), miejsce wydania: wydawnictwo, zakres stron:
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  www.manpowergroup.com [dostęp: 28.05.2015].

Ilustracje
- edytowalne, wyłącznie czarno-białe,
- rysunki, wykresy i schematy – w plikach źródłowych (*.xls lub *.cdr)
- zdjęcia – w plikach źródłowych (najlepiej *.tif), rozdzielczość min. 300 dpi
- opatrzone numerem oraz źródłem (np. *opracowanie własne*)
- pozbawione napisów: półgrubych, wersalikami, białych na czarnym tle, czarnych wypełnień, dodatkowych ramek
- z odwołaniem w tekście (np. *zob. rys. 1*, a nie: *zob. rysunek poniżej/powyżej*)
- z objaśnieniem użytych skrótów

Tabele
- ponumerowane, opatrzone tytułem oraz źródłem (np. opracowanie własne)
- z odwołaniem w tekście (np. *zob. tab. 1*, a nie: *zob. tabela poniżej/powyżej*)
- każda rubryka wypełniona treścią
- skróty użyte w tabeli – objaśnione pod nią

Wzory matematyczne
- przygotowane w programie Microsoft Equation 3.0
- poprawnie zapisane potęgi i indeksy
- zmienne – kursywą, liczby i cyfry – pismem prostym
- znak mnożenia to: · lub × (nie gwiazdka czy „iks")
- pisownia jednostek – według układu SI
- symbole objaśnione pod wzorem