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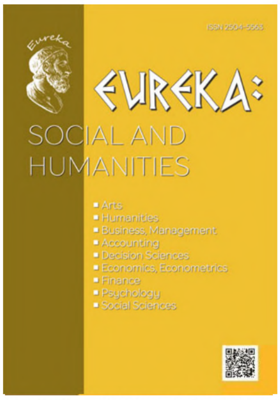

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CONTENT

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THE DEVELOPMENT OF EUROPEAN INSURANCE MARKET INFRASTRUCTURE

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Abstract

The aim is to consider the development of different elements of European insurance market infrastructure. The next tasks of the study were done: to generalize main indicators of the development of European insurance market from 2012 to 2016; to characterize elements of European insurance market infrastructure and define their collaboration with elements of the world insurance market infrastructure.

Methodology. Such methods were used to do an abovementioned tasks: information collection about elements of European insurance market infrastructure; analysis of tendencies of the main indicators of the development of European insurance market from 2012 to 2016; generalization to characterize the elements of European insurance market infrastructure, define their collaboration with the elements of the world insurance market infrastructure and make conclusions.

Results. Main indicators of the development of European insurance market were increasing from 2012 to 2014 and decreasing from 2015 to 2016. Total premium volume as a share in GDP of Europe (insurance penetration) did not exceed 7 % from 2012 to 2016 and as a share in the world GDP declined from 2.1 % in 2014 to 1.95 % in 2016. It was connected with results of the United Kingdom referendum on the European Union membership. The development of European insurance market is also under the influence of activity of elements of insurance market infrastructure such as Actuarial Association of Europe (AAE), Association of Mutual Insurers and Insurance Cooperatives in Europe (AMICE), European Financial Management Association (EFMA), European Insurance and Occupational Pensions Authority (EIOPA), European Federation of Insurance Intermediaries (BIPAR), European insurance and reinsurance federation (Insurance Europe), Geneva Association, Insurance Institute of London (IIL).

Value. This research indicates that the development of European insurance market infrastructure is caused by different factors: financial crises, legislation gap, improving the quality of information and others. Various of elements of European insurance market infrastructure were established to overcome such challenges and provide participants of insurance market with a necessary information, consultations, educational services and results of research, also through collaboration with elements of the world insurance market infrastructure. Results of this investigation can become a ground for further research in the field of defining an impact of activity of infrastructure elements on the development of an insurance market.

Keywords: insurance market, infrastructure, insurance intermediaries, insurance associations.

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1. Introduction

European insurance market infrastructure includes various elements such as associations of insurers, insurance intermediaries, authorities and other organizations. They are established to achieve different goals. Appearing of new challenges in the insurance market leads to founding of appropriate insurance associations to overcome them. Therefore a study of the development of European insurance market infrastructure is quite important.

Lots of publications reflects general issues of the structure, regulation and growth of European insurance market. The structure of the financial system of the European Union including the structure of insurance market are considered in [1, 2]. Different aspects of regulation of European insurance market are presented in [3–5]. The key indicators of European insurance market are disclosed in [6, 7]. However, far too little attention has been paid to European insurance market infrastructure.

2. Analysis of literary data and statement of the problem

Some authors investigate influence of financial crises [7, 9], political events such as Brexit [4, 8], regulatory acts such as Solvency II [3, 5] and entry of foreign insurance companies into national markets [2] on development of European insurance market and other markets. Another authors defined the connection between indicators of insurance market development and economic growth of European countries [1, 6, 10]. But there is a lack of attention to elements of infrastructure as a factor of progress of European insurance market.

3. The aim and tasks of the research

The aim of this paper is to consider the development of different elements of European insurance market infrastructure.

The next tasks of the study were done:

– to generalize main indicators of the development of European insurance market from 2012 to 2016;

– to characterize elements of European insurance market infrastructure and define their collaboration with elements of the world insurance market infrastructure.

4. Materials and Methods

The following methods were used to do an abovementioned tasks: information collection about elements of European insurance market infrastructure; analysis of tendencies of the main indicators of the development of European insurance market from 2012 to 2016; generalization to characterize the elements of European insurance market infrastructure, define their collaboration with the elements of the world insurance market infrastructure and make conclusions. Information and data for this research are from official web sites of the elements of European insurance market infrastructure and Swiss Re Institute's publications

5. Results

Main indicators of the development of European insurance market were increasing from 2012 to 2014 and decreasing from 2015 to 2016, what is presented in **Table 1**.

Table 1

Indicators of the development of European insurance market from 2012 to 2016

Indicator	2012	2013	2014	2015	2016	Tendencies	
						2014/2012	2016/2014
Life insurance premium volume, bln of USD	881.00	933.72	1002.56	872.00	858.6	↑	↓
Non-life insurance premium volume, bln of USD	659.68	686.41	692.53	597.00	611.4	↑	↓
Total premium volume, bln of USD	1540.68	1620.13	1695.09	1469.00	1470.0	↑	↓
Insurance density: premiums per capita in USD	1724.4	1833.5	1902.0	1634.4	1620.0	↑	↓
Insurance penetration, %	6.73	6.82	6.83	6.89	6.73	↑	↓
Total premium volume as a share in the world GDP, %	2.17	2.19	2.19	2.0	1.95	↑	↓

Source: compiled by the author based on Swiss Re Institute's data [11–15]

Table 1 shows that total premium volume as a share in Gross Domestic Product (GDP) of Europe (insurance penetration) did not exceed 7 % from 2012 to 2016 and as a share in the world GDP declined from 2.1 % in 2014 to 1.95 % in 2016. It was connected with results of the United Kingdom referendum on the European Union membership [14]. It is necessary to mention that the United Kingdom insurance market is the biggest in Western Europe.

The development of European insurance market is also under the influence of activity of elements of insurance market infrastructure such as Actuarial Association of Europe (AAE), Association of Mutual Insurers and Insurance Cooperatives in Europe (AMICE), European Financial Management Association (EFMA), European Insurance and Occupational Pensions Authority (EIOPA), European Federation of Insurance Intermediaries (BIPAR), European insurance and reinsurance federation (Insurance Europe), Geneva Association, Insurance Institute of London (IIL) (**Table 2**).

Table 2
Characteristic of elements of European insurance market infrastructure

Element	Characteristic
Actuarial Association of Europe (established in 1978)	Its purpose is to provide advice and opinions to the various organizations of the European Union – the Commission, the Council of Ministers, the European Parliament, EIOPA and their various committees – on actuarial issues in European legislation. The AAE currently has 36 member associations in 35 European countries, representing over 22,000 actuaries. Advice and comments provided by the AAE on behalf of the European actuarial profession are totally independent of industry interests
Association of Mutual Insurers and Insurance Cooperatives in Europe (established in 2008)	Provides a platform for mutual and cooperative insurers of all sizes to combine resources and expertise, exchange experiences across national borders and discuss key issues and concerns relating to planned legislative and regulatory changes and developments
European Financial Management Association (established in 1971)	Not-for-profit association formed by bankers and insurers, specializes in retail financial marketing and distribution. More than 3,300 brands in 130 countries are EFMA members including over 80 % of Europe's largest retail financial institutions
European Insurance and Occupational Pensions Authority (established in 2001)	The core responsibilities are to support the stability of the financial system, transparency of markets and financial products as well as the protection of policyholders, pension scheme members and beneficiaries. EIOPA is commissioned to monitor and identify trends, potential risks and vulnerabilities stemming from the micro-prudential level, across borders and across sectors
European Federation of Insurance Intermediaries (established in 1937)	Primary mission is to promote a European regulatory environment in which intermediaries can prosper and that, at the same time, can ensure fair competition, an adequate level of consumer protection and a sound insurance and financial market. BIPAR is also a platform to develop coordinated actions in the interest of the European community of insurance and financial intermediaries
European insurance and reinsurance federation (founded in 1953)	Mission is: To draw attention to issues of strategic interest to all European insurers and reinsurers in a sustainable manner To raise awareness of insurers' and reinsurers' roles in providing insurance protection and security to the community as well as in contributing to economic growth and development. To promote – as the expert and representative voice of the insurance industry – a competitive and open market to the benefit of the European consumer as well as corporate clients
Geneva Association (established in 1973)	Activity is connected with high-quality research and analysis on strategic insurance issues such as: Financial Stability and Regulation, Extreme Events and Climate Risk, Global Ageing, Cyber and Innovation, The Protection Gap
Insurance Institute of London (established in 1907)	To ensure: "The cultivation of knowledge and information in all matters relating to the various branches of insurance" through its lecture and visits programmes, its journal and its research

Source: compiled by the author based on information from: [16–23]

Various abovementioned elements of European insurance market infrastructure were established in XX–XXI centuries to develop and support different aspects of insurance market: legislation, protection interests, education, research. It is difficult without collaboration with elements of the world insurance market infrastructure (**Table 3**).

Table 3
Collaboration with elements of the world insurance market infrastructure

Element of European insurance market infrastructure	Element of the world insurance market infrastructure
Actuarial Association of Europe	International Actuarial Association
Association of Mutual Insurers and Insurance Cooperatives in Europe	The International Cooperative and Mutual Insurance Federation (ICMIF) – is a global partner of AMICE
European Federation of Insurance Intermediaries is a member of WFII	World Federation of Insurance Intermediaries (WFII)
European Insurance and Occupational Pensions Authority is a member of IAIS	International Association of Insurance Supervisors (IAIS)

Source: compiled by the author based on information from: [16, 17, 19, 20]

The information from **Table 3** makes possible to generalize that most elements of European insurance market infrastructure collaborate with its members, different organizations at micro level and with elements of the world insurance market infrastructure at macro level to achieve set goals, plans and positive results.

6. Discussion

Results of this investigation can become a ground for further research in the field of defining an impact of activity of infrastructure elements on development of the insurance market.

7. Conclusions

This study gives a possibility to make the next conclusions:

– indicators of the development of European insurance market is caused by different factors: financial crises, legislation gap and others;

– various of elements of European insurance market infrastructure were established to overcome such challenges and provide participants of insurance market with a necessary information, consultations, educational services and results of research, also through collaboration with elements of the world insurance market infrastructure.

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STUDY OF FEATURES OF ECONOMIC COMPETITION AT WORLD MARKETS OF FOOD AND AGRICULTURAL RAW MATERIALS IN THE CONTEXT OF FOOD SAFETY PROVISION

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Abstract

Changes that take place in XXI century in the European economy cause not only the decrease of the topicality of problems of food safety provision, but condition their global and large-scale character. The question of people provision with food products, overcoming of poverty, economic competition at world markets of food and agricultural raw materials is for today priority for the whole international community. This problematic has different aspects and manifestation forms in different countries, regions, territories. The geography of products provision has an ambiguous character: a loss of products and their high quality is observed in certain regions, whereas other regions suffer from malnutrition and low-quality food products. The important role is plaid there by losses of society from waste of food products and low-quality competition, caused by different socio-political and socio-economic interests of countries and desire to influence the internal life of other countries through influence mechanisms on their food market functioning. In general food resources are enough throughout the world for providing satisfactory nutrition of the whole mankind. But food production it is not always provided where it is needed. Starvation and malnutrition, impoverishment of almost 1/5 of the population of the planet is the main social content of the food crisis. The economic competition at world food and agricultural raw materials markets plays no less important role. World tendencies of the value conjuncture, insufficient attention of state leaders to accumulation of sufficient resources for providing parity in the global economic competition create threats in providing food safety of many countries.

Keywords: market of food and agricultural raw materials, economic competition, food safety, malnutrition, lack of drinking water, “achievement of hungry goal”, losses and waste of food products.

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1. Introduction

The effective and fruitful production of agricultural products is a base for providing food safety of a state. Food and agricultural raw materials have been always the most important economic and social resource, which control provoked confrontations in history. Countries that possessed food resources always had an additional advantage in economic and political competition. Tendencies of economic competition at world markets of food and agricultural raw materials have a great influence on the international economy. At the beginning of the third millennium countries use indirect economic methods and means of influence for getting certain positions and keeping them at markets of food and agricultural raw materials more and more often. The question of the effective development of the agricultural sector, insufficient attention from the state to problems of provision with food products create conditions for threats in human provision with food.

2. Analysis of literary data and statement of the problem

Famous scientists devoted their works to the study of separate aspects of functioning of markets of food and agricultural raw materials, features of development and functioning of world markets of food products, problems of food safety provision.

Thus, the analysis of theoretical and applied aspects of functioning of markets of food and agricultural raw materials was realized in the article. There was characterized the influence of STP achievements on agricultural production [1]. There was considered the influence of political instability and conflicts on unsatisfactory provision of poorest countries of Near East and Northern Africa with food. It was proved, that the number of people starving because of an instable condition of food safety grows each time [2]. There was assessed the problematic of provision of food safety of countries that have achieved goals of millennium development and ones of the world food summit. There was studied the question of the population growth, child malnutrition, drinking water lack [3]. There was elaborated the theme of problems of regulation of losses and waste of food products, consumed by a human. There was traced the dependence between insufficiency of resources and low productivity of food products [4]. There were analyzed special features of agricultural products realization for export. There were studied growth rates of export of agricultural raw materials [5]. There was analyzed the influence of food safety and other factors on recreating processes at geopolitical and geoeconomic levels. There was analyzed the influence of food safety on the character of modern international economic processes as to production and consumption of food and agricultural raw materials. There was proved the urgency in relations, conditioned by external and internal policy, realized by interested countries, political blocs, intergovernmental and regional associations [6]. But these studies may not be considered as comprehensive, this theme needs the additional elaboration.

3. Aim and tasks of research

The aim of the article is the determination of possibilities of providing food safety at world markets of food and agricultural raw materials as a combination of informational, legal political and economic mechanisms.

The following tasks were set for attaining this aim:

1. To study closeness of connections between the international economy and the market of food and agricultural raw materials.

2. To analyze the influence of political instability and conflict on food safety provision in countries of Near East and Northern Africa.

3. To outline possibilities of overcoming problems of agricultural nature management and production of food goods, faced by the international community.

4. Materials and methods of research

The methodological base of the study is the dialectical method of scientific cognition. General scientific and special methods were used during the study, among them the most essential are: the abstract-logic method – for formulating research conclusions; methods of analysis, synthesis and generalization – for studying bases of features of economic competition for providing food safety at the world market of food and agricultural raw materials.

5. Results of research

At the turning point of millenniums the international economy faced principally new problems of provision, use, results of processing and consumption of food. Annual modern world consumption of food is more than 9 trl dol or near 18 % of all annual costs of consumers [7]. The use of agricultural raw materials is growing under conditions of the continuous growth of the planet population number that will grow up to 9,6 bil persons, according to UNO prognoses [8] and production volumes will grow by 70 % [9].

The problem of production and consumption of food and agricultural raw materials and its solutions are in the focus of the economic policy. Food and agricultural raw materials are the main natural material paradigm of human life activity and is a subject of both international socio-economic cooperation and geopolitical and geoeconomic competition [6].

Quantitatively limited production of food and agricultural raw materials conditions certain features of their use, connected with: global climate changes, great resource consumption of products; technical impossibility of their unlimited involvement into processing and consumption;

chemical, radioactive, biological and other pollution of agricultural soils; inequality of possibilities of production of rough food resources of separate continents, regions and countries; ecological and geographic limits of the possible augmentation of volumes of production and processing of rough food resources; continuous growth of the planet population; presence of different political and economic intents of economic blocs and separate countries that can undertake actions, contradictory to the socio-economic, socio-political and historical logic; taking territories out of agricultural circulation by spreading of deserts (especially, Sahara in Africa). These factors play the determinative role as to recreating processes at geopolitical and geoeconomic levels as to production and consumption of food and agricultural raw materials. These relations often reach urgency, conditioned by the external and internal policy, realized by interested countries, political blocs, intergovernmental and regional associations [6].

Attention must be paid to problems of insufficiency of food products provision to most vulnerable regions of Near East and North Africa – NENA. Just here the level of poverty and malnutrition is the highest comparing with other regions. The situation in these countries underwent essential changes taking into account intensification of conflicts and political instability. There was not achieved the decrease of the absolute number of starving people within the context of realization of Millennium Development Goal MDG. In NENA region the number of chronically starving persons increased twice from 16,5 mln in 1990–1992 to 33 mln in 2014–2016. At the same time the situation in subregions is different. The insufficient decrease of the malnutrition condition is typical for countries of Persian Gulf Cooperation Council (GCC) and Yemen. But the number of persons, starving because of the unstable condition of food safety, caused by conflicts and high poverty level, increased.

Last years the most populated subregion Mashreq (Egypt, Iraq, Iran (Islamic Republic), Jordan, Lebanon, Sudan and Syria) in NENA demonstrated the abrupt increase of malnutrition spread from the level of 5 % in 1990–1992 to more than 8 %. The number of starving people (near 23 mln) in the subregion is 70 % of starving persons in the region. In the subregion Maghreb – Algeria, Libya, Mauritania, Morocco and Tunisia the number of starving people essentially decreased. It is also the single region that achieved the "Hungry goal".

The crisis in Syria caused the fact that among 13,6 mln persons – 9,8 mln ones in Syria and 3,8 mln refugees need food help. The number of starving people in Iraq increased from 8 % in 1990–1992 to 23 % in 2014–2016. Each forth dweller of Yemen is considered as a starving one.

Within NENA region countries positions by malnutrition level are different. In 1990–1992 15 of 19 countries achieved the "hungry goal" of MDG: Algeria, Bahrain, Egypt, Iran (Islamic Republic), Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates. Among them only Kuwait and Oman also achieved the goal of WFS (World Food Summit). Algeria and Tunisia are very close to achieving this goal. The essential progress is also observed in Mauritania, where the spread of malnutrition decreased from 15 % in 1990–1992 to 6 % in 2014–2016. **Table 1** presents NENA countries that achieved goals of malnutrition overcoming.

Table 1
NENA countries that achieved goals of malnutrition overcoming

Countries that achieved both millennium development goals and goals of world food summit	Countries that achieved millennium development goals
Kuwait, Oman	Algeria, Bahrain, Egypt, Iran (Islamic Republic), Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and United Arab Emirates

Source: Created by the authors based on [3]

The subregion is supplied with food products mainly at the expanse of their import. Mean volumes of food goods consumption in the region increased from 2916 kcal/person/day in 1990–1992 to 3214 kcal/person/day in 2014–2016. Such level is essentially higher than the mean world index – 2902 kcal/person/day. Crop plants and other products, rich with carbohydrates, are the main ration source of this region. Despite the high import dependence, this region achieved the essential progress in increasing own supplying. For example, crop plants production grows approximately by 4,3 % annually, although corn productivity remains lower the mean world level. At the same time food production permanently remains behind the necessary demand that causes the fast growth of import. The growth of needs in nutrition and limited internal supplying base also made NENA the greatest netto-importer of corn plants in the world, moreover, more than a half of corn plants consumption is realized from other regions.

Existent programs of social protection, introduced by governments of the region played the certain role in decreasing poverty and improving an access to food. But universal subsidies for food products and fuel turned to be ineffective, but they are directed not only on satisfying needs of poor people. Separate subsidies for food products negatively influenced also the quality of nutrition of poor households. Although programs of social protection, favored the increase of the level of poor people's access to food and improvement of the food situation, the faster human progress needs the strengthening of such arrangement that would favor an access to food products, especially for poor population layers.

Despite the decrease of the poor population number in separate regions, the mean value of index exceeds 10 %. It is for example, Egypt, Mauritania, Sudan, Tunisia and Yemen.

Starting from 90-s, there was achieved the essential progress in the decrease of child chronic malnutrition, especially, in Mauritania – from 55 % in 1990 to 22 % in, 2012, Tunisia – from 31 % in 1990 to 10 % in 2012, Morocco – from 30 % in 1994 to 15 % in 2011, Oman – from 26 % in 1991 to 10 % in 2009. At the same time almost a fourth of the population suffers from obesity, making this region the largest one with obesity. Such index twice exceeds the mean world one and is almost trice more than in developing countries. The deficiency of important microelements in the organism is the main indicator than results in obesity in both rich and poorer countries.

The demographic situation management is among priorities in NENA region. The population growth in the region is characterized with high rates – near 2 % annually comparing with the mean world one – 1,2 % in 2010–2016. The region population is estimated approximately as 400 mln, up to 600 mln are expected till 2050. The population growth together with intensification of urbanization and change of consumption models will in future results in the increase of demand for food products and decrease of soils, suitable for agriculture. It is expected that the policy of family planning will be the most effective way of decreasing population growth rates and may result in improving socio-economic condition of households. Some arrangements like these have already proved their effectiveness in such countries as Nigeria, Egypt, Iran, Lebanon, Liberia, Morocco and Tunisia. An access to land, technologies and some types of credits is extremely important in this region, especially for rural youth and women; in another case they are not protected.

NENA region is the one of most suffering ones from the lack of drinking fresh water. Incomings of renewed water for one person decreased by two thirds last 50 years, and now are 10 % of the world average one, despite the fact that this region has invested much in irrigation during many years [10]. More than 80 % of accessible water resources are used for agricultural needs, but there are essential differences between subregions. In Mashreq countries the part of irrigated soils reaches 43 % of the whole area of agricultural lands. Maghrib countries depend on irrigation much less (7–18 %), whereas Egypt is irrigated in almost 100 %. The use of indirect subsidy for irrigating water is the common policy in this region.

Food products losses are the essential problem for this region. According to estimations, 34 % of food products, suitable for human consumption are wasted or lost [4]. Such level of waste and losses is extremely inadmissible in the region that depends on international markets to satisfy needs in food to such extent. Taking into account the limited resource base of the region and the low productivity of food products, high losses in food are not only uneconomic, but ecologically fatal and destructive for providing food safety. The decrease of FLW (food loss and waste) needs essential additional investments in the limited power of saving the region. This problem expresses itself mostly in food products storage and also in the ability to process corn plants. In several countries of the region most farmers store their corns in traditional conditions, so most losses are caused by different types of rodents, insects and birds. For example, Egypt loses 13–15 % of accessible corns between harvesting and final consumption. High waste and losses of perishable products, especially, fruits and vegetables, limit the ability of countries of this region to export their excess (**Table 2**).

Table 2
Estimation of losses of food products in several fruits and vegetables in the countries of NENA region

Country	Product name	Estimation of losses (%)
Egypt	Fresh fruits	19
	Fresh vegetables	29
	Oranges	14
	Tomatoes	15
Iran	Grape	13
Jordan	Eggplant	19
	Tomatoes	18
Oman	Fruits and vegetables	3–19
Saudi Arabia	Cucumbers, dates, grape, tomatoes	15–23

Source: Created by the author based on [2]

The key moment of food safety provision is animal husbandry, because, high incomes, fast population growth, urbanization and change of consumption models favored the abrupt increase of demand for animal products in this region in last decades. NENA region has 98 mln units of animal husbandries, 80 % of which are concentrated only in six countries: Algeria, Egypt, Iran, Mauritania, Morocco and Sudan. The region in whole is a pure importer of animals, products of animal origin and forage. The problems for the further development of animal husbandry are periodical droughts, desertification, degradation of pastures that worsen with climate changes, conflicts and long-term crises.

The successive development of the world economic system results in the fast development and growth of the world market of food and agricultural raw materials. At that it is influenced by the essential number of diverse factors. It influences international economic and socio-political processes. World trade of food and agricultural raw materials is determined by the following peculiarities for today:

– demand and supply of agricultural raw materials and products of its processing depends at such international level on a geoeconomic and geopolitical situation, climate conditions, quantity of land in the agricultural circulation, developed international transport infrastructure of countries-exporters and countries-importers. So, the high turbulence and volatility at the world market is typical for such trade;

– prices at such markets are subject to essential fluctuations that are difficult to prognosticate. Peculiarities of price-creation of agricultural raw materials and products at the world market are connected with: the influence of the external trade policy of states and economic associations; price volatility; competitive influence of supply of synthetic and artificial surrogates; prices for such goods are oriented on auction and exchange ones; there is the plurality of prices, connected with the diversity of trade centers, sorts, discord in delivery terms;

– there is observed the long-term exceed of supply of food and agricultural raw materials over demand for it. Food and agricultural raw materials supply increases at decreasing costs for them in the world economy as a result of introducing scientific-technical innovations. There takes place the active shortening of the number of economically developed world countries, engaged in agriculture – in the last half of the century the number of people, worked in the agricultural field decreased 5 times [1]. So, such situation at the international food and agricultural market has the long-term dynamics of prices decrease and conditions additional risks of increasing the number of economic crises in countries that are active exporters of these goods (countries with the narrow nomenclature of export of food and agricultural raw materials and products of its processing), because export of food and agricultural raw materials and products of its processing provides the main part of incomes from economic activity for these countries;

– countries-partners aim to establish long-term relations, based on long-term international agreements, which guarantee sales of food, agricultural raw materials and products of its processing for a long period for a country-exporter; and an importer will receive possibilities of guaranteed regular deliveries of food, agricultural raw materials and products of its processing with fixed or well prognosticated prices (long-term contracts take near 30 % of the world raw materials export [5]);

– trade of food, agricultural raw materials and products of its processing is closely connected with provision of other good types, and is a part of commercial operations, complicated types of external economic cooperation, large-scale agreements on a compensation basis;

– the essential imbalance exists at the world materials market – growth rates of trade of fuel-energetic resources and mineral raw materials exceeds growth rates of trade of food and agricultural raw materials;

– there is observed the high level of monopolization at markets of food and agricultural raw materials. Transnational corporations and great national producers, specialized on production of food and products of agricultural raw materials processing, have a possibility to fix monopoly low prices for buying raw materials and high prices for semi-products or ready products (at that internal corporative deliveries of agricultural raw materials are realized for lowered transfer prices for decreasing tax load and optimizing costs);

– limits of influence and intervention of subject that have no direct relation to trade of food, agricultural raw materials and products of its processing in determination of volumes, directions, forms and methods of trade of food, agricultural raw materials and products of its processing, grow;

– there is observed the continuous growth of requirements of importers of food, agricultural raw materials and products of its processing to the quality and ecological safety of food goods;

– volumes of trade of ready products and semi-products, manufactured on the base of agricultural raw materials actively grow; growth rates of export of agricultural raw materials decrease at the absolute increase of volumes of trade of this goods group [5].

Transformations that take place at the world map of production of food and agricultural raw materials are closely connected with changes on it. The mutual influence is traced there. The desire to control volumes of production of realization of food and agricultural raw materials by countries-exporters results in intensification of economic competition and essential price fluctuations for resources, in socio-political competition, military confrontations and altering of boundaries and other geopolitical events. Different socio-economic events in importers and exporters of food and agricultural raw materials influence the price dynamics differently. For example, negative socio-economic events in countries-importers condition the decrease of their economic growth rates, and world prices of food and agricultural raw materials decrease, and the economic increment in countries-importers provides the growth of international prices of food and agricultural raw materials at world markets. And on the contrary, chaos in the socio-political and economic life of countries-exporters of food and agricultural raw materials conditions the growth of prices of food and agricultural raw materials because of a possible or actual deficit of food and agricultural raw materials at the world food market, and the internal political and socio-economic stability in these countries conditions the descendent price dynamics of food and agricultural raw materials.

Exporters and importers of food and agricultural raw materials use different methods of influencing the market of food and agricultural raw materials, providing food safety in the world, especially in separate most vulnerable regions.

Countries-exporters express their interest not only in increasing production of food and agricultural raw materials, but in realization of products of agricultural raw materials processing (for example, sunflower oil instead of sunflower seeds), creating new working places and providing the growth of an income part of a budget. At the same time, countries-importers demonstrate their interest in processing raw materials resources at the custom territory of their own country and to consume and export ready products, produced by internal producers, increasing the national wealth of own economies. In this connection countries-importers use the following methods of attaining their aim because of the growth of economic competition:

– use tariff and non-tariff methods of protection of the internal market from the external economic expansion, non-prohibited by GATT-WTO; stimulate socio-economic destabilization in countries-exporters of food and agricultural raw materials, interfering introduction of scientific-technical progress and effective projects on processing of food and agricultural raw materials, and provoke the growth of costs for national safety;

– realize the state economic policy in the sphere of the effective economic stimulation for creating high-effective profitable enterprises for processing food and agricultural raw materials and outputting products with a high part of added value;

– guarantee the acceptance of legislative initiatives as to raising ecological normative and quality standards for semi-products and ready products, produced of agricultural raw materials;

– give short-term credits with a low interest rate to economic subjects (country and firms) of countries-exporters, intending to draw them in "debt kabala" for washing of financial resources and decreasing perspectives of the economic development of countries-exporters of food and agricultural raw materials – economic subjects of a country-exporter often cover their debt obligations immediately after receiving export earnings from raw material resources, instead of financing investments in production of ready products;

– use exchange players for influencing the price dynamics of food and agricultural raw materials at world markets.

Countries-exporters of food and agricultural raw materials, intended to create new working places and maximize profits of national commodity producers and tax incomes, use different influence ways on markets of food and agricultural raw materials, on food safety provision:

– embody cartel compacts, intending to provide the prices growth and maximize profits of enterprises-exporters, provoking creation of the artificial deficit of such goods at the world market, decreasing volumes of their realization for export;

– realize cartel compacts, intending to decrease prices for the growth of food and agricultural raw materials export at world markets. It may be realized for: raising demand for food raw materials and other agricultural resources at world markets and providing the international economy increment that will result in the growth of incomes of internal producers of countries-exporters of food and agricultural raw materials; decreasing investment attractiveness of production of food and agricultural products with a high cost price in other countries (for example, planting products in droughty regions or other regions with frequent weather changes: hurricanes, tornado, tsunami, excessive quantity of precipitation);

– individual augmentation of production and realization of food and agricultural raw materials by several countries-exporters for receiving an additional part of the world market of food and agricultural raw materials;

– stimulation of redistribution of economic resources, received from realization of food and agricultural raw materials for export, from "eating away" to the economic growth of the internal economy: stimulation of formation of national firms for processing rough food resources and agricultural raw materials for producing goods with more added value and export of semi-products and ready products (sunflower oil, cheeses); investments of incomes, received from export of food and agricultural raw materials, in high-effective and high-tech economic spheres – machine- and ship-building, production of energy-efficient technologies, electrotechnical, cosmic, agrarian, defensive, pharmaceutical and other fields).

It may be summarized, that financial incomes, received from realization of food and agricultural raw materials, may not only stimulate the international economic growth, increase of the national wealth of countries-exporters by creating reserve funds of incomes from export of food and agricultural raw materials and condition other positive results, but cause the socio-economic, political and military destabilization in the world and disintegration of separate countries that create additional risks for world food safety.

6. Discussion of research results

The main advantage of this research is the attempt to characterize peculiarities of economic competition at world markets of food and agricultural raw materials in the context of food safety provision. But this theme is difficult and needs more large-scale and detail researches.

This research is useful for effective planning of food safety at the state level under conditions of chaotic changes at world markets of food and agricultural raw materials.

This research is not a continuation of previous ones that is why the authors plan to work further for improving it in future.

7. Conclusions

1. It may be stated, that the international economy and world markets of food and agricultural raw materials are extremely closely connected between each other. Negative socio-economic events in countries-importers condition the decrease of their socio-economic growth rates, and world prices of food and agricultural raw materials decrease, and the economic increment in countries-importers provides the growth of international prices of food and agricultural raw materials at world markets. And on the contrary, instability in the socio-economic life of countries-exporters of food and agricultural raw materials conditions the growth of these resources because of a deficit of food and agricultural raw materials at the world market, and the internal socio-economic stability in these countries conditions the descendent price dynamics of food and agricultural raw materials.

2. It was proved, that countries of Near east and Northern Africa are the most vulnerable to political instability and international conflicts that directly influence the sufficient food safety level (just in these countries most losses and waste of food are traced).

3. Despite the difficultness of problems of agricultural nature management and production of food goods, faced by the international economy, a possibility of overcoming them exists. But to realize it, it is necessary to threat agricultural resources that are the wealth of not only a separate country, but also international community, responsibly.

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CONVENTIONALISM AS A THEORETICAL BASIS FOR THE UNDERSTANDING OF THE NATURE OF ECONOMIC SECURITY IN THE ENTERPRISE

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Abstract

The existence of different approaches for the understanding of the concept of economic security, taking into account its nominal nature as an economic and general scientific denotation, is actually, from the epistemological point of view, the basis for the application of conventionalism for explanation of the nature of the enterprise economic security, harmonization of such approaches and the links between them. It is shown, that nowadays the concept of economic security has a significant number of approaches for its interpretation.

The purpose of the article is to study theoretical approaches to understanding the economic security of the enterprise and the formation of a certain unified theoretical and methodological basis for understanding the economic security of the enterprise.

The methodological basis of the study, the results of which are presented in the article, is a set of methods of scientific research, general methods, techniques and principles, including comparison, monographic analysis, historical analysis, analysis and synthesis, abstract-logical analysis, classification, and systematization have been used.

It is shown, that nowadays the concept of economic security has a significant number of approaches for its interpretation. The correlation between such approaches can be considered either based on the shift of scientific paradigm (scientific revolution) by T. Kuhn [1] from the imperative to the synthetic approach, or based on the approach of the competition of scientific research programs by I. Lakatos [2] "security-development" and "security-safety". Each approach creates the preconditions for the formation of the understanding of economic security, which in the future serves as the basis for the development of the tools for its evaluation, provision and enhancement.

Keywords: conventionalism, economic security, competition, enterprise, economic system.

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1. Introduction

Since the beginning of the 20th century, the category of economic security has become one of the fundamental categories in modern national and international economics. Since that time, all the levels of economic security, starting from the individual level, the level of individual enterprise to the level of national economy and the global level, have been of interest of scientists. Economic security is one of the most important components of national security at the level of national economy and state as a whole. It also provides competitiveness of national economy. Taking into account that the enterprise is the element of the economic system of the region and the state, at the level of the individual enterprise, its economic security creates the preconditions for the stable successful operation of the enterprise for a long period.

Since the 90s of the 20th century, there has been a significant actualization of economic security issues for domestic enterprises in Ukraine. Such actualization is caused by the complication of institutional environment of their operation, its changing nature, the emergence of additional risks, threats, challenges, and by the fact that under the conditions of globalization the new nature of economic relations expand the market boundaries within which the enterprise operates.

The urgency of economic security issues for domestic enterprises creates the necessity of its provision and support, which at the same time are based on understanding of the nature of the economic security in the enterprise and the theory for such understanding.

2. Analysis of literary data and statement of the problem

The relevance of the study of economic security is the interest of many domestic and foreign scholars. Some aspects of the study of the theoretical foundations of economic security are considered in the works [3–5].

Today, there are several approaches for understanding the economic security of the enterprise. According to the scientific literature [6, 7] there are two approaches for determining economic security: the first one is based on the use of concepts of threat and protection from threats; the second approach avoids the use of the notion of threat in the definition of security and is based on administrative or economic concepts (efficiency, reaching of the aim, functioning and development). A similar opinion is shared by scientists in their works [8–12] who consider that all concepts of understanding the economic security are divided into two groups: protection from various threats and the form of economic development of the enterprise.

A similar view is indicated in the work [13]: analyzing different approaches for the definition of this notion, it is concluded that the most of them represents two approaches: the first approach is based on the use of the concept of "threat", and the second one – on the concept of "profit" [13].

However, nowadays, such a dichotomous point of view regarding the essence of the economic security of the enterprise can be defined as outdated, since there is a great number of approaches for understanding the economic security of the enterprise.

The analysis shows that there are several approaches for understanding the economic security of an enterprise, and each of these approaches has its own justification and provides its own view on the essence of the economic security of the enterprise. Each of these approaches has the right to exist, a solid argument for understanding the economic security of the company, which determines the relevance of the study.

3. Aim and tasks of research

The article aims at substantiation and scientific enrichment of the following aspects:

1. Determining the content and relationship between approaches to understanding the economic security of enterprises.

2. Combining existing viewpoints on economic security of an enterprise and thus enrichment of its understanding in science of security.

3. Determining the practical value of the results of the study.

4. Research Methodology

The methodological basis of the study, the results of which are presented in the article, is a set of methods of scientific knowledge, general methods, techniques and principles, including comparison, monographic analysis, historical analysis, analysis and synthesis. The theoretical framework of the study is the fundamental provisions of conventionalism, economic securitology, the theory of management, the theory of the enterprise. The article uses the results of its own research and scientific works of domestic and foreign scientists.

5. Results of the research

In the epistemological sense, the economic security in an enterprise can have dual nature. On the one hand, it can be considered at the rather abstract level in the content of the thesaurus of modern securitology, taking into account the existing attributes of its nature. In this case, it requires agreement of the different points of view regarding to the nature and the content of the economic security in the enterprise. On the other hand, at the level of particular enterprise, economic security has quite pragmatic level of actualization and expresses itself in the absence of risks, threats, losses or the results of negative influence of the subjects of internal or external environment. In this case, the economic security in the enterprise and the concepts that explain it, fully correspond to the criterion of falsification of knowledge proposed by K. Popper [14]. Thus, the attempts to clarify the understanding and nature of the economic security in the enterprise are not an intrinsic value, but they are solely the basis for its support on a pragmatic level.

The current state of national securitology requires the formation of a certain unified theoretical and methodological basis for understanding the economic security in the enterprise. As a basis is proposed to choose conventionalism as an epistemological concept in scientific cognition. Conventionalism derived from Latin "conventio", which means "agreement", "contract". According to this concept, all non-contradictory scientific theories (as well as philosophical ones) are equally acceptable and none of them can be recognized as absolutely true, refuting others [15, 16]. The founders of the concept of conventionalism are considered in the work [15, 16], but each of them considered different level of the conventionality of the provisions of scientific knowledge. For example, E. Leroy proposed an absolute conventionalism, within which all non-contradictory scientific theories concerning the same object of study are equal.

However, the absolute conventionalism leads actually to epistemological relativism. In this regard, G. Reale and D. Antiseri note [15], that when all the theories are conventional, it is useless to say about their objectivity. Moreover, the very fact of conventionality and consistency the scientist establishes on the bases of the categories defined by himself. So, absolute priority given to conventionalism leads to complete subjectivity in science and to impossibility of gaining knowledge, which has signs of objectivity. In addition, the absolute conventionalism by E. Leroy [15] provides coherence of all theoretical elements (if they are consistent), but completely does not give reasons for using of such knowledge at the pragmatic level.

A. Poincaré proposed more reasonable idea concerning conventionalism as the basis of scientific knowledge and its use in practice [16]. According to his point of view, the main provisions of any scientific theory are neither synthetic truths a priori nor a reflection of reality a posteriori. That is, A. Poincaré considered them as the result of the agreement between scholars. Their consistency is the only absolute condition for such provisions [16]. Subsequently, the conventionality of theoretical positions can be overcome or disproved on the basis of the falsification of such provisions (in the understanding of K. Popper [14]), but this does not prevent from considering consistent theoretical concepts as hypotheses to the fact of such falsification.

Despite the fact, that historically the idea of conventionalism is relatively new (XIX–XX centuries), it has been quite successfully used in science for a long time. Any discipline is actually based on certain axioms that within this field of knowledge considered to be truthful without any evidence (moreover, the necessity and epistemological role of axioms follows directly the second K. Gödel's theorem about the incompleteness of formal system [17], and it does not prevent the development of a significant set of sciences). Classical Euclidean geometry is based on axiomatics of a point and straight lines in space, arithmetic is based on Peano axioms, set theory is based on (including) extensionality axiom, the classical Austrian School of marginalism is based on the fact of rational behavior of economic subject etc. Such axioms become the cornerstone of the entire branches of science, are used a priori and allow obtaining new theoretical and pragmatic knowledge, although they do not have complete theoretical proofs. Consequently, the use of conventionalism as the theoretical basis for understanding of economic security in no way contradicts the methodology of science and the scientific method of knowledge, on the contrary it allows combining and reconciling the existing achievements of various researchers.

It is expedient to reveal the content of economic security in the enterprise based on conventionalism. However, at first it is necessary to introduce briefly the historical aspect of the development of the sense of economic security as an independent category and economic security in the enterprise, as well as its relationship with other key concepts of the enterprise's activity.

The notion of economic security did not remain unchanged, and over time, the content of this concept was gradually enriched. In the countries of Western Europe, the term "economic security" appeared in the 1970's and was interpreted as "an economic method of ensuring of national security". A specific feature of the analysis of the problem of economic security, carried out by economists of the 1970s, was the transition from the concept of economic security, which was based on a military factor, to a concept in which economic security is a result of the state's independence from the foreign economic policy of other countries. At the same time, independence is based on a set of conditions and factors of the internal environment, the clarification of which the works of this period are devoted to [5, 7].

Another aspect of economic security at the macro level in the same historical period (70s of the twentieth century) is the close connection between the categories of security and the development of the national economy. World experience shows that even if the development of the economy was provided without ensuring of its security (Brazil in the 60's, Egypt and Poland in the 70's, Mexico in the 80's, Turkey, Thailand, Indonesia in the 90's. XX century, Argentina at the beginning of the XXI century), then it was predominantly unstable, and the period of economic growth did not last long and ended with the beginning of the economic crisis [18]. In this regard, A. Gumenyuk notes that economic security is the dominant or at least the most important characteristic of the economy, and in this case, the goal of economic development is to ensure its security [18]. However, it is impossible to agree fully with this point of view, since the absolutization of economic security, on the contrary, leads to restraining of the development of the economic system, which is presented in papers [11, 19]. Thus, economic security is one of the keys, reference points in the national economy, although it is not a single.

It is necessary to note that economic security is closely connected with the development at all levels of economic relations. Economic security is connected directly with the development and it ensures its sustainability. Security is essential for the functioning and development of the economic system, and the development of the economic system creates preconditions for its security [20, 21]. The close connection between economic security and the development of the enterprise one can see in the work of S. V. Kavun [22]. From his point of view, economic security implies sustainable development, balanced and continuous, which is achieved by using of all kinds of resources and opportunities, which guarantee their most effective use for the stable functioning and dynamic scientific, technical and social development, prevention of internal threats [22].

On the other hand, it is not necessary to recognize the economic security absolute, as a priority in the functioning of economic systems at various levels. The reason is that after achieving a certain level of economic security, further efforts and efforts to provide it in a certain system, on the contrary, prevent the development of this system. The attempts to provide economic security from a certain point in time contradict even positive changes. They become, according to terminology, the developmental inhibitor [19] and begin to create certain threats through the rigidity of the system of the economic security object, its low adaptability, the rejection of even positive transformations as they are always connected with certain risks. Paradoxically, but in this case, exactly the attempt to ensure the economic security of a particular system becomes that very factor which reduces security by itself. The reason is that it constrains the system, limits its adaptive reactions and implementation of even positive changes.

The economic security in the enterprise is directly connected with other important concepts of management such as competitiveness, the external environment, risks, threats, enterprise constancy, etc. [5, 11]. They allow determining the place of security in a number of economic categories, its impact on the activities of the enterprise, causal and consequential field of economic security in the enterprise.

The existence of different approaches for understanding of the economic security in the enterprise [11, 12, 23, 24] and various generalizing approaches [8, 10, 25] requires some coordination and the formation of a coherent, integrated viewpoint on this issue. Such an agreement is necessary, since the approaches mentioned above are not contradictory (without an additional epistemological basis), but they are still competing. Although some specialists in securitology (for example, L. Shulzhenko [26]) point out the lack of competition between the approaches for understanding of economic security, the content of approaches proves that such competition exists and requires its agreement (**Fig. 1**).

Continue to emerge new attempts to generalize existing points of view about the nature of economic security and to offer a comprehensive or convergent understanding of it. E. Ovcharenko in his work made an interesting attempt to generalize existing approaches for understanding of the economic security in the enterprise [10]. On the basis of the generalization of scientific approaches for the description of economic security in the enterprise it is concluded that conceptually all approaches are divided into two fundamentally different groups. The first one is based on the concept of security as a form of development; the second one is based on the concept of security as a form of confrontation of the subject of threats. O. V. Ilyashenko [8] has a similar point of view. She considers that all the conceptions for understanding of the economic security are divided into two groups: protection from various threats and the form of economic development of the enterprise. In fact, the idea of E. Ovcharenko [10] and O. Ilyashenko [8] is an important step in modern national securitology, because such an idea conventionally combines the economic security in the enterprise with its particular foundation: development or threats. Accordingly, in the first case, the state of the enterprise is described as a dynamic imbalance. The development becomes both a basis and an instrument for ensuring the economic security in the enterprise in its changing environment. In the second case, all the attention is paid not only to positive changes, but also to protection from negative changes such as threats.

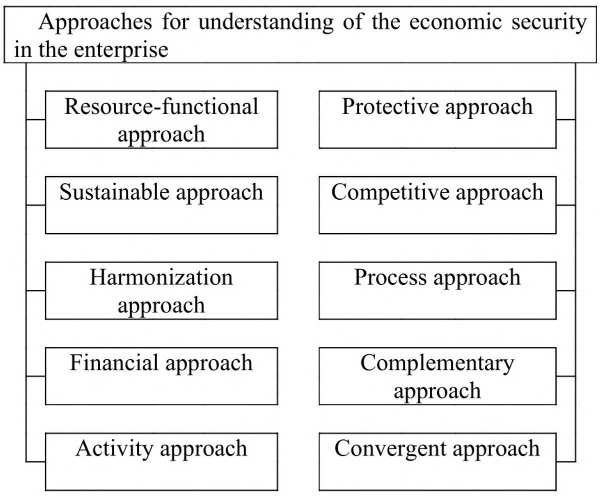

Fig. 1. Approaches for Understanding of the Economic Security in the enterprise
Source: generalized by the author based on [9, 11, 12, 21, 24]

So, the analysis shows that there are several approaches for understanding of the economic security in the enterprise. All of them have the right to exist, as each of the approaches has a solid argumentation basis about understanding of the economic security in the enterprise. Within the concept of conventionalism the existence of several approaches does not call in question any of them, as such a situation in economic safety nowadays does not contradict epistemological principles in science and corresponds to the situation of competition of "research programs" by I. Lakatos [2]. When to consider the available approaches for understanding of the economic security in the enterprise from the epistemological point of view on the basis of conventionalism, then in fact the relationship between them can be described either within the "scientific paradigm" by T. Kuhn [1] or within the "research programs" by I. Lakatos [2]. The difference in the approaches of T. Kuhn [1] and I. Lakatos [2] regarding the existing points of view and individual approaches for understanding of the economic security in the enterprise is presented in Table. 1

Within the boundaries of the scientific paradigm of T. Kuhn [1], understanding of economic security is controversial. In fact, in the development of securitology there is a transition from one approach to another. The only one chosen approach for understanding of economic security actually makes it impossible to use another one. For example, the simultaneous understanding of economic security within the attribute characteristics of O. V. Ilyashenko [8] as a state, process and characteristics are rather complicated, for the subject of perception of economic security, it is necessary to choose a particular attribute and its use. The development of synthetic approaches, which found their enlightenment in various works [8–10, 25] is a way to overcome it.

In the frames of synthetic approaches, there was made an attempt to combine conventionally the existing points of view regarding to the economic security in the enterprise and thereby to enrich its understanding in security science. Such attempts are considered to be quite successful, at least a synthetic or convergent view on the essence of economic security has its prospects such as to form a comprehensive understanding of the economic security in the enterprise by combining existing approaches and to make it as a basis of the instrumental basis of economic security in the enterprise.

Table 1
The correlation between existing approaches for understanding of the economic security in the enterprise within the concepts of T. Kuhn and I. Lakatos

The approach of the shift of the scientific paradigm by T. Kuhn	The approach of competition of I. Lakatos research programs
1. Approaches based on imperative axiomatic concepts. 2. Approaches based on attribute characteristics [18]. 3. Synthetic approaches (complementary, convergent, convergent-pragmatic)	1. Approaches for understanding security as a form of economic development of the enterprise. 2. Approaches for understanding security as a security against a variety of threats

Source: proposed by the author based on [3, 4, 6, 8, 10, 12, 13, 24]

If to take the approach by I. Lakatos [2] as a basis for understanding of the economic security in the enterprise, it will be obvious that there is a question of competition between the dichotomous most widespread views on the nature of economic security – either it is a form of development or protection against threats. It is obvious that these approaches are contradictory in content and nature, although conventionally they are both internally consistent and well grounded. But at both theoretical and the pragmatic levels of securitology, the economic security subject must make its choice regarding to understanding of economic security. This choice will be used as a basis for assessing economic security, providing it, choosing the necessary tools, and so on.

6. Discussion of the results

Thus, the article deals with the possibility of using of different existing approaches for understanding of the content of economic security in the enterprise on the principles of limited conventionalism by A. Poincaré [16]. It gives the opportunity to determine the relationship between the approaches for understanding of the economic security in the enterprise, the possibility of their joint choice and connection in the contests within the conventional concepts of T. Kuhn [1] and I. Lakatos [2]. On the principles of conventionalism, it has been shown that the understanding of economic security is conventional-subjective. The reason is that the subject of economic security can take as a basis the existing theoretical positions. They can either change one another within the concept of the shift of the paradigm by T. Khun [1] from imperatively grounded understanding of economic security to synthetic or convergent its understanding, or such theoretical developments will compete conventionally with one another ("security-development" and "security-safety") if we take as a basis the concept by I. Lakatos [2].

Theoretical value of the research consists in generalization and structuring of the exploratory basis of the economic security in the enterprise, determining the relationship between its individuals, its provisions and the possibility of their joint use. The practical value of the research consists in the formation of a consistent, well-grounded understanding of economic security as a substantive basis in the development and use of tools for its evaluation, provision and improvement.

7. Conclusions

The following conclusions were made as a result of the realized studies:

1. There was defined the content of economic security of an enterprise within the framework of the conventional concepts of T. Kuhn and I. Lakatos (the concept of security as a form of economic development of an enterprise, the concept of security as protection from various threats).

2. Theoretical value of the research consists in generalization and structuring of the exploratory basis of the economic security in the enterprise, determining the relationship between its individuals, its provisions and the possibility of their joint use.

3. The practical value of the research consists in the formation of a consistent, well-grounded understanding of economic security as a substantive basis in the development and use of tools for its evaluation, provision and improvement.

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ANALYSIS OF ECONOMIC EFFICIENCY OF GRAIN PRODUCTION OF MAIN FOOD AND GRAIN-FORAGE CROPS IN THE REGION

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Abstract

The estimation of the economic efficiency of agrarian enterprises is based on the use of the system of interconnected indices of natural and valuable calculation that reflect the effect and influence forms of objective economic laws in material production of agrarian sphere taking into account its peculiarities.

In the process of the study of the economic efficiency of grain production of main food and grain-forage crops in the studied region we have considered a series of main production-financial parameters that are determined by their nature as: a ratio between resources consumption and volume of goods and services, produced of these resources; maximal volume of production of goods and services using the minimal cost of resources; obtaining of the maximal result of limited resources, accessible for a human. The essential increase of grain production and improvement of its economic efficiency is, undoubtedly, the most important task of the state agrarian policy, its solution determines guaranteeing of the effective activity of both grain-production subcomplex and agro-industry in whole and also food safety of the country.

The scientific article presents the analysis of the economic efficiency of grain production on the example of agrarian enterprises of Ternopil region in 2010–2016. The work demonstrates economic-financial results of realization of grain and leguminous crops of the region and also presents production-economic indices of realization of grain of main food and grain-forage crops – wheat, corn for grain, barley, buckwheat, pea. The realized work allows to determine tendencies of the economic efficiency of grain production, to estimate its competitiveness under conditions of the market environment.

Keywords: economic efficiency, economic-financial results, branch of grain crops, grain-forage crops, development tendency, market conjuncture.

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1. Introduction

The effective economy is a necessary condition of activity of separate branches and enterprises altogether in the market environment. At the same time the achieved level of economic efficiency, especially of grain branch, has essential differences in the region, and separate crops are unprofitable. This all conditioned the necessity to realize the analysis of effectiveness of producing main grain crops, to reveal causes of its braking and development factors of their economy.

2. Analysis of literary data and statement of the problem

Problems of the grain subcomplex development, increase of the economic efficiency of production and competitiveness of grain in Ukraine are elucidated in scientific works of many scientists, especially, it is noted, that grain economy as a priority branch of AI determines its modern development and food safety of the country in whole, and the level of their use depends on production organization, its technologies and many other factors, including climate conditions [1–3]. Theoretical principles were grounded and practical recommendations as to increasing competitiveness of agricultural enterprises at the grain market were elaborated in [4, 5]. The methodology of strategic prognostication was elaborated, the analysis of the development of agricultural production was realized and prognosticated indices until 2025 were calculated in [6]. Methodical principles and indices of the estimation of the competitiveness of the grain economy branch were also studied in [7, 8]. Based on realized researches there were offered main internal and external directions of increasing the competitiveness level of grain that influences the strengthening of grain economy branch and enterprises, increase of export volumes and improvement of economic and social condition of our nation's life [9, 10]. There were determined directions of increasing the effectiveness of grain production functioning. There was studied the influence of grains fruitfulness on the economic efficiency of the branch. It was proved, that the essential increase of grain production and improvement of its economic efficiency is the main task of the agrarian state policy [11]. The program "Ukrainian seed-2015" determined ways of grain production growth, elucidated technological, economic and normative-legal principles of solving the grain problem of the country [5].

It's worth noting that despite the essential contribution of scientists in the solution of theoretical and practical tasks of the grain-food subcomplex stable development, this sector of agrarian economy still far from its potential possibilities. It is proved by the low level of fruitfulness of grain crops and their profitability, connected with a retrograde production technology, low productivity of labor in branches, unstable price policy at the market, unsatisfactory state of filling and using of state grain resources, periodical administrative prohibitions of grain export and so on.

The problem of the effective functioning of the grain branch at the region level is insufficiently studied that needs a deep and multi-aspect scientific grounding for the practical use. Just these regional problems have conditioned the topicality and choice of the research theme under concrete conditions of the market environment.

3. Aim and tasks of research

The main aim of the work is the analysis of the resource potential of the grain branch of the region.

The following tasks were set for attaining this aim:

1. To carry out the analysis of main production-economic indices.

2. To investigate the influence of factors on the branch efficiency under conditions of the market environment.

3. To reveal development tendencies of the grain branch of the region.

4. Materials and methods of researches

The scientific article includes data of statistical yearbooks, statistical collections of Ternopil region and Ternopil district. The methods, used in this work, are monographic, economic-statistical ones (statistical observation, grouping, comparison, determination of mean and relative values, indices), analysis and synthesis, calculative-constructive, abstract-logic.

5. Results of researches

The dynamics of results of economic-financial activity and their indices of realization of grain and leguminous crops at agricultural enterprises of Ternopil region are presented in **Table 1**.

As it can be seen from the table during the analyzed period, there was revealed a distinct tendency to the increase of volumes of grain production and sale. Thus, the volume of grain for 100 ha of the harvested area increased from 2900 cen in 2010 to 6120 cen in 2014 or in 2,1 times and 5810 cen in 2016 or in 2 times. The analogous tendency was revealed also in grain sale. If in 2010 there was sold 2137 cen of grain for 100 ha of the harvested area, in 2014 – 4621 cen that is 2,2 times more, and in 2016 – 3952, or 1,8 times more.

Grain sale marketability grew in the analyzed period. Thus, for example, the level of marketability in 2010 was 73,7 %, and in 2014 – 75,5 %. The increase of sale volumes, increase of the marketability level and increase of prices of realization of grain and leguminous crops favored the growth of the pure income. Thus the pure income volume of grain realization for 100 ha of the harvested area increased from 239,3 thousands hrn in 2010 to 808,1 thousands hrn in 2014 or in 3,4 times and to 1255,9 thousands hrn in 2016 or in 5,2 times. Such essential increase of the pure income volume was favored by the following factors: the increase of grains fruitfulness by improving natural-climate conditions of crops cultivation; the increase of grains realization volume; the market conjuncture and growth of prices for realized products. It is important that during 2010–2016 the mean price of realization of 1 cen of grain increased from 112,0 hrn to 317,79 hrn – or in 2,8 times and the full cost of 1 cen of sold grain increased, correspondingly, from 99,54 hrn to 218,04 hrn, or – in 2,2 times.

Table 1

Economic-financial results of realization of grain and leguminous crops at agricultural enterprises of Ternopil region [12, 13]

Parameters	Years						
	2010	2011	2012	2013	2014	2015	2016
Number of enterprises, units	265	269	254	270	275	259	256
Average area of tillage for an enterprise, ha	1678	1696	1817	1754	1711	1699	1706
For 100 ha of the harvested area							
Produced grain, cen	2900	4400	4640	5071	6120	5499	5810
Sold grain, cen	2137	2775	3592	2785	4621	2430	3952
Pure income (proceeds), thousands hrn	239,3	388,0	542,6	517,6	808,1	653,6	1255,9
Full cost of 1 cen of realized grain, hrn	99,54	115,77	127,77	122,73	137,48	188,88	218,04
Price of 1 cen of realized grain, hrn	112,00	139,82	151,05	126,76	174,89	269,03	317,79
Profit, hrn							
For 1 cen of realized grain	12,46	24,05	23,28	4,03	37,41	80,15	99,75
For 1 ha of the harvested area	266,3	667,4	836,2	112,2	1728,7	1947,6	3945,1
Coefficient of branch income, point	1,13	1,21	1,18	1,03	1,27	1,42	1,46
Branch profitability, %	12,5	20,8	18,2	3,3	27,2	42,4	45,7

Let’s note, that grain production and sale have the essential differentiation of economic-financial indices for grain crops varieties by years (**Table 2**).

Table 2

Economic-financial results of wheat realization at agrarian enterprises of Ternopil region [12, 13]

Parameters	Years						
	2010	2011	2012	2013	2014	2015	2016
Average harvested area, for an enterprise, ha	669	627	714	527	505	554	625
Part of wheat area in tillage, %	39,9	37,0	39,3	30,0	29,5	32,6	36,6
Costs, spent for 1 ha of theharvested wheat area, hrn	1859	3244	4158	4110	8035	7588	9799
Wheat fruitfulness, cen/ha	25,6	40,0	37,8	34,8	52,8	53,2	53,1
For 100 ha of the harvested area							
Sold grain, c en	1836	2487	3126	2775	3544	4078	3763
Pure income (proceeds), thousands hrn	190	347	459	383	597	10260	11314
Full cost of 1 cen of realized wheat, hrn	101,22	130,42	132,99	148,11	152,18	186,57	218,73
Price of 1 c of realized grain, hrn	103,38	139,59	146,80	137,85	168,39	251,58	300,67
Profit (loss), hrn							
For 1 cen of sold wheat	2,16	9,17	13,81	–10,26	16,21	65,01	81,94
For 1 ha of the harvested area	39,7	228,1	431,7	–284,7	574,5	2651	3083
Coefficient of wheat income, point	1,02	1,07	1,10	0,93	1,11	1,35	1,37
Wheat profitability, %	2,1	7,0	10,4	–6,9	10,6	34,8	37,5

As we can see on **Table 2**, wheat fruitfulness is closely connected with costs volumes for 1 ha of the harvested area of wheat. Thus, for example, in 2010 wheat fruitfulness was 25,6 cen/ha at costs 1859 hrn for 1 ha of the harvested area, and in 2014 these indices were 52,8 cen/ha and 8035 hrn/ha, respectively, and in 2016 – 53,1 cen/ha and 9799 hrn/ha.

The analyzed period demonstrated a tendency of the intensification of wheat grain production, improvement of economic-financial results of the branch. Thus, for example, the volume of grain sale in the calculation for 100 ha of the harvested area increased from 1836 cen in 2010 to 3544 cen in 2014, or in 1,9 times, and to 4078 cen in 2015 – in 2,2 times. The pure income (proceeds) from wheat grain realization for this period increased, correspondingly, from 190 thousands hrn to 597 thousands hrn, and in 2015 – to 10260 thousands hrn and in 2016 – to 11314 thousands hrn for 100 ha of the harvested area of wheat.

The profit mass in the calculation for both 1 cen of grain and 1 ha of the harvested area essentially increased in the analyzed period. For example, if in 2010 in the calculation for 1 cen of grain and for 1 ha of the harvested area there were received 2,16 hrn and 39,7 hrn, respectively, in 2014 these indices were 16,21 hrn and 574,5 hrn, respectively, and in 2016 these indices essentially increased.

The coefficient of marketability (pure income and costs ratio) in the analyzed period increased, correspondingly, from 1,02 to 1,37 points that is there was received by 35 kopecks more for 1 hryvnia, invested in the development of the region enterprise branch in 2016. So the financial results of wheat grain production essentially increased in the analyzed period.

It is worth noting, that the important place in the economy of the branch of grain and leguminous crops belongs to corn for grain (**Table 3**). As we can see on the table, last years the average harvested area of corn in the calculation for an agricultural enterprise of Ternopil region increased from 232 ha in 2010 to 496 ha in 2014 or in 2,1 times. The part of the harvested corn area increased in this period, correspondingly, from 13,8 % to 29,0 %. At that costs, that is intensification level, increased in the calculation for 1 ha of the harvested corn area, correspondingly from 3503 hrn (2010) to 8441 hrn (2014), or in 2,4 times and to 11626 hrn (2016), or in 3,3 times.

The researches demonstrated that the growth of the level of concentration and intensification of production favored: the increase of corn fruitfulness for the analyzed period, correspondingly, from 54,5 cen/ha to 79,8 cen/ha in average at enterprises of the region; the increase of grain realization for 100 ha of the harvested area and the pure income.

At that the part of the pure income, received from sale of corn grain in the total income of the grain branch, as it can be seen in **Table 3**, increased from 33,4 % in 2010 to 56,4 % in 2014 that testifies to the important role of corn grain in the development of economy of plant cultivation in particular and agrarian enterprises in general.

The analysis established, that corn grain production and sale at agricultural enterprises of the region has a positive tendency to the increase of both production and realization of products and to the improvement of economic-financial indices of the branch functioning.

Table 3

Economic-financial results of corn grain sale at enterprises of Ternopil region [12, 13]

Parameters	Years						
	2010	2011	2012	2013	2014	2015	2016
Average harvested area for an enterprise, ha	232	354	417	530	496	394	368
Part of corn area in tillage, %	13,8	20,9	22,9	30,2	29,0	23,2	21,6
Costs, spent for 1 ha of the harvested area, hrn	3503	4161	6518	6693	8441	9700	11626
Corn fruitfulness, cen/ha	54,5	64,2	73,2	77,3	79,8	65,9	77,4
For 100 ha of the harvested area							
Sold grain, cen	3801	4258	5475	6294	6664	7467	4962
Pure income, thousands hrn	450,8	560,1	798,1	669,3	1163,1	20089	16431
Part of the pure income from corn sale in the income of the grain branch, %	33,4	43,7	44,3	63,8	56,4	49,5	39,5
Full cost of 1 cen of sold corn grain, hrn	92,17	97,71	119,06	106,35	126,68	188,88	205,24
Price of 1 cen of sold grain, hrn	118,60	131,55	145,79	115,92	174,54	269,03	331,14
Profit (loss), hrn							
For 1 cen of sold corn	26,43	33,84	26,73	9,57	47,86	80,15	125,9
For 1 ha of the harvested area	1005	1441	1464	602	3189	5985	6247
Income coefficient, point	1,29	1,35	1,22	1,09	1,38	1,42	1,61
Corn profitability, %	28,7	34,6	22,4	9,0	37,8	42,4	61,3

The favorable conjuncture of corn grain at the agrarian market that is the growth of demand for grain and increase of its supply conditioned the proactive growth of prices comparing with prime cost. Thus, for example during 2010–2016 the full cost of 1 cen of corn grain increased, correspondingly from 92,17 hrn to 205,24 hrn or in 2,2 times and the price of realization of 1 cen of products in this period increased from 118,60 hrn to 331,14 hrn or in 2,8 time. All that favored the increase of profit volumes of both 1 cen of realized products and 1 ha of the harvested area. For example, the profit mass during 2010–2016 in the calculation for 1 cen of realized corn grain and 1 ha of the harvested area increased, correspondingly from 26,43 hrn and 1005 hrn to 125,9 hrn and 6247 hrn or in 4,8 and 6,2. The coefficient of income and profitability of the branch also increased during this period.

The important place in the development of the grain economy of the region belongs to barley. The main economic-financial indices of this crop are presented in **Table 4**.

Table 4

Economic-financial results of barley sale at agrarian enterprises of Ternopil region [12, 13]

Parameters	Years						
	2010	2011	2012	2013	2014	2015	2016
Average harvested area for an enterprise, ha	243	174	207	168	199	188	218
Part of barley area in tillage, %	14,5	10,3	11,4	9,6	11,6	11,0	12,8
Costs, spent for 1 ha of the harvested area of barley, hrn	1946	2377	3545	3475	3776	7514	9554
Barley fruitfulness, cen/ha	20,5	32,4	35,7	28,4	48,4	48,9	51,6
For 100 ha of the harvested area							
Sold grain, cen	1862	1970	2661	2182	3380	3804	3806
Pure income (proceeds). Thousands hrn	1217	320	475	359	602	10534	11346
Full cost of 1 cen of sold barley, hrn	104,52	120,69	133,24	159,26	140,98	197,96	217,86
Price of 1cen of sold barley, cost	110,58	162,44	178,57	164,51	178,10	276,94	298,10
Profit (loss), hrn							
For 1 cen of sold barley	6,06	41,75	45,33	5,25	37,12	78,98	80,24
For 1 ha of the harvested area	1123	822	1206	1145	1255	3004	3054
Income coefficient, point	1,06	1,35	1,34	1,03	1,26	1,40	1,37
Barley profitability, %	5,8	34,6	34,0	3,3	26,3	39,9	36,8

The analysis demonstrated that the average harvested area of barley in the calculation for an enterprise during 2010–2016 decreased, correspondingly, from 243 ha to 218 ha. For this period costs in the calculation for 1 ha of the harvested area increased, correspondingly, from 1946 hrn to 9554 hrn that conditioned the increase of barley fruitfulness in 2,5 times. It favored the increase of sale volumes of barley and pure income in the calculation for 100 ha of the harvested area.

The studies demonstrated that during the analyzed period the full cost of sold 1 cen of barley increased in 2,1 times, and its price – correspondingly in 2,7 times, that is the price increased by proactive rates comparing with the full cost of grain. This positive tendency conditioned the growth of income and profitability of barley grain production and sale.

Such valuable crop as buckwheat has the important value for supplying the population with food.

It was established, that during 2010–2016 the harvested area of buckwheat at agricultural enterprises decreased, correspondingly, from 9,3 thousands ha to 6,8 thousands ha. If the harvested area of buckwheat in all categories of economies in 1990 was 16,5 thousands ha, and the gross harvest – 15,8 thousands t, in 2016 the analogous indices were correspondingly at the level 10,2 thousands ha and 10,5 thousands t, or decreased correspondingly by 6,3 thousands ha and 5,3 thousands t of products.

It must be underlined that buckwheat production decreased in all regions of Ukraine that led to the market conjuncture worsening, that is demand for buckwheat increased and supply decreased. Such tendencies don’t satisfy our population’s need in buckwheat at the expanse of own production and conditioned the essential growth of prices up to 45–55 hrn/kg in the net of retail trade.

Let’s note, that buckwheat fruitfulness remains law that is the main factor that conditions the high prime cost of 1 cen of production, decelerates this crop development on the innovative base. Thus, for example, the average full cost of 1 cen of realized buckwheat increased during the analyzed period from 203,36 hrn (2010) to 660,26 hrn (2016) or in 3,2 times.

The average price of 1 cen of sold buckwheat had essentially more fluctuations in this period. Thus, for example, if in 2010 the price of 1 cen of realized buckwheat was 376,01 hrn, in 2011 it was at the level 471,15 hrn or by 95,14 hrn more. The lowest price of 1 cen of buckwheat (269,82 hrn) was in 2013, and the highest – (1189,3 hrn) – in 2016, the difference was more then 4,4 times. It is conditioned by the essential decrease of buckwheat supply at the agrarian market of the country. For example, in 2011 agrarian enterprises of Ternopil region sold 285 cen of buckwheat for 100 ha of the harvested area that is by 43,5 % less than in 2010. The analogous situation with buckwheat sale happened again in 2015–2016 that also led to the essential growth of prices (766,50–1189,3 hrn/cen). Marketability of buckwheat sale remains low (in 2011 was only 31,1 %), that conditions the swift growth of demand and increase of realization prices on this base. Such low level of marketability of buckwheat sale testifies to the fact that agrarian enterprises intentionally decrease supply of this product, creating the swift growth of demand and the growth of realization prices on this base. Such negative conjuncture as to demand and supply at the agrarian market gives grounds to think that it is necessary to strengthen the state regulation of products sale and the process of price formation for all types of products in Ukraine.

Such valuable food and forage crop as peas has the important value for the development of the grain economy branch. The main production-economic indices of this leguminous crop are presented in **Table 5**. As it can be seen from the table, the harvested area of pea had essential fluctuation during 2010–2015.

Table 5

Economic-financial results of peas sale at agrarian enterprises of Ternopil region [12, 13]

Parameters	Year						
	2010	2011	2012	2013	2014	2015	2016
Harvested area of pea: totally, thousands ha	5,3	2,2	2,6	2,4	6,8	6,9	9,1
In average for an enterprise, ha	20,0	8,2	10,2	8,9	24,7	26,6	35,5
Cost, spent for 1 ha of the harvested area of pea, hrn	1209	1911	2561	2759	3428	7514	10434
Pea fruitfulness, cen/ha	16,3	22,9	31,0	26,4	34,5	34,7	37,9
For 100 ha of harvested area, cen							
Produced pea	1632	2286	3077	2635	3456	3465	3791
Sold pea	962	1055	1404	1404	1504	1741	1631
For one person, kg							
Produced pea	8,0	7,4	7,4	5,9	22,0	22,4	32,1
Sold pea	4,7	2,1	3,4	3,1	9,6	11,3	27,3
Full cost of 1 cen of sold pea, hrn	125,67	181,12	182,31	196,40	227,89	288,21	343,48
Price of 1 cen of sold pea, hrn	179,81	226,84	235,74	288,03	317,45	521,43	543,79
Profit (loss), hrn							
For 1 cen of sold pea	54,14	45,72	53,43	91,63	89,56	233,22	200,26
For 1 ha of the harvested area	521	482	720	1287	1347	4060	3266
Income coefficient, point	1,43	1,25	1,29	1,47	1,39	1,81	1,58
Pea profitability, %	43,1	25,3	29,3	46,7	39,3	80,9	58,3

Thus, for example, in 2010 the harvested area of pea at enterprises of the region was 5,2 thousands ha, and during 2011–2013 it decreased to 2,2–2,4 thousands ha, or in 2,4–2,2 times comparing with 2010. The harvested area of pea increased again up to 6,8 thousands ha in 2014, in 2015 – to 6,9 thousands ha and to 9,1 thousands ha in 2016. It is a positive tendency, taking into account the fact that pea is a good forerunner for wheat and other ear crops.

At the same time the indicated harvested area was small and in 8,8 times less than in 1990 at agrarian enterprises (59,8 thousands ha) of Ternopil region.

The essential growth of costs in the calculation for 1 ha of the harvested area must be considered as positive. Thus, if in 2010 in the calculation for 1 ha of the harvested area 1209 hrn were spent, in 2014 this index increased to 3428 hrn, and in 2016 – to 10434 hrn/ha or in 2,8–8,6 times. It positively influenced the development of this subbranch, especially: pea fruitfulness was increased correspondingly from 16,3 cen/ha to 37,9 cen/ha; volumes of pea production and sale were increased; economic indices of production and sale were improved.

The analysis demonstrated that the level of full cost and price of 1 cen of realized pea increased almost proportionally in the analyzed period. Thus, for example, during 2010–2016 the full cost of 1 cen of realized pea increased, as it can be seen from **Table 5**, correspondingly, from 125,67 hrn to 343,48 hrn, or in 2,7 times, and the price of sale increased during this period – from 179,81 hrn to 543,74 hrn, or in 3 times. At such levels of pea cost and price of its realization the profit mass in the calculation for 1 cen of product increased. Thus, for example, enterprises of Ternopil region received the profit from 1 cen of sold pea in 2010 – 54,14, in 2014 – 89,56 hrn, in 2015 – 233,22 hrn and in 2016 – 200,26 hrn. The essentially more profit was received in the analyzed period in the calculation for 1 ha of the harvested area. Thus, if in 2010 in the calculation for 1 ha of the harvested area regional enterprises received 520,8 hrn, in 2014 – 1347,0 hrn, in 2015 – 4060 hrn, in 2016 – 3266 hrn. Such essential increase of profit for 1 ha of the harvested area of pea is mainly conditioned by two factors, namely: the increase of volumes of product sale; the increase of the price of product realization.

Let's note, that the favorable market conjuncture at the correspondent level of cost and sale prices created proper conditions for leguminous crops subbranch functioning.

6. Discussion of results

The researches of the economic efficiency of production of grain of main food and grain-forage crops at agricultural enterprises of Ternopil region for 2010–2016 gave a possibility to reveal the dynamics of positive changes in the development of grain branch, especially:

– it was established, that enterprises of Ternopil region have favorable natural-climatic conditions for cultivating all food and grain-forage crops;

– volumes of costs for 1 ha of the harvested area (intensification level) was increased for all crops that is the one of main factors of the increase of their fruitfulness and economic efficiency of grain production;

– sowing areas for grain crops were increased that gave a possibility to raise volumes of production and sale of grain as the one of main factors of the pure income growth – own source of replenishment of costs for productive needs of enterprises;

– there was revealed the favorable grain market conjuncture and proportions of the growth of prime cost and prices of sale of 1 unit of products that had a positive influence on the improvement of financial results of both separate crops and grain branch in whole;

– it was established, that volumes of grain sale, its full cost and price are the main factors of formation of the profit mass at an enterprise and in the branch in whole.

In the process of the research we revealed the braking factors of the grain branch development, especially:

– the low level of material-technical support (capital/labor ratio) of enterprises. Available tractors, combines and other technical means are morally archaic and physically deteriorated, their number is not enough that results in a disorders of the production technology and losses of ready products;

– the part of the harvested area of grain and leguminous crops in the structure of sowing areas is increased that negatively influences the effectiveness of agrarian lands use (diseases of plants, vermin, wild grass increase) in future;

– the essential differentiation takes place in fruitfulness levels of crops, economic results of the branch that testifies to present reserves of the economic growth;

– the swift growth of the level of prime cost and prices of realized products are conditioned by inflation of the national economy that resulted in the growth of prices for food products and decrease of the purchasing ability of Ukrainian population.

The realized researches gave a possibility to reveal the modern tendencies of the grain economy development and became a base of a further research, especially:

– improvement of the level of material-technical support of needs of agrarian enterprises – bases of introduction of innovative-resource-saving technologies of grain production and sale;

– grounding of the rational branch structure of the grain economy at enterprises of the studied region taking into account satisfaction of internal needs of food and its export;

– realization of regressive factor analysis of full cost of realized grain (wheat) and prognostication of the main parameters of the branch development in the competitive environment;

– improvement of the state regulation of processes of realization of products, especially food grain at regional markets, price formation, activation of the innovative-investment development of enterprises.

The realized researches will be useful for the practical activity of agrarian enterprises for raising the economic efficiency of the functioning of components of the own grain economy, growth of competitiveness of grain of main food and grain-forage crops at the internal and external markets.

7. Conclusions

The article presents the analysis of the dynamics of the economic efficiency of production of grain of main food and grain-forage crops of the region that gives a possibility to make the following conclusions:

1. There was revealed the positive dynamics of the production-economic indices, namely: fruitfulness of all grain and leguminous crops was essentially increased; volumes of grain realization, pure income, profit and coefficient of the branch income were increased that is a base of the stable development of agrarian enterprises by the principle of expanded reproduction.

2. There was established the intensive influence of external and internal factors complex on the economic efficiency of the grain branch. It is necessary to consider as internal ones: costs for 1 ha of the harvested area (intensification level); volume of products sale; full cost of 1 cen of realized grain; price of realization of 1 cen of realized grain. The external ones are the state support and favoring of the innovative-investment development of agrarian business; regulation of production and sale of grain products, price formation and increase of grain competitiveness.

3. There were revealed the tendencies of the excessive increase of the part of harvested areas of wheat, corn for grain, barley and decrease of areas for rye, buckwheat, pea in the structure of tillage of enterprises that results in disorders of agrotechnical requirements (crops rotation, bad grass, diseases) of production and decrease of agrarian lands productivity.

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COOPETITION OF UKRAINIAN ENTERPRISES IN THE FIELD OF NATURAL RESOURCE MANAGEMENT IN THE CONDITIONS OF THE MODERN ECONOMY

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"Nobody can achieve success alone. The only way to do something significant is to implement this together with other people. Coopetition is everywhere"
Reid Hoffman

Abstract

The article provides an opportunity for collaboration between the enterprises of the fuel production industry in terms of coopetition both on the domestic and on the foreign market. We paid our attention on the specificity of the combination of interests in the creation of collaborative alliances between the extracting enterprises of Ukraine. We determined the main factors of successful collaboration of enterprises in the field of environmental management on a horizontal level and specified the advantages of cooperation of enterprises in the field of environmental management.

We identified the dependence of socio-economic development within the country and the competitiveness of the state on the foreign market through the development of corporate social responsibility within the country. We offered the main principles of cooperation were proposed for successful collaboration of enterprises in the environmental management.

We determined the main strategies for the development of regions, where the natural resource extraction is carried out, which can be implemented with cooperation of the extractive enterprises under the conditions of coopetition.

Keywords: collaboration, state regulation, coopetition, extraction of natural resources, coordination of interests of the collaborative alliance.

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1. Introduction

Co-opetition is a neologism uniting the terms competition and cooperation. It emphasizes the ambivalence of competition and cooperation in the relationships with all other enterprises in the industrial supply chain, which are the suppliers, customers, competitors and providers of complementary goods [1].

In the past decades supra-regional, international and global markets have gained tremendous importance. The increasing interdependence of economic actors from different regions, countries, etc. is one of the various facets of "globalization". However this kind of "globalization" has led to increased complexity and unpredictability: − of the development of the business environment; − of the relationships with business partners; − of the own interests. Of course, the coopetition features have their own specifics in each country and in a particular industry. This is primarily due to the level of economic development of the country, and the understanding that cooperation in a competitive environment helps not only to create an innovative product, but also to improve the scientific, technical and technological approaches to creating added value of the product.

At the end of the XX century there had been significant structural changes in the fuel and energy sector that led to changes in the organizational structures, existing institutional framework and methodology of state regulation not only in energy, but in the areas of natural monopolies in general. This process was influenced by globalization and liberalization of the world trade of energy and natural resources as a whole. Uneven allocation of resources led to the growth of international trade of energy resources, increase in competition in the global (oil) and regional (natural gas, coal) markets, as well as led to the corresponding changes in the structural and institutional basis of energy markets.

The social-oriented needs of society aimed at interaction between business and government come to the forefront more and more. The prosperity in the country, competitiveness of the state became directly dependent on the scale of corporate social responsibility, which system shall be created based on the interaction between business and government and shall be tested in practice [2].

2. Analysis of the literature data and the formulation of the problem

Before the introduction of co-opetition, business theory has been emphasizing either on the competitive or on the cooperative aspect of business relationships [3]. The competitive perspective has its roots in the neoclassical economics. Important representatives are: Schelling with his seminal book "Strategy of conflict" [4] Porter's "Competitive strategy" [5] and the transaction cost economics [6] (part of new institutional economics).

Important representatives of the cooperative perspective are Contractor and Lorange [8] by explicating the benefits of business cooperation.

Waśkowski notes that the strategies of coopetition are implemented by many enterprises, regardless of their size, place in the economic value chain or branch. It is worth noticing that shared actions of entities who undertake coopetition change the structure of interactions and relations between them [7]. Simultaneous "opening" to the partner and readiness to share owned knowledge are crucial. On the other hand – remembering the still-present conflict of interests – one must keep secret the biggest advantages which allow the entity to retain its competitive advantage on the market [9]. Relationship networks, built in such conditions between the entities involved, differ from these created by partners who are not competitors. However, proper structure and clear rules might lead to gaining benefits greater than the ones that could be gained by the entities working separately. The value-creating character of the relationship networks built and developed in such a way causes many entities, not only the commercial ones, decide to implement the strategy of coopetition.

Thus, the coordination of interests and the unification of efforts of all alliance participants (state – society – enterprises, enterprise – enterprise, state – enterprise, etc.) are necessary for the achievement of common goals: to benefit from the comprehensive use of the mechanisms of public goods redistribution, risk redistribution, to form loyal pricing policy for the resources, goods and to increase the welfare of citizens of the country. In this regard, the modern business rules are increasingly forced to seek new forms of cooperation, in which the unification of efforts to achieve a certain goal becomes not only productive, competitive, profitable, fashionable, but also an effective form of cooperation.

However, as the research showed, the issues of coopetition were not sufficiently solved in the field of environmental management, because there was a monopoly form of relations in this market and this was not about competition for a long time. As the research has shown, cooperation of interests of extractive enterprises in the field of environmental management is a very promising direction, especially in the conditions of the modern economy of Ukraine.

3. The aim of the work

Therefore, the **aim of this work** is to analyze the coopetition strategies of the enterprises of fuel production industry in Ukraine.

To achieve this goal, the following tasks were set:

1. To investigate the concept of co-opetition.
2. It is possible to cooperate Ukrainian enterprises in a competitive environment.
3. Define the principles for cooperation in a competitive environment.
4. Identify the main strategies of co-opetition of enterprises in the field of nature management.

4. Methods of research

The studies carried out using the empirical, statistical and Delphi methods have shown that the interaction of fuel producing enterprises is a very specific topic that needs to be carefully considered.

5. Results

Coordination of interests (collaboration) in the modern world is perhaps one of the most popular forms of cooperation. Very often, by combining their interests for the sake of creating an innovative product or service, the firms earn extra profits and create a positive image for their businesses. However, there are opposing examples where successful companies combine their technologies, knowledge and goals, and face the problems of competition and borrowing ideas from each other. Therefore, in our opinion, it is important to identify the main factors of cooperation of agents that promote success in terms of collaboration.

In 1992, Mattessich and Monsey worked on 18 studies from 1975 to 1991 to answer the question: What factors do make influence on the success of cooperation? In general, they found 19 factors and divided them into six groups: environment, participants, process/structure, communication, purpose and resource. In this case, Mattessich and Monsey specify the main factor, which is the "informal relationships existing without any particular mission, structure or effort planning" [10]. Schrege determined cooperation in the context of value creation, as a "collaborative process: by two or more persons with complementary skills interacting with the purpose of creating an innovative product [11]. At the same time, Schrege named 13 indicators that influence the cooperation: competence; general purpose; mutual respect; tolerance and trust; creation and manipulation of a common space; multiple forms of their role in the team; continuous, but not constant communication; formal and informal environment; clear delineation of responsibility without boundaries; decisions should be made on the basis of consensus; physical presence is not obligatory; electoral use of the outside means for additional ideas and information, as well as the human factor.

Schrege determined that the most important factor in collaborative cooperation is the "human resource". Kanter (1994) also found that the human factor was a key component of collaboration to a greater extent than technology [12]. Obviously, we agree with this thesis, according to the significance of the human factor in the functioning of collaborative alliances, but there are a number of factors that influence collaboration at the horizontal level in the field of nature resource management.

Therefore, the task of this unit is to determine the possibility of collaboration of the extracting enterprises of Ukraine at the horizontal level and in terms of coopetition that takes into account the specifics of the fuel producing industry and the imperfect type of competition in the market.

In 2016–2017, we studied 26 works aimed at identifying advantages and disadvantages when applying the collaborative mechanisms in economic activity in the period from 1998 to 2015. Our goal was to identify the key factors of success in the collaborative interaction and to explore what has been changed in terms of attitude to the collaboration since 1992. The study included one of the following questions: What factors do make influence on the success of cooperation at the horizontal level? We identified 23 factors of the cooperation success in the collaborative alliances in a modern economy. It is interesting that we identified the co-factors in our study (2016–2017) and the study by Mattessich and Monsey so we were able to indicate the "strong" indicators that most influenced the positive collaborative result. The identified factors were grouped into seven groups: communication within the alliance interior, competition, combining resources for the creation of a product/service, distribution of responsibility for the risks, role of the state in encouraging cooperation, clear division of responsibilities and respect for each other within the alliance.

The identified factors show that besides the mentioned main "human" factor, the transparency of the processes taking place in the participant interaction, the role of the state and competition is very important for the successful collaboration. The informal connections are established through the cooperative processes (cooperation of competitors) that help to cooperate more effectively and create an innovative product or service.

Also, our studies helped us to form the main benefits of cooperative alliances for the enterprises in the field of nature resource management.

The main advantages of the collaborative alliances are as follows:

1. Help to solve the problems of shortage of creative ideas and effective decisions, to find new intellectual resources, the effective ways of their innovative mobilization to support the state

bodies in search for the perspective trajectories for the development of countries and regions, the strategies of economic evolution [13].

2. At the micro level, the collaboration implements convergence of interests of the most advanced subjects of the global economic system, seeking innovative solutions for the modernization or transformation of the composition and structure of manufactured goods through the creation of (more perfect generations of different levels and scales) or the transition to fundamentally new products offered within the following technological approach based on the introduction of a "beam of technologies" of general and special applications into production [14].

3. Help in the formation of products of new generations, formed on the achievements of the previous methods, that determine the dominant advantages of the product created within their framework: the specificity of its usefulness and value, which inevitably will be expressed in its value and competitiveness [15].

4. Collaboration allows achieving common goals, where there is a mutually beneficial exchange of knowledge, participant training to enhance competencies, production of innovative products with a significant intellectual component for promotion to the market and achievement of significant cumulative effects on the principles of consent and trust [16].

5. The participants of the collaborative alliances are more likely to move towards an innovative type of growth, and thus have the most stable development, strengthening the competitive potential of enterprises. And on the contrary, the territories where the natural-market course of collaboration between the interests of enterprises is impeded by various barriers (administrative, bureaucratic, infrastructure, etc.), there is a lag in innovations, in the diversification of production, and in attracting innovative technologies in the natural resource extraction, and as a consequence, in the development dynamism [17].

The directions of alliance interaction give new opportunities for the development of policy aimed at the formation and increase of the competitiveness of a business entity operating on a different scale (firm, region, country, international level) by overcoming the restrictions imposed by competition and the emergence of strategic advantages, arising as a result of the association (growth of labor productivity, reduction of production costs), since the effect of joint actions is higher than the simple sum of individual efforts.

Also, the stidues have allowed us identifying several directions of strategy development that can be implemented by the extractive enterprises in the field of environmental management:

Firstly, it is the strategy of economic development of the extraction regions, where a specific enterprise carries out the natural resource extraction;

Secondly, the strategy of social development of the regions through the distribution of natural resource rent from the natural resource extraction;

Thirdly, the strategy of socio-economic development of the regions through the introduction of a policy of saving natural resources for future generations;

Fourthly, the strategy of ecological and economic development for implementing the policy of restoring the natural resource potential of the regions and the optimal allocation of rental income from the natural resource extraction.

We defined the basic principles of cooperation for the successful cooperation of enterprises in the nature resource management:

1. *The principle of participativity* shall mean the ability of enterprises to generate the creation of social values for their clients and society as a whole, in cooperation with other enterprises.

2. *The principle of balancing interests of the collaboration alliance participants* in the social, economic and environmental spheres. This principle allows determining the priority interests of each of the participants and ensure the implementation of social compliance of each of them, which raises the level of social responsibility of the entire collaborative alliance in general.

3. *The principle of tolerance to risks* shall mean that each of the participants has certain risks in the provision of socio-ecological and economic responsibility in their activities due to collaborative relations. These risks shall be agreed upon by all the alliance members and taken into account when formulating the anti-crisis policy in the social, economic and environmental protection spheres.

4. *The principle of environmental orientation of the collaborative alliance* shall mean that each of the alliance members, in defining its policy and strategy of development, shall ensure the implementation of the principles of environmental reproduction in order to implement the interests of present and future generations.

5. *The principle of ensuring socio-economic responsibility of collaborative ethics* shall mean compliance with the standards of ethical business conduct, environmental management and thereby provision of the necessary level of social responsibility.

6. *The principle of transparency* in relations of the collaborative alliance participants shall mean that each alliance member shall be responsible for the rational and efficient use of funds as a result of the rental income redistribution from the natural resource extraction.

6. Discussion of results

Despite the positive prospects for creating cooperative alliances at the horizontal level, we identified a variety of factors that could offset positive results from the alliance creation.

The problem is in the fact that the researches for commodity-production enterprises and firms are not always suitable for the enterprises of fuel-producing industry. It is the extracting enterprises of all forms of ownership that form the natural resource rent from the natural resource extraction and transfer this additional income to the state budget through the rent payments. Rent payments are calculated based on the extraction volume, that is, on the income of the enterprise. Thus, the more income is, the more rental income shall be given by the enterprise to the state budget. Therefore, at this time, the owners of the extracting enterprises prefer to leave everything as it is, and not to introduce new organizational forms, especially if it involves additional costs. *If vertical co-operation is related to the social-oriented orientation and distribution of natural resource rent, aimed at social, ecological and economic development of local communities, enterprises and the state as a whole, then the positive results are not so much available and cause doubts from the owners and top managers of extracting enterprises in the case of horizontal cooperation.*

7. Conclusion

The studies have shown that the specifics of the field of environmental management have some features, namely:

Firstly, the extracting enterprises can be either state owned or private. Accordingly, the owner may not be interested in cooperation at any level, or, conversely, having enough resources the owner can react positively to the introduction of a cooperative mechanism for the creation of an innovative product or technology. Many scientists of the world point out the importance of coopetition for the creation of an innovative and the establishment of interaction alliances that demonstrate vertical cooperation or the horizontal form of organization necessary for the emergence of new technical and economic indicators, since they facilitate access to information about new needs and ways of production.

Secondly, the extracting enterprises can compete with each other within a single market, therefore, cooperation with a competitor can scare away because of the loss of new extracting technologies, do not correspond to the transversal relations between the cooperation participants and the need for additional costs for the creation of a scientific and expert group whose members are the representatives of different companies to work within the framework of cooperation. At the same time, the researches of the world's scientists show that the cooperation of competitors in one market does not keep productive and fear to lose technology and benefits always wins. The studies have shown that cooperation with competitors has a positive impact on innovation performance.

Thirdly, taking into account the specifics of nature resource management by the enterprises, namely: some natural resources are exhaustive and the extraction of these resources is controlled by the state; therefore, the cooperation of extracting enterprises is a matter of state security at the horizontal level in one market.

Cooperation of extracting enterprises – competitors in different markets contributes to investment of a foreign capital in the national economy through new technologies, financial resources, etc. On the one hand, it is the positive effects of cooperation, which will contribute to an increased volume of resource extraction, and on the other hand, it provokes not regulated extraction of natural resources, their exhaustion and ecological and economic consequences in the regions where the natural resources are extracted. According to O. Havrylyshyn (2011), investment of a foreign capital into the national economy for resource extraction provokes capturing the country due to the depletion of natural resource potential.

Therefore, the problem consists in the fact that it is necessary to take into account all threats and risks created by the cooperation of extracting enterprises at the horizontal level both on the domestic and external markets.

Fourthly, despite all the threats, all respondents (15 respondents of leading Ukrainian extracting enterprises, including owners and top managers of the companies) indicate the possibility of cooperation of extracting enterprises at the horizontal level, both on the domestic and external markets. But this cooperation shall be clearly regulated in order not to touch the security interests of the country.

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INVESTIGATION OF THE PROSPECT OF USING INDEXING CONVENTIONAL UNITS IN THE NATIONAL ECONOMY

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Abstract

The influence of inflationary and deflationary processes on the determination of the fair value of goods and services is studied in the article. It is established that as a result of changes in the value of money over time, national currencies are not able to effectively perform the function of a measure of value for a long time. In conditions when gold ceased to be the standard of value measurement and became a commodity, in developing countries, the function of the measure of value is taken over by the currencies of countries with more powerful economies. A consequence of this is the strengthening of dollarization and activation of devaluation processes of weaker and open national economies. With the aim of eliminating these problems, determining the fair and real value of goods and services for a long time, it is proposed to introduce a single indexing of a conventional monetary unit. The domestic and foreign experience in implementing the relevant mechanisms has been studied, and recommendations have been made for their testing and implementation within the national economy.

Keywords: inflation, measure of value, fair value, dollarization of the economy, indexing conventional monetary unit.

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1. Introduction

The law of changing the value of money in time asserts that the monetary unit received today is more valuable from a monetary unit in the future. Over time, the value of money is steadily declining by the rate of interest, the value of which depends on the size of borrowing rates in a single market [1]. Also, the monetary unit value is affected by a number of monetary and non-monetary factors – the monetary base, the central bank regulation norms, economic cycles, the general state of development of the national economy, and the like. One manifestation of the concept of changing the value of money over time is inflation, which is manifested by an increase in the general price level and a decrease in the purchasing power of money. As a result, money, being a measure of the value of goods and services, is not a constant unit of such value for a long time. That is, the comparison of the monetary value of one and the same commodity, realized in different time period is incorrect. In connection with the foregoing, in order to determine the objective price of goods and services, to quickly compare their value over different periods of time, there is a need to develop the equivalent of a monetary unit – a fair measure of value protected from inflation and deflation.

For a long time, the standard measure of the value of goods and services was gold. It was at the time of the gold standard that gold did not have its own price, but it was an effective measure of value. With the withdrawal of gold from money circulation, it has become a regular commodity and has its monetary expression [2]. As a result, the volatility of its value has grown substantially. As can be seen from Fig. 1, the value of gold as a commodity even during a short period of time changes significantly, which makes it impossible to use it as an effective measure of value.

In the absence of appropriate alternatives, despite their propensity to depreciate, money combines the functions of a means of payment and a measure of value. In sovereign economies, national currencies are used for this. However, in countries with weak national currencies, whose value for a long time is experiencing significant fluctuations, as an economic measure, economic subjects informally use the more stable currencies of economically developed countries. In Ukraine and CIS countries, such yardstick of value, as a rule, is the US dollar and Euro.

Mass use by legal entities and individuals of these countries to the US dollar as a more effective (in comparison with the national currency) measure of value resulted in the emergence of the euphemism "conventional unit", the value of which corresponds to the official or market rate of the US dollar.

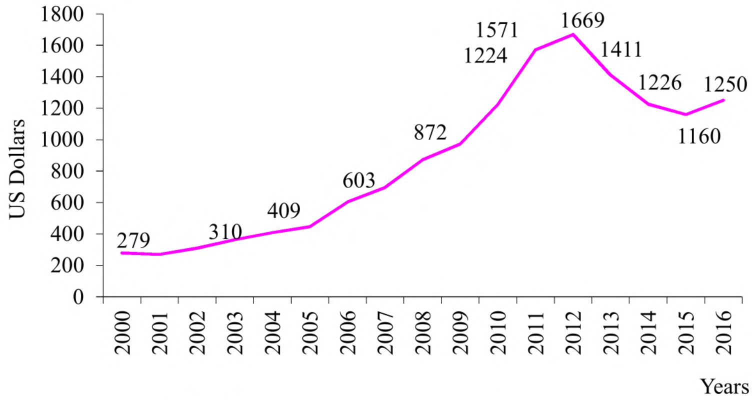

Fig. 1. The price of the Triune ounce of gold during 2000–2016 in US dollars
Source: [3]

The use of the currencies of other countries with more powerful economies in determining the fair value of goods and services within the national economy is a step that is forced, but inefficient, because the law of changing the value of money in time extends to all currencies without exception. Only the rate of their depreciation differs.

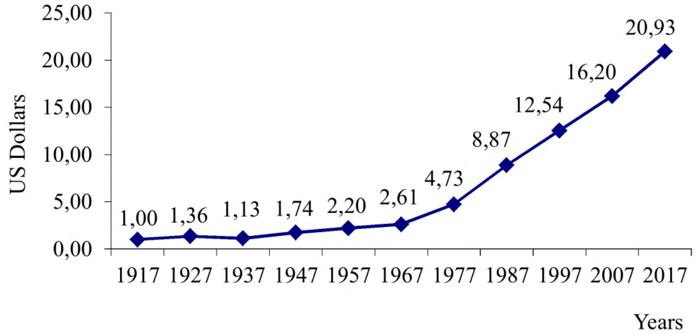

Fig. 2. Chart of purchasing power change of US $ 1 during the years 1917–2017
Source: [4]

So, if take into account the most popular in Ukraine equivalent of the measure of value – the US dollar, then only in the period from 2000 to 2017 the currency indicated lost 42 % of its purchasing power. In 2000, for 100 US dollars, it was possible to purchase approximately as many goods and services as in 2015 by $ 142. Over the past 100 years, the US dollar has lost more than 95 % of its purchasing power. During the period from 1917 to 2017, the official inflation rate was 1990 %, the purchasing power of the US monetary unit declined by more than 20 times. So, 1 US dollar in 1917 is equivalent to 20.93 US dollars in 2017 (Fig. 2).

Taking into account the above, it becomes obvious that the use of the US dollar as a universal equivalent of the cost of goods and services for a long time is inexpedient, and the corresponding practice is erroneous and inefficient.

Thus, the relevance of the search for a monetary equivalent, which most accurately reflects the value of goods and services over a long period of time, is significant.

2. Analysis of recent research and publications

In Ukraine, the problem of finding an effective mechanism for establishing the real value of goods and services over a long period of time has been little explored. Thus, in [2], national currencies are investigated as a measure of value and their propensity to distort fair value as a result of inflationary influence is recognized. The author [5] analyzed various practices of inflation adjustment in Ukraine. The negative impact of inflation on the development and effective functioning of the mortgage housing market is proved in. The same author justified the functioning of the indexing of the monetary unit. Theoretical developments of these scientists formed the basis of the relevant legislative framework and contributed to the acceleration of their respective practical approbation.

More broadly, the development of effective indexing units for the monetary value of goods and services has been studied in the works of Latin American scholars. Thus, [6] investigates the reasons that led to the introduction of the indexing unit UEFO in Chile. The practical experience of Chile on the introduction of the universal mechanism of indexation of the national monetary unit is studied in [7], and in [3] general recommendations are given for leveling the inflationary influence on the definition of the fair price of goods and services.

These works require not only detailed study, but also rethinking and adaptation in accordance with Ukrainian realities.

3. The aim and objectives of research

The aim of the article is studying the prospects of using indexing units in Ukraine as an effective measure of the cost of goods and services for a long time.

To achieve this aim, the following tasks are set:

1. To determine the feasibility of using the US dollar and gold as a fair measure of value in the economies of developing countries.

2. To demonstrate the negative impact of inflationary and deflationary processes on the determination of the fair value of goods and services.

3. To study the positive experience of Chile in implementing the conditional indexing unit UEFO as a reliable monetary equivalent for displaying fair value for a long time.

4. To analyze the relevant Ukrainian experience in the rationalization of inflationary resers vations.

5. To investigate ways to implement the mechanism of indexing a conventional monetary unit in Ukraine.

4. Materials and methods of research

In this article, an attempt will be made to find out the best ways to determine the fair value of goods and services by using universal indexing of conventional units. At the same time, when studying the object of research, methods of stochastic, graphic, retrospective analysis of statistical data and comparisons will be used, on the basis of which relevant proposals and recommendations will be developed

5. Research results

The first attempt to create a universal equivalent of the cost of goods and services, which in the most convenient way would most accurately perform the function of a measure of value and did not lose purchasing power for a long time, was the introduction of a special conventional unit of UEFO (UF – Unidad de Fomento) in Chile. Since 1967, UEFO is a conventional unit of accounting, changing its value depending on the level of inflation in the country.

The use of the UEFO conditional currency in Chile has two important functions. First, it is the expression of the cost of goods and services, the purified influence of the inflationary factor. Secondly, UEFO is an effective reference point for real and not nominal changes in prices and prices in the national economy.

During 1975–2016, the UEFO rate, nominated in pesos, increased 278 times – from 94.7 to 23347 pesos (Fig. 3). Accordingly, the growth rate of UEFO clearly demonstrates the depreciation of the value of the national monetary unit as a result of the cumulative impact of inflationary factors. Thus, the course of the UEFO, being cleared of the influence of inflation, demonstrates the real purchasing power of the national currency.

Originally, UEFO was designed to protect savings from the loss of their purchasing power due to the impact of inflation. The use of UEFO enabled financial institutions not only to protect depositors' savings from a decrease in the purchasing power of the national currency, but also to guarantee the payment of real (and not nominal) profits. This is encouraged private households to make long-term investments of their own savings in various financial instruments nominated in

UEFO, which had a tangible positive effect in the development of the national economy by mobilizing domestic investment potential.

It is the nomination of relevant savings in UEFO, their indexing on the level of inflation for the relevant period, accruals and capitalization of income in this conditional unit played a decisive role in the formation and development of Chile's national funded pension system. Since the involved pension savings are automatically indexed to the inflation rate, the owners of the respective accounts were protected from the loss of their savings in purchasing power, which in turn stimulated the growth of the corresponding deductions. As a result, the assets of accumulative pension funds at the beginning of 2017 exceeded 70 % of Chile's GDP, while pension savings in some years accounted for up to 65 % of the national capital market and provided 60 % of housing finance.

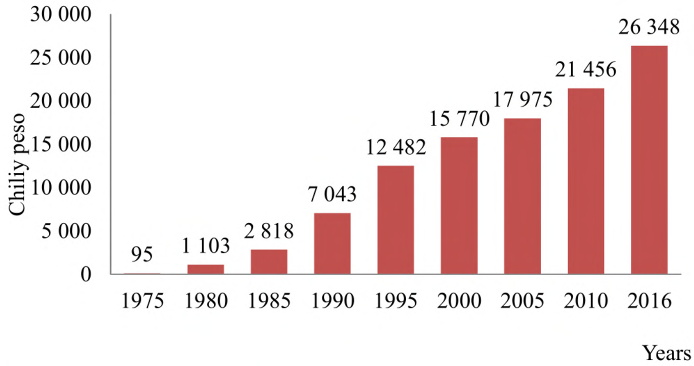

Fig. 3. The cost of the UEFO, denominated in peso during 1975–2016
Source: [6]

The property of the conventional monetary unit UEFO to maintain its purchasing power for a long time contributed to the popularization of this tool in Chile. Gradually, the use of UEFO was extended to all types of bank loans and private investments. Mostly in UEFO, construction costs, real estate and mortgage costs and rent of housing are nominated. Most public finances are also denominated in the UEFO. Thus, this conditional monetary unit is used to determine the maximum taxable income, the base for calculating contributions for social insurance, pension funds and unemployment insurance, and for determining the minimum wage and pension [7].

The practice of Chile showed that the use of the mechanism of a conventional monetary unit indexed for inflation is an effective unit of the value measurement, its use eliminates the need for a constant adjustment of nominal and real prices, makes it possible to obtain a fair value of goods and services at each time, cleared of influence inflation factors. In this sense, UEFO is an effective measure of value, unlike conventional currencies, it always retains its purchasing power.

In addition, the widespread use of indexing a conventional unit as a measure of value in the national economy while preserving the national currency as a means of payment allowed the government of Chile to implement a simple and understandable mechanism for determining the real value of goods and services, taking into account the time factor, effectively and automatically indexing fiscal payments and social benefits, mobilize domestic private investment and stimulate the economic development of the national economy, in parallel reducing its dollarization level.

In Ukraine, too, there is a practice of using mechanisms to compensate for the inflationary impact on the purchasing power of the national currency. Thus, for "correction of the negative impact of inflation on cash, an inflationary corrector is applied" [5]. An inflationary corrector as well as other mechanisms for adjusting the valuation of assets, liabilities and cash collateral are used to index the monetary incomes of citizens, to carry out land valuation, to revalue fixed assets, to determine the amount of financing of state targeted programs, to determine the post-privatization obligations of investors, to evaluate investment projects, insurance, investment of savings of non-state pension funds and the like.

However, the use of an inflationary corrector, like other mechanisms for leveling inflationary processes in Ukraine, has a fragmentary nature and is applied locally. In addition, their effective use is complicated by the deforming influence of a number of regulatory and legal acts, corrective coefficients are introduced that distort fair indexation in certain areas (land valuation, depreciation calculation, book value of assets, cash security, pension payments, etc.). This use of correction factors in the implementation of indexation leads to an even greater complication in determining the fair value of goods and services. Accordingly, the model of fragmentary application of indexation of inflationary influence is complicated by administrative regulation in the conditions of functioning of a market economy that is unviable in Ukraine. Wide use in informal calculations and in determining the fair value of goods and services to the US dollar as a measure of value is a confirmation. Therefore, in order to implement an effective mechanism to compensate for the inflationary impact on socio-economic processes and to determine the fair value of goods and services over a long period, it is advisable in Ukraine to carefully study the experience of Chile in implementing the UEFO settlement unit and the prospects for its implementation in Ukraine.

Now, domestic legislation provides for the application of an inflationary clause by applying indexing conditional monetary units in determining debt under a mortgage debt. Thus, in accordance with the Law of Ukraine "On Mortgage Lending, Operations with Consolidated Mortgage Debt and Mortgage Certificates," an inflationary clause in order to maintain the real value of monetary claims and lender's income and to account for the obligations of debtors under contracts for a mortgage debt can use indexing conditional units [8]. The Law of Ukraine "On Financial and Credit Mechanisms and Property Management in the Construction of Housing and Real Estate Operations" also provides for the use of indexing conditional units for indexation of borrower's payments on a mortgage [9].

In Ukraine, practical experience in realizing the mechanism of functioning of indexing a unit of account similar to the Chilean UEFO is implemented by the Arcada bank in the implementation of active-passive operations by using indexing a conventional OdIn.

So, in accordance with the Law of Ukraine "On conducting an experiment in housing construction on the basis of the holding company" Kyivmiskbud ", in order to protect the funds of depositors of the authorized bank, the accounting of the relevant attracted resources was carried out in conditional indexing OdIn. OdIn is defined by the authorized bank and determines on the basis of its own methodology, taking into account the inflation index, the price index of producers of industrial products, the price index for construction and installation works and a friend their factors at the discretion of the bank, which affect the determination of the value of the mortgage obligation [10].

After the entry of the Law of Ukraine into force, OdIn rate is calculated according to the following formula:

$$K_i^k = K_i^n \cdot I_i / 100,$$

where K_i^k – the OdIn rate at the end of the i-th calculation period; K_i^n – the OdIn rate at the begining of the i-th accounting period; I_i – inflation index according to Goskomstat data in the month preceding the accounting period.

Thus, the OdIn rate in the national currency accurately reflected the inflation index, therefore, the assets and liabilities of the bank nominated in OdIn allowed to preserve the real (and not nominal) value of both attracted deposits and issued loans. In this aspect, OdIn was an analogue of the Chilean UEFO, but on a much smaller scale.

Providing real income and protecting depositors' savings from inflation by taking into account monetary obligations in indexing conventional units allowed the authorized bank to increase raising funds on a long-term basis. The increase in the receipt of "long" money depositors, in turn, provided an opportunity to significantly increase the duration of mortgage lending. Thus, the practical approbation of the mechanism of indexing a conventional unit, which protects depositors' funds from devaluation of the national currency, has allowed increasing the attraction of the population's funds and forming a long-term credit resource.

According to the honored economist of Ukraine, Chairman of the Board of the "Arcada" bank K. Palyvoda "... fixing of the interest rate when carrying out active-passive operations by a commercial bank and directly applying a floating interest rate effective in a stable low inflation situation. If the inflation rate changes unpredictably and the amplitude of these changes can exceed 5 % per annum, then the application of the floating interest rate mechanism becomes very difficult, and banks that use fixed interest rates start to incur losses". Therefore, in order to minimize interest risk when performing active/passive operations in conditions of sharp inflationary fluctuations, it is advisable for banks to abandon the use of fixed interest rates in favor of using indexing conditional units of account. This will allow them to hedge interest risks and synchronize the timing of incoming and outgoing cash flows.

For example, "Arcada" bank, having formed a long-term credit resource, nominated in OdIn, was able to provide mortgage loans, also nominated in one, which significantly increased the duration of mortgage lending – up to 30 years, while avoiding the risk of interest rate changes and inconsistencies in value assets and liabilities by maturity. At the same time, long-term liabilities of borrowers nominated in OdIn are divided by the number of planned payments. As a result, the borrower knows the planned amount of payment in one and its current rate, as a result, can independently determine the amount of payment in the hryvnia. And although in the national currency the repayment of obligations is uneven, the repayment of the real value of the debt occurs in equal parts.

Practical approbation of the indexing of the conventional unit OdIn demonstrated a number of advantages for the bank and its clients. These include:

– automatic indexation of deposits and loans;
– receipt by investors of real and not nominal interest income on the placed capital;
– synchronization of cash flows;
– minimization of interest rate risk when the bank performs active-passive operations;
– creation of conditions for the formation of long-term credit resources;
– consistency of active-passive transactions in terms of time and cost;
– systemic reduction of operational risks, improvement of liquidity and financial stability of the credit institution.

Also, the practical application of indexing conventional units in long-term lending has revealed a number of problems in comparison with the usual lending in the national currency. So, with an increase in inflation, the lender faces risks of untimely administration of payments. They are caused by an unpredictable increase in borrowers' liabilities denominated in indexing conventional units as a result of the indexation. The growth of inflation causes a proportional increase in borrowers' expenses for repayment of indexed debts and payment of the corresponding interest, increases the burden on household budgets and may cause arrears.

Now in Ukraine there is no practice of full-value indexation of incomes of citizens in accordance with the inflation level. Accordingly, the growth of borrowers' expenses on received loans, denominated in indexing conventional units and indexed for inflation, not supported by the corresponding indexation of their incomes and increases the share of total household expenditures on servicing credit debt. A significant increase in the rate of inflation can cause a critical increase in the credit debt of individual households, in which their incomes cover the corresponding expenses for servicing liabilities denominated in conventional monetary units. This negatively affects the quality of the loan portfolio and increases the credit risk of the bank.

The growing risk of overdue debt on indexed assets threatens timely and full implementation of the bank's obligations to index the corresponding liabilities, thereby negatively affecting the financial stability of the credit institution. Accordingly, when using indexing conditional units of account, there is a need for additional balancing of active-passive transactions. So, in 2015, in order to avoid the need to index the full extent of borrowers' liabilities to the inflation rate, which reached 43 % in relation to the previous year, a decision was made to introduce a limit value for the consumer price index when calculating the OdIn rate. Thus, the administrative decision limited the maximum allowable value of OdIn rate, which led to its lagging behind the actual rate of inflation during 2015–2016 (Fig. 4). This made it possible to reduce the risk of non-payments for loans, nominated in OdIn, to limit the costs of servicing liabilities and to predict the corresponding costs for their servicing.

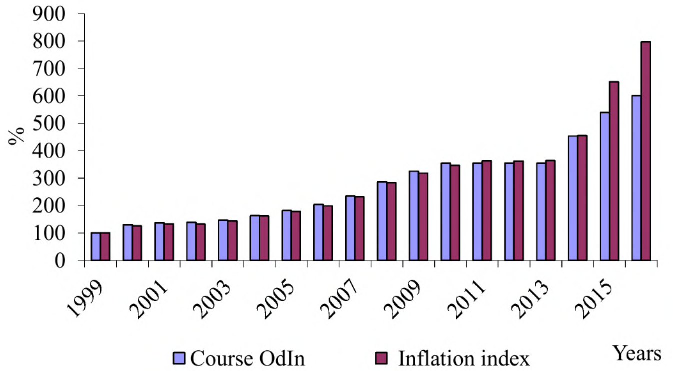

Fig. 4. The growth rate of the OdIn rate and the inflation index in Ukraine during 1999–2016

Since 1999, practical approbation of the indexing of the OdIn conventional unit has demonstrated the viability of this mechanism and its feasibility in the formation of a long-term resource base of financial institutions. At the same time, it is found that the use of indexing conventional units only in the sphere of financial and credit operations leads to an increase in the borrowers' expenses for servicing the corresponding credit debt and increases the credit risks of lenders.

Now, the broader use of indexing conventional units in the national economy is provided for by current legislation. So, according to the Law of Ukraine "On Mortgage Lending, Operations with Consolidated Mortgage Debt and Mortgage Certificates," an inflation warning with the help of indexing conventional units can only be used for mortgage lending with a view to accounting for liabilities. In addition, the rules for establishing the value of indexing conditional monetary units and, accordingly, the methods of indexing credit obligations of debtors are determined separately by each lender [8]. The right of each lender to independently establish the conditions for indexation of credit obligations not only complicates the perception of the instrument of indexing conventional units by consumers, but can also become a source of potential abuse and manipulation of the conditions for indexing assets on the part of the lender, contributes to the production of various types and types of indexing conditional monetary units. This rule of law does not promote the unification and full-fledged indexation of credit obligations, leading to only a local application of the instrument of indexing conventional units.

Fragmentary use of indexing conventional units only in the sphere of financial and credit relations, apart from certain positive results, is not able to promote their use as an effective equivalent of a measure of value, a mechanism for fair indexation of incomes and expenditures of both individuals and legal entities, and the consolidated state budget.

Accordingly, in order to unify the implementation of the instrument of indexing conventional units, it is necessary to abandon the practice of unauthorized setting by each individual lender of their own methods and types of indexing conditional units of accounting, to legislatively fix the order of formation of such unit value on the basis of inflation index for the previous period, and indexing credit debt by accounting of respective obligations based on the value of a single conventional monetary unit. The next step in popularization of indexing conventional units is the spread of their use beyond the banking system, as a full measure of the cost of goods and services, which requires the development and adoption of appropriate legislation.

Chile's experience demonstrates a positive correlation between the growth of the potential use of conditional indexing units and the increase in the scope of its application in the national economy. Thus, the practice of maximum use of UEFO in the sectors of the national economy not only helped create an effective mechanism for determining the fair measure of the cost of goods and services for a long time, but also discouraged the use of the US dollar as a universal measure of value and means of payment area.

Accordingly, in Ukraine, in order to unify the process of indexing inflation, determining the fair value of goods and services over a long period of time, ousting other countries' currencies, increasing the use of the hryvnia as a means of payment, and finally, local use of the inflationary corrector and other disparate and uncoordinated mechanisms of inflationary revaluation of assets and liabilities. But, it is advisable to focus on the introduction of a single conditional indexing of the monetary unit, similar to the Chilean UEFO, and legislatively fix the procedure for indexing exclusively through the mechanism of this conditional monetary unit. At the same time it will be useful to take into account the practical testing in Ukraine by indexing the OdIn. The implementation of these steps will allow to neutralize the negative impact of inflation on the objective determination of the cost of goods and services within the national economy, to promote the establishment of fair prices for a long period of time.

6. Discussion of research results

In this study, the problem of distortion of the real value of goods and services as a result of inflationary impact is analyzed. The recommendations on the introduction of a universal system of automatic indexation of relevant values by introducing a mechanism for indexing conventional monetary units are given. The introduction of this mechanism will make it possible to use indexing conditional monetary units as a fair measure of value, which will positively affect the development of the national economy and its agents, primarily in such areas of the national economy as construction, mortgage lending, finance, administration of taxes and fees and social payments.

7. Conclusions

As a result of the researches it is established:

1. The use of the US dollar in determining the fair value of goods and services in developing countries is false given its propensity for depreciation due to inflation.

2. It is proved that gold in modern conditions can't perform the function of a measure of value, because as a result of the abolition of the policy of the gold standard, it became a commodity and its value is fairly volatile.

3. It is recognized the relevance of the search for new mechanisms for determining fair value by introducing new mechanisms for indexing inflationary and deflationary processes.

4. It is established that the most optimal mechanism for determining fair value is the use of broad indexation of the value of goods and services using indexing conditional monetary units similar to the Chilean UEFO or Ukrainian one.

5. Practical recommendations for the implementation of the mechanism of indexing a mon-etary unit in Ukraine are developed.

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FUNCTION, SEMANTICS AND PRAGMATICS OF EVALUATIVE ADJECTIVES IN FICTIONAL DISCOURSE

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Abstract

We constantly assess other people, objects, phenomena, and events around us. The process of evaluation is based on a set of values pertaining to an individual and on certain norms and traditions of the society. The use of certain language means expressing people's attitudes may shed light on such complex cognitive process. Evaluative adjectives are frequently used and form an integral part of the world view in conceptual and language aspects.

The present paper provides the results of syntactic, semantic, functional and pragmatic peculiarities of evaluative adjectives in fiction.

Keywords: adjectival phrase, boosters, evaluation, evaluative adjectives, fictional discourse, functional semantics, hedges, value.

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1. Introduction

The main function of human language is communication by means of coding and decoding information. The information is processed and transformed into certain mental representation in human consciousness and that process is constantly accompanied by language development.

Being reflected on language level, values are verbalized with the help of special evaluative words. The latter are directly connected to the speaker and show his/her attitude towards reality. When it comes to evaluation and axiology, such part of speech as adjectives traditionally comes to the foreground. Adjectives most often express evaluation in language.

2. Analysis of literary data and statement of the problem

While nouns and verbs have been studied broadly and extensively, the adjective class has received less attention. In recent years the number of works published on adjectives has increased, as debate as to the universal nature of the adjective class has become more widespread. Studies in this area concern syntax and semantics of adjectives [1], functioning of adjectives in discourse [2], relations with other lexical categories [3], typology of various adjective classes [4, 5], and attributive adjectives [6].

In English grammar adjectives, as a separate word class, are distinguished according to such criteria:

– they can function in attributive position;

– they can function in predicative position;

– they can be premodified by the intensifier very;

– they can accept comparison, i. e. the comparative and superlative forms, whether inflected or periphrastic;

– they can function as direct object [7].

Most of foreign linguists agree with the aforementioned characteristics of adjectives as a part of speech, however, certain additional features have also been suggested:

– the ability to form adverbs by means of flexionly: e. g. *cheap – cheaply, expensive – expensively, worthy – worthily* [8];

– the possibility to be used as a modifier following a noun: e. g. *I've got a friend keen on fishing* [9];

– possible use in combination with the verbs denoting physical action, thus, forming structures resembling phrasal verbs: e. g. *The thieves broke open the safe* [10].

Despite the variety of approaches to determining the category of adjectives all researchers indicate the expression of quality or feature in combination with nouns. So, in our opinion, the most generalized definition of an adjective is the following: adjective is a part of speech characterized by categorial meaning of feature, grammar category of degrees of comparison and syntactic function of an attribute or a predicative.

Evaluative adjectives, in their turn, have been viewed as a coherent syntactic and semantic class for more than forty years [11, 12]. This group of adjectives has gained recent attention, however, from the standpoint of syntax aiming at extending analyses of argument alignment in the verbal domain to the adjectival domain [13, 14]. In semantic studies evaluative adjectives are examined to interpret 'vague' predicates [15]. However, evaluative adjectives still require complex investigation including lexicological, syntactic, semantic and pragmatic aspects of their use. Hence, the topicality of our research is stipulated by the necessity to perform a systematic study of evaluative adjectival phrases in various types of discourse.

3. Aim and tasks of research

The **objective** of the given paper is to determine system and idiolect features of evaluative adjectival phrases in fictional discourse. The **subject** of our research underlies in structural, syntactic, lexical and functional characteristics of evaluative adjectival phrases. The **object** encompasses system and idiolect characteristics of evaluative adjectives and adjectival phrases in fiction.

For the achievement of the set aim it is necessary to accomplish such **tasks**:

– to determine the functions performed by evaluative adjectives in syntax and represent their basic phrase models;

– to analyze the distribution of evaluative adjectives, study their relations with denoted nouns, and model their functional semantic microfield;

– to establish the influence of hedging and boosting devices on evaluative meaning in fictional discourse.

4. Materials and methods

The problem of different level syntactic units is of current importance, because it can contribute to better understanding of utterance and text structure peculiarities. In spite of considerable amount of fundamental studies the issue of defining a phrase in modern linguistics is still controversial and debated.

G. D. Morley states that whilst there is frequently an identity between the class of phrase and the class of word group, there is, of course, no automatic correspondence between them. Consequently, a given class of phrase might be able to be realized by different classes of word group. Thus, whereas the *revised formula* in *The revised formula looks interesting* is straightforwardly a nominal phrase realized by a noun group, the noun group *last week* in *I saw her last week* operates as an adverbial phrase. The preposition group *in the garden* in *Ruth is in the garden* functions as an adverbial phrase, but the preposition *group in good health* in *Ruth seems in good health* serves as an adjectival phrase, and the preposition group *to Mary* in *Ruth gave the map to Mary* is a nominal phrase [16].

A phrase is regarded as a unit which functions syntactically like a particular word class. This is irrespective of the degree of structural complexity of the phrase or of the class of word realizing its head. To reinforce the contrast the difference then between the formal criteria which determine the class of word group and the functional criteria which determine classes of phrase, phrase classes are labeled with their relevant derivative adjectival label. Thus, we refer to a nominal phrase (not a noun phrase) as one which has a (syntactically) nominal function, in other words which functions syntactically like a noun or determiner-pronoun. Similarly, an adjectival phrase (not adjective phrase) has a (syntactically) adjectival function [16].

Adjectival phrases have an adjectival function in representing in the syntax a feature or quality which is attributed to a (typically) preceding nominal phrase, e. g. *The concert was very interesting.* They thus answer questions of the type "*What is X like?*". As with other phrases, they may be realized by single words or larger word groups, e. g. *It was small/ quite funny/ extremely* *odd / pleasant enough/ very quick indeed/ cleaner than your room/ far bigger than I imagined* [16]. B. O'Dwyer also adds that the head adjective of the phrase is generally the last word, which may only be one in a series of qualifying words. Although these qualifying words usually precede the head adjective, they may also occur after it [17].

Adjectival phrases are not infrequently also realized by preposition groups, e. g. Jill is in good shape. That watch must be of considerable value. The adjectival phrases in these examples are all predicative, all separated from the subject which they describe. However, an adjectival grouping acting as attributive modifier with a nominal phrase, e. g. *a very thorny problem*, would be treated not as an adjectival phrase but as an adjective group [16].

There may be very little difference between a nominal phrase and an adjectival phrase in structures where adjectives occur before the word they qualify. Most nominal phrases consist of a head noun plus one or more adjectives, or indeed an adjectival phrase itself [17].

According to P. Strazny, adjectival phrases modifying nominal heads fall into the descriptive and classifying subtypes: descriptive adjectival phrases focus on a certain property of the noun that functions as a nominal head, as in *the high wall*; classifying adjectival phrases assign a label of type or class to the noun in function of nominal head, as in *the regimental headquarters* [18].

More complex adjective phrases are most commonly found as the complements of verbs such as *be* or *seem,* or following the head in a noun phrase. They generally cannot be used as modifiers preceding the heads of noun phrases (for example, consider **the angry at the committee man* vs. *the angry man* vs. *the man angry at the committee).* Adjective phrases may also take a degree modifier preceding the head, as in the adjective phrase *very angry* or *somewhat fond of Mary.* More complex degree modifications are possible, as in *far too heavy* and *much more desperate.* Finally, certain constructs have degree modifiers that involve their own complement forms, as in *too stupid to come in out of the rain, so boring that everyone fell asleep,* and *as slow as a dead horse* [19].

In our research we have analyzed the usage of 5 evaluative adjectives possessing a common root *valu(e). They are: invaluable, valuable, valued, valueless and unvaluable.* The material for study consists of 317 text fragments that have been selected from fictional discourse of British National Corpus (15,644,926 words) [20].

5. Experimental procedures and results

5. 1. Syntax

First of all we have focused attention on the syntactic functions of the researched adjectives in sampled sentences. The results may be generalized in the following way: in 59 % of occurrences the evaluative adjectives are used attributively, while in 41 % of examples they are used predicatively. The adjective *valued* only performs the function of an attribute in all the registered illustrations.

(1) The powder he would throw away but the information the poisoner had provided was **invaluable** (BNC:H9C).

(2) The Wolverines' borrowed silks lent them invaluable seconds wherein to close with those guards and sever their throats…(BNC:CJJ).

(3) In spare moments she gave Rachaela boxes of jewellery or coins to sort, **unvaluable** items often to be highly priced (BNC:GUM).

(4) She is **valuable** to them but her value has its limits (BNC:CJX).

(5) On the other hand, he could find he had been selected to unload a **valuable** cargo such as palm kernels (BNC:B3J).

(6) My comments on his work were **valuable** only as an irritating pretext which permitted him to lecture me on Art (BNC:G1A).

(7) Lovely fire was glowing in the grate, and the dark oil-paintings – cherished but **valueless** heirlooms from their father's family – were gaily decorated (BNC:BMU).

(8) The money seems **valueless** to him (BNC:J13).

(9) Silk, jade and spices became **valued** commodities (BNC:CM1).

(10) Shannon studied him closely, curious to see the' old and **valued** friend' for herself (BNC:HA9).

In fictional discourse three basic syntactic models with evaluative adjectives have been determined: (1) Adj+N, (2) V+Adj, and (3) Adv.+Adj. These basic syntactic models may have a few different variants, such as N+Adj (12), Adv+Adj+N (14), Pn+Adj+N (13), V+Pn+Adj (15), Adj+ +Adj+N (16), Adv+Adv+Adj (11), Adj+Adv (17). All these models form the realization of attributive and predicative functions of the adjectives.

(11) My shop is ***considerably more valuable*** than your barrow and it also derives a far larger income (BNC:K8T).

(12) He had a clear, sceptical and analytical ***mind, valuable*** to his boss (BNC:H85).

(13) Now, Miss Gilberd, ***our valued teacher*** of the lower forms, will be in classroom 2B to talk to anybody (BNC:H8Y).

(14) Now he must either spend ***countless valuable minutes*** retrieving the escaped marbles, or he could ignore them … (BNC:ACV).

(15) … the little gadget peeled apples, chipped potatoes, sliced onions and generally ***made itself invaluable*** to the busy housewife (BNC:FPM).

(16) … so you will have ***first-hand invaluable knowledge*** of what it looks like and how efficient it is (BNC:HA5).

(17) He knew his position was dangerous, but considered his life was not ***valuable enough*** to worry about (BNC:FRE).

5. 2 Functional Semantics

The next aspect to consider is functional semantics. The nouns that are qualified by the adjectives under research belong to such semantic domains: Time (18), Person (19), Social Position (20), Real Estate (21), Money (22), Possession (23), Object (24), Art (25), Animal (26), Jewellery (27), Substance (28), Technology (29), Furniture (30), Life (31), Cargo (32), Paper (33), Attire (34), Help (35), Mind (36), Information (37), Experience (38), and Arms (39).

(18) Because of him she had had to waste valuable days sightseeing, all the time aware of him breathing down her neck (BNC:JY8).

(19) … she'll squander herself on a man as truly valueless as Florian Jones, and ignore both his marriage and his other affairs (BNC:H9L).

(20) It was when the friend of the family, Donald Templeton, the trusted and valued doctor who attended both Farr and his wife, came to call … (BNC:ASS).

(21) Purely from a financial perspective, have you any idea how much more valuable the cottage will be when it's known to be one of Piers's creations … (BNC:H8H).

(22) The word was passed around, rapidly, almost secretly, like a small valuable coin (BNC:K8V).

(23) The object is a prized possession of the God-Kings, very valuable. Perhaps his most valuable acquisition, worth than planet's ransom (BNC:G3G).

(24) … the scramble for work was becoming more and more intense as family debts grew and many valued and treasured items found their way into the local pawnshops (BNC:EA5).

(25) The few pictures – mainly landscape watercolours in gilt frames – were conservative, unobtrusive and probably valuable (BNC:CKB).

(26) 'Then,' said Mrs Cornett,' although Tobermory is a valuable cat, he and the gardener's cat must die (BNC:FSK).

(27) Apparently she agreed to marry him and he gave her a very valuable ring (BNC:JY2).

(28) From certain of its volcanos poured rivers of lava rich in transuranic elements including psycurium, invaluable in the crafting of psychic hoods and force swords such as Marine Librarians could use (BNC:CJJ).

(29) In fact, he'd beaten the crap out of two bailiffs and then been caught in possession of several extremely valuable and extremely stolen computers (BNC:HJC).

(30) The wall opposite the sink and the window was covered with an oak dresser, very old and probably valuable, if it had been possible to remove it from the wall without its collapse (BNC:C8T).

(31) I was facing a good chance of losing my valuable reputation as an interplanetary courier. And maybe my even more valuable life (BNC:G3G).

(32) What could a lorry be carrying that its load was so valuable to a thief as to make Hatton's a feasible reward? (BNC:A73).

(33) … you may recall that Downton lost two very valuable contracts with players in tennis and golf (BNC:CS4).

(34) How she would have managed had not Mrs Carson handed down two dresses, both of fine cotton, Ruth didn't know. They were invaluable (BNC:CB5).

(35) I am sure Mr Waring requires your invaluable assistance! (BNC:CK0).

(36) But the Phoenix King had lent Tyrion the services of a unit of White Lions and these bold warriors' knowledge of their homeland was to prove invaluable (BNC:CM1).

(37) Military information is always particularly valuable (BNC:CDA).

(38) Such an invaluable and very rare nursing experience, nowadays. You are very fortunate! (BNC:CK0).

(39) But then Mr Hamilton found the valuable guns missing from Taigh na Tuir, and he reported that … (BNC:CKF).

Certain domains are common to all five adjectives, although there are particular nouns that appear with one of the adjectives. These links are schematically reflected in **Fig. 1**.

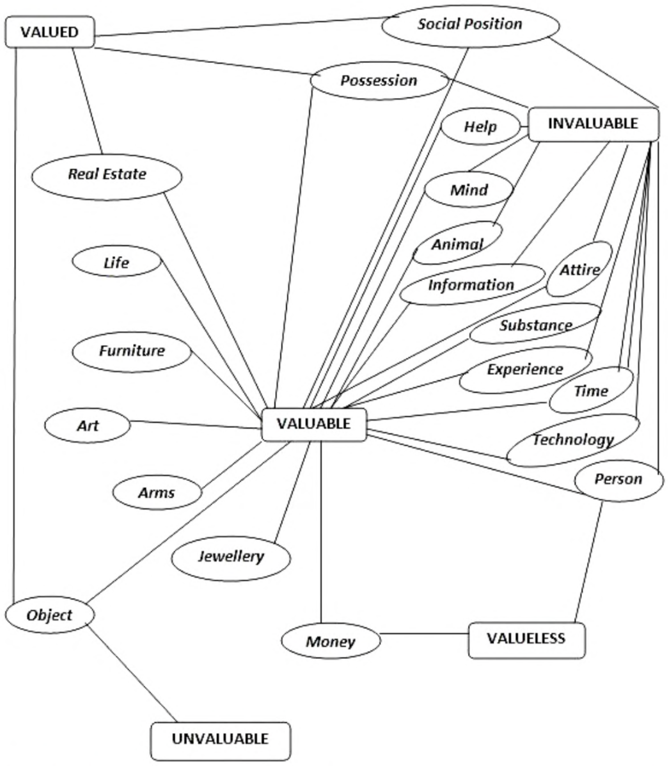

Fig. 1. 'Functional-Semantic Microfield of Adjectives Denoting Value'

The nouns of such semantic domains as Object (*thing, artifact, stuff, item*), Social Position (*colleague, guest, agent, player, member, prisoner, friend, client, kinswoman, doctor, councilor, assistant*), Possession (*property, asset, acquisition, commodity*), Person (*man, person, she, he, I*) are described by most of the evaluative adjectives. Thus, these categories form the nucleus of functional semantic microfield of value.

The categories linked with two adjectives form the so-called 'near' periphery: Real Estate (*shop, palace, cottage, land, acres*), Mind (*knowledge, expertise, insight*), Animal (*breed, horse, cat, sheepdog*, *beast*), Substance (*psycurium, catalyst, phetam, drugs*), Time (*seconds, minutes, years, days*), Technology (*computer, photographs, disc, lever, kiln*), Attire (*dress, wig, mask, shoes*), Help (*assistance, co-operation, aid, contribution, service*). While such categories as Jewellery (*ring, diamond, beads*), Furniture (*oak dresser, furniture*), Arms (*gun, sword*) or Art (*master-*

piece, painting, watercolors, artworks, art-forms), described only by the adjective *valuable*, form 'distant' peripheral zone of the functional semantic microfield of value.

5. 3. Pragmatics

From pragmatic perspective, the distinctive characteristic of the analyzed text fragments is a frequent use of hedges and boosters. According to Hyland, *boosters* (e. g. *definitely…*, *I am sure that…*, *we firmly believe…*) create an impression of certainty, conviction and assurance, and they can be used to instill trust and confidence in academic readers. *Hedges* (e. g. *it would appear that…*, *there is a good reason to believe that…, may be possible…*), on the other hand, are used to withhold the writer's commitment in order to protect him or her from too strong assertions, which may later prove to have been made in error [21]. Regarding hedges and boosters, linguistic literature on these elements often considers the two concepts as closely related, sometimes even inseparable from each other [22]. In our corpus we have revealed 151 text fragment containing boosters or hedges. This makes almost half of all the material. Such extensive usage of hedges can be explained by several factors. Firstly, evaluation always contains certain amount of subjectivity, and certain objects that are valuable for one person, may be of no value for another person. Thus, hedges and boosters function as tools to express the subjective evaluative attitude. Secondly, it should be emphasized that text samples belong to fictional discourse distinguished by author's worldview, system of values and attitudes.

According to our results, the number of boosters exceeds the number of hedges almost three times, showing the tendency to stress the value of important phenomena, rather than diminish it. The most frequently used devices for intensifying include adverbs: *very, so, how, most, truly, more, really, such, particularly.* Hedges are presented half by verbs (*might, prove, would, may, will, think, could*) and half by adverbs (*perhaps, probably, quite, enough, likely, possibly*) (**Table 1**).

Table 1

Hedging and Boosting in Fictional Discourse

	Hedges
40	Such detail *might* prove invaluable to French Intelligence at any debrief after my release (BNC:CEC).
41	It *would* have been invaluable to know what it was they really wanted from their association with the Ping Tiao (BNC:G04)
42	… he wrote, wasting a whole life when something useful might have been salvaged, something valuable *perhaps* … (BNC:A08)
43	Nevertheless, Theodora knew she had skills which *could* be valuable there (BNC:HA2).
44	You say your life is too precious to give it up for any country and yet it's not valuable *enough* for you to pay me two hundred pounds not to shoot you (BNC:FRJ).
45	The guns were sold. There were some that were *quite* valuable, a Churchill, I think, and a Boss … (BNC:CKF)
	Boosters
46	'So it *must* be valuable?' (BNC:HGD)
47	And, as we know only too well, every *really* valuable commodity falls, sooner or later, into the hands of some unscrupulous individual … (BNC:HWN)
48	It is *certainly* valuable and I want it for myself (BNC:HGD).
49	Good sheepdogs are *always* valuable … (BNC:B0B)
50	To the Ardakkeans, every tiny drop of phetam *immeasurably, heart-breakingly* valuable (BNC:G3G).
51	Loretta looked around curiously, taking in the shelves of books, the beautiful -- and *obviously* valuable -- antique furniture … (BNC:HTR)

Consequently, it can be presumed that such techniques as hedging and boosting provoke semantic vagueness of a text. They may cause shifts in semantic meaning, thus, reflecting pragmatic direction of the author, peculiarities of his/her view of value relations.

5. Discussion

Detailed study of evaluative adjectives *valuable, valued, valueless, invaluable and unvaluable* in fictional discourse provided the opportunity to establish certain language peculiarities of the whole category of value. The findings contribute to the study of English language world view and the hierarchy of values of English-speaking society. It would be effective to proceed with the research of other evaluative adjectives and adjectival phrases in different types of discourse (academic, newspaper, etc.).

6. Conclusions

Thus, in the process of our research on the basis of BNC we have created a corpus of sampled text fragments containing 5 evaluative adjectives with the common root *valu(e).* Two basic syntactic functions of the adjectives (attributive and predicative) have been defined.

We have determined three most common syntactic models (Adj+N; V+Adj; Adv.+Adj.) and their variants.

The analysis of functional and semantic relations of evaluative adjectives and the notions they denote has enabled us to model their functional semantic microfield. It has been ascertained that the use of different hedges and boosters impacts the meaning of evaluative adjectives, either weakening or strengthening it, or even shifting it to the opposite.

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BOOK DESIGN IN UKRAINE IN THE LATE 20TH CENTURY

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Abstract

In Ukraine, the breakthrough of the 1980s and 1990s was characterized by book design development as a multi-faceted and indicative phenomenon, since at all times the art immediately reacted to any historical changes and reflected the socio-cultural processes. The purpose of this article is to define and compare special artistic features of the book design in Ukraine in the period of 1980s and 1990s. The article considers special aspects of book design development in the territory of modern Ukraine at the close of the 20th century, examines isolated and correlated artistic features of the Ukrainian book editions of the 1980s and 1990s as two qualitatively different periods, and describes the main characteristics of the relevant book products. Moreover, the leading book masters, whose work reflected specifics of this period and became trademarks of the abovementioned age, are determined. Consequently, book design development in Ukraine in the late 20th century looks rather ambiguous from an artistic point of view. The radical structural and political state reorganization in the early 1990s divided its history in two separate stages and influenced all art spheres without exclusion, including the book art. One of the main significant changes in the book design sphere was a transition from classical forms, which depended on the outdated production technologies in the Soviet era, to the electronic design and active computerization of all operations in the sphere of book production. This new environment influenced the worldview of artists and book designers. Put in other words, the mentioned circumstances influenced the restructuring and reformatting of the entire industry, and strengthened the role of a designer as a co-author of a book. This ensured access to new printing standards and contributed to the development of book publishing industry in Ukraine.

Keywords: book design, illustration, artistic image, Soviet era, art commercialization, transformations.

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1. Introduction

In Ukraine, the breakthrough of the 1980s and 1990s was characterized by book design development as a multi-faceted and indicative phenomenon, since at all times the art immediately reacted to any historical changes and reflected the socio-cultural processes. This fact defines the relevancy of this article, as the existing scientific research does not adequately cover the book art tendencies of the abovementioned period, leaving aside many interesting phenomena and key personalities. Therefore, this research needs to be significantly complemented in order to reproduce a comprehensive and consistent history of the book design in Ukraine. The artists and designers respond to the time challenge by looking for the new visualize forms in their ideas, mastering new art means and technical tools.

Therefore, the object of this research is the development of book design on the territory of Ukraine in the late 20th century. The subject is the corresponding book design.

2. Analysis of literary data and statement of the problem

The researches were interested in various issues related to the book art to some extent. The results of their research have become a scientific basis for the current article. Theoretical principles of composition and structure of a book helped to define and systematize artistic features of a publication as a whole [1, 2]. It is worth to separate an idea about the fact that most separate elements of a book is finished, integral art phenomena, integral art sections with independent historic development, only partially connected with the art book development [3]. We completely agree with this statement, because it has concrete examples. Especially, a print that occupies a leading position in a book "serves" different genres of graphics; bookplate art was separated as a special branch of graphics almost in the very beginning of a book sign in XVI century, that is at that closely connected to a book by its definition and function.

The analysis of co-existence of the notions Artist and Book determination of an illustrator's role in creation of an edition turned out to be interesting [4].But from our point of view, it is groundlessly to separate an artist's main role in this process, because the pre-print preparation of book products consists of the great complex of actions, named "design" that is essentially wider than just art decoration. For example, breadboarding or make-up is able to improve or worsen the most quality work of an artist.

The modern research of the current article was based on the art explorations. Works of authority specialists add an image of the development of Ukrainian imitative art and form theoretical principles of new scientific aspects of this branch that has a great importance for our research [5]. Especially, the problem of national identification of Ukrainian fine arts [6] is essentially reflected also on book design, analyzed in this article.

On the basis of the studied visual and theoretical material, it can be suggested that the main feature of the analyzed period was its dynamic transformation (i. e., flexibility of the art concept of publishing houses and book masters in accordance with the period) under external influences. After all, "The art of every century, and now of every decade, focuses on and reproduces the time, space and mental state of the society in which it was born" [7]. The researcher correctly notices that the works of artists clearly depict the aspirations, phobias, hopes or hopelessness, suffering, the search for salvation of both authors and peoples.

The author of the current article has investigated how the abovementioned statement was reproduced in the field of book art. For this purpose, it is convenient to divide the analyzed period in two decades in order to compare the corresponding art features of separate time segments in the sphere of book design.

3. Aim and tasks of research

The purpose of this article is to define and compare special artistic features of the book design in Ukraine in the period of 1980s and 1990s.

The following tasks were set for attaining this aim:

1) to consider special aspects of book design development in the territory of modern Ukraine at the close of the 20th century;

2) to define book masters, whose work reflected specifics of this period and became trademarks of the abovementioned age;

3) to distinguish and to confront artistic features of the Ukrainian book editions of the 1980s and 1990s as two qualitatively different periods.

4. Materials and methods

In general, the book is a synthetic product, which combines different "composite systems" that interact in a complex way (verbal, constructive, figural, sign-oriented, ornamental) [8] to gain one purpose and, therefore, requires the same complex analysis. So, it is obvious that the analysis of the indicated period involves consideration of book design in the socio-cultural context as a complex process related to book design. It should be noted that, in the 1980s, the notion of a book design had not yet been popularized in Ukraine. Although, the preconditions and the need for its emergence in the scientific usage were mentioned in the first half of the last century [9, 10]. The research methodology includes an analysis and systematization of corresponding signs, and iconography, chronologic, classification methods and interviewing.

5. Experiment

In relation to creativity and organization, the Ukrainian fine art of the Soviet era and book graphics in particular, developed aside on the world artistic processes. Instead, it was subject to the strict ideological control of the Party functionaries, who determined the themes and judged on the quality of artworks. Despite this situation, many researches characterize the artistic life in Ukraine of 1980s as a period of true prosperity [11–13]. At that time, the development of the recognized Ukrainian art centers, such as Kyiv, Kharkiv, Lviv, Odessa and others, was noticed. These centers were distinguished by their own cultural traditions, artistic individuality, and their specific artistic methods.

The Ukrainian book design of the 1980s was better represented by key works, which were unique bearers of coded figurative content of the period (**Fig. 1**). Among them are *Sadok vyshnevyy kolo khaty* (Beside the cottage cherry-trees are swinging) by T. Shevchenko (1982, Veselka Publishing House: illustrations by O. Ivakhnenko, book layout and ornaments by V. Yurchyshyn), *Tvory* (Works*,* in two volumes) by O. Kobylianska (1982, Dnipro Publishing House: illustrations by V. Yurchyshyn), *Yak Mamay do Kanady yizdyv* (Mamay's journey to Canada) by V. Brovchenko (1984, Radyanskyy Pysmennyk Publishing House: illustrations by A. Vydonyak), *Lisova pisnya* (The song of forest) by Lesya Ukrainka (1989, Veselka Publishing House: illustrations by V. Perevalskyy), *Slovo o polku Ihorevim* (The tale of Igor's campaign, 1989, Radyanskyy Pysmennyk Publishing House: illustrations by V. Lopata).

Fig. 1. *Sadok vyshnevyy kolo khaty* (Beside the cottage cherry-trees are swinging) by T. Shevchenko (1982, Veselka Publishing House: illustrations by O. Ivakhnenko, book layout and ornaments by V. Yurchyshyn)

As it is known, illustrative material intensifies the emotional impression from artistic language and, therefore, requires a special attention [14]. According to a number of art experts [15, 16], the national book illustration of the Soviet era, despite the oppressions, managed to go far beyond the utilitarian function of book design and formed into a sphere of art, where the strict criteria of artistic quality, intellectual creativity and true skills were cultivated. The geniuses of the Ukrainian book graphics, including H. Havrylenko, S. Karaffa-Korbut, H. Yakutovych, I. Ostafiychuk and other well-known artists, created decent conditions for the further development of the book design industry. They became a good example of talent and hard work combination for their young followers, such as S. Yakutovych, I. Vyshynskyy, O. Ivakhnenko, V. Perevalskyy, H. Halynska, M. Kompanets, V. Hordiychuk and others.

Serhiy Yakutovych (1952–2017), whose career started in the 1970s, clearly outlined the state of the Ukrainian-Soviet graphics of those times: "Moscow and Kyiv were in close relationships, there was a constant cultural exchange; against this background, a large powerful school of book graphic art was formed. Its founders were mostly Ukrainian artists, who consciously felt their own value among their fellow artists" [17]. Although, while analyzing the book graphics of the end of the Soviet period, S. Yakutovych noted a poor quality of printing, despite the fact that teachers at the higher educational institutions of arts paid great attention to the technical aspect of typography.

Instead, Valentyn Hordiychuk ironically spoke about the artworks of the Soviet masters, drawing attention to a certain naivete of the majority of works [18]. This fact eloquently testifies about the true goal of an artist and whom he served – the art or government. Nowadays, in the opinion of the artist, such transparency was replaced by rationality, which resulted in commercial orders of artworks, which, however, had not changed the essence of the art.

From a technological view, Kyiv researcher I. Shalinskyy observes the stabilization of revival process and development of the best traditions of the publishing graphics: "All pictorial forms were replicated by means of all varieties of high, deep and flat printing with the use of additional graphic accessories and technologies, without going beyond the limits of fixed stylistic decisions and a certain set of compositional variations" [19].

In addition to the artistic illustrative and decorative book design of high quality in 1980s, it is also important to note its layout arrangement of a high quality that met the relevant requirements of the GOST State Standards, as well as traditional artistic language and noticeable stylistic typology, resulted in popularization of the socialist realism method.

After declaration of the Ukrainian independence on August 24, 1991, a rather painful process of transition from a total control to freedom in artistic world was initiated. This process created both benefits and new problems. A habit to work inside clear boundaries of censorship and stylized forms led to a primitive artistic thinking of many artists. This phenomenon, joined with the art commercialization, led to division of new book editions on the so-called "mass consumer products" and "elite products". Distribution of low quality publications that met simplified aesthetic and polygraphic criteria was a reason of a temporary stagnation of book design development in Ukraine. However, at the same time, it gave a start to a new stage in the publishing industry, which was qualitatively different from the previous one.

With the emergence and development of computer technology in the early 1990s, both quantitative and qualitative correlations between artistic and technological factors of graphic design had changed. In this new environment, almost all design processes, related to graphics, pre-print stages, overlay proofs, expert evaluation and printing, were performed with the help of digital technology and electronic tools. And this fact ensured the visual perfection of editions and, undoubtedly, influenced the artistic design, changing its emotional and figurative system, diversifying the tactile and visual perception of the printed surface, providing the printed patterns with specific features – in short, combining productive functions with "artistic" and "human-made" features [20].

Thus, at the end of the last century, the arsenal of an artist was enriched by useful tools, which resulted in diversification of book art. Now the book illustrations differed by author's techniques, artistic methods and materials. The artists were in search of individuality, originality and were able to achieve it. For example, the highly professional design and illustrations of such books as Pan Kotskyi (1997, designer – K. Lavro), Snihova Koroleva (layout – 1990s, edition – 2000, designer – V. Yerko) of Ukrainian A-BA-BA-GA-LA-MA-GA children's publishing house were repeatedly nominated as the best editions at international book exhibitions.

H. Halynska, professor of the National Academy of Visual Arts and Architecture, notices a significant difference between the students of educational institutions of arts of her generation and the modern creative young people – their students [21]. According to the professor, the future professionally qualified artists today, unlike their predecessors, do not have limits in their self-expression. They have a possibility to carry out many interesting experiments in their search for personal style. This, undoubtedly, positively contributes to their future independent practice. This opinion is proved by the contemporary art exhibitions. In particular, the All-Ukrainian Triennial of Book Graphic Arts in Kyiv, where the artworks demonstrate the boundless imagination and originality of creative ideas of the young generation of the Ukrainian designers [22, 23].

6. Results of research

The modern book masters, when comparing their artwork several decades ago with the present days, noticed a drastic difference of qualitative completeness of the graphic art, where accents on high skill were noticeably shifted. Delicate handwork of a graphical designer, which was previously considered as a standard of perfection, was replaced by a genuine and creative idea of an artist. And the innovative technology was used as a tool for visualization of an author's imagination. Surely, it improved the processes of pre-printing preparation of a publication, but also altered its essence and transformed the art into a production.

The presence of ethno-national motifs in the Ukrainian book after declaration of independence of Ukraine became important and, thus, revealed the diversity and personal distinction of the artistic methods. It can be observed in the works of V. Yurchyshyn, D. Paruta, Y. Stashko, and V. Semeniuk, who were already known among artists, and who actively worked in the period of the abovementioned reforms.

The focus on "ethno" in the book design was formed against the background of the modern cultural movement in our country – the popularization of the national traditions. The preferences of customers, the interest of readers and the positive perception of ethno style in book design in combination gave a powerful impetus to the artists, provided their professionalism and spirituality [24, 25]. Therefore, contemporary book artists have a purpose to strive for and the direction for self-improvement, since they have perfect works of classics of Ukrainian traditional book graphics as a model (**Fig. 2**).

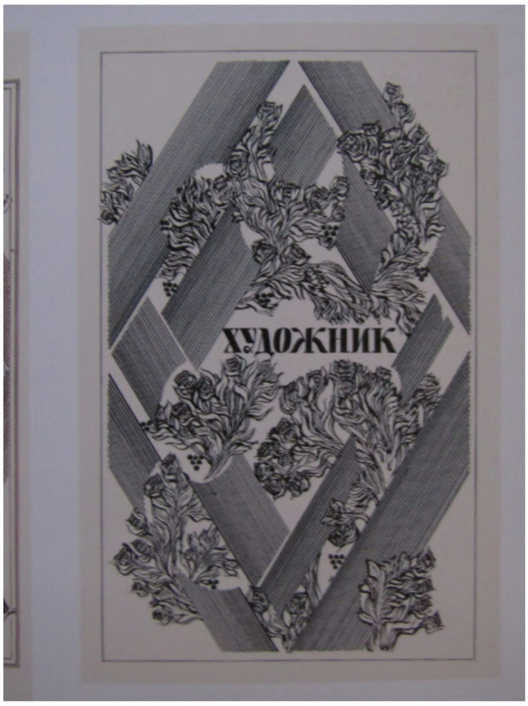

Fig. 2. Half-title to story *Khudozhnyk* (Artist) by T. Shevchenko (1984, Veselka Publishing House: book layout and ornaments by V. Yurchyshyn). Artistic technique – paper, India ink, feather

Therefore, artistic and figural expression of a design solution and all its elements (such as font, decoration, illustrations, text, layout) gradually took a prominent place in the analysis of book editions of the 1990s. Obviously, it resulted from an introduction of new electronic tools and innovative image processing technologies into the book publishing sphere. Unlike the previous years, when the illustration was in harmony with other components of a book ensemble and retained its own artistic self-sufficiency, in this period, the illustration of a literary work acquired a different meaning – rather decorative and tied to the general figurative solution of a publication.

7. Discussion

The theme of book design development in Ukraine at the end of XX century in its pure sense was not interesting for any researcher. That is why this article has an important value for specialists-practicians of book production field, teachers of special disciplines in book design and also as a subsidiary material for lecture courses and also for authors of other educational literature. Alongside the review format of the work doesn't give a possibility to present stages of transformation of an artistic image of Ukrainian book more detail and to analyze creative methods of concrete masters. These questions were partially elucidated in our previous publications, partially are elaborating now.

The research is realized within a thesis and provides a further elaboration of the scientific problem in the context of modernity and direct introduction at compiling the history of Ukrainian art (Ukrainian graphics), history of design and so on.

8. Conclusions

1. Consequently, book design development in Ukraine in the late 20th century looks rather ambiguous from an artistic point of view. The radical structural and political state reorganization in the early 1990s divided its history in two separate stages and influenced all art spheres without exclusion, including the book art. Put in other words, the mentioned circumstances influenced the restructuring and reformatting of the entire industry, and strengthened the role of a designer as a co-author of a book. This ensured access to new printing standards and contributed to the development of book publishing industry in Ukraine.

2. Personal communication with the book masters S. Yakutovych, H. Halynska, V. Hordiychuk, V. Yerko, K. Lavro, A. Budnyk, and V. Semenyuk gave insight into their artistic methods and moods, which influenced an artistic image of Ukrainian book of the last two decades of the 20th century.

3. The product of modern Ukrainian book industry was created in the result of the complex interconnection of various factors, both artistic and socio-cultural. One of the main significant changes in the book design sphere was a transition from classical forms, which depended on the outdated production technologies in the Soviet era, to the electronic design and active computerization of all operations in the sphere of book production. Herewith, a transformation of the industrial society into the information society took place and led to the globalization. This new environment influenced the worldview of artists and book designers. Thus, main different artistic features of Ukrainian book of 1990-s compared with the previous decade is, first of all, freedom in choice of a design conception, wider palette of used artistic technologies, co-existence of high-artistic and primitive design-projects in the same space, tendency to the national self-consciousness expression.

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