

# MANAGING THE EXPORT POTENTIAL OF UKRAINIAN ENTERPRISES IN THE CONTEXT OF ENTERING THE EUROPEAN MARKET

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## **Abstract**

This article investigates the economic activity of Ukrainian enterprises which have decided to redirect their export potential towards the European market due to the current geopolitical situation. Empirical statistics from 2005-2014 were analysed in order to find out both the most promising and appropriate products which Ukrainian enterprises can present to Europe and to the Czech Republic, and possible areas for further cooperation. Based on the results of the statistical analysis, five economic spheres of cooperation were identified: agriculture, the food industry, machine manufacture, the metallurgical industry and innovative activities.

## **Key words**

Management, export potential, Ukrainian enterprises, the European market.

## **Introduction, theoretical basis and hypotheses**

The modern processes of the globalization, integration and internationalization of the world economy have led to increased competition in world markets, as well as in the domestic market in Ukraine. This problem is particularly acute for Ukrainian enterprises, whose developmental level significantly influences the state of the Ukraine's economy as a whole. This means that Ukrainian enterprises have a key role in the promotion of a product's competitiveness in both domestic and foreign markets [6].

The problems of increasing the international competitiveness of Ukrainian enterprises in the current global business environment are directly related to the state of its export potential. The issue of export potential expansion is one of many urgent matters for Ukrainian enterprises which carry out foreign economic activity in order to be able to be competitive. The realization of their export potential allows them to become integrated into global value chains and to achieve economic goals such as technical modernization, market expansion, increased productivity and profit-making [3].

The theoretical and applied aspects of the formation and development of export potential are highlighted in scientific works by national and international scientists including Alexandrova [1], Komárková [9], Kubičková [11], Kuzmin [13], Kirichenko [8], Pidubna [20; 21], Pirožek [22], Pyrec [23], Skornyakova [25], Sotnikov [26], Starzyczna [27] and others. A variety of theoretical models and approaches are offered to clarify the nature, characteristics and structural features of the formation of export potential for enterprises and countries, as well as the interrelation between export potential and the level of competitiveness. However, there is no universally acknowledged definition of export potential or its method of evaluation.

According to Kuzmin, export potential characterizes an enterprise's capabilities, which can occur in a certain area and particular time, within specific circumstances of the external business environment [13].

Begma and Mazurov have considered export potential to be part of the overall economic potential which can reproduce its competitive advantages in the international market, or the benefits that the national economy can create and realize beyond the state borders [2].

On the other hand, Pyrec thinks that export potential is the ability to produce and sell competitive goods in international markets under conditions of constant growth. It is the efficient use of natural resources and scientific and technical potential development, while providing the general economic security by the state [23].

Mikhaylovskiy considers the export potential of territory as a main potential resource to increase the efficiency of foreign economic activity in a region. From his point of view, the export potential of territory should be described as a system of quantitative and high-quality items (units) which characterize a region from the position of its targeting world commodity markets and gaining maximum long-term currency profit yield. In general, the external economic potential is determined by the competitiveness of the goods and services produced in a region in the world market, and the opportunities to use technological, labour, integral, natural and other resources of a territory in the structure of world co-operation networks. The level of a region's external economic potential is characterized by the state of its export network [17].

The Russian authors consider export potential as the potential to export current products or by using its resources to produce other products. For instance, Rogachev considers export potential to be the ability of a national economy, its sectors, industries and enterprises, to be competitive in world market commodities and services based on the use of comparative national advantages, which are based on the achievements of scientific and technical progress [24].

Therefore, there are grounds to examine export potential within the framework of economic potential as there are constituent possibilities of an economic system to be integrated into the worldwide economy. From this point of view, economic potential includes most of the aggregate constituents (Fig. 1).

Economic potential	
Production	Trade
Industrial potential	Potential of internal market
Agricultural potential	Export potential
Potential of other sectors	

**Fig.1: The structure of economic potential**

The problems of realizing export potential featured in the different stages of economic development for many countries in the world. This was particularly the case in countries with a transformation economy, where the realization of their own external economic policy became the most important condition for the economic and political self-determination of the state and its part in the world economic system and rights for equal partnership. Apart from the above mentioned, Ukraine's export potential development related to the features of the transitional period, when during protracted cutbacks in economic activity and a reduction in demand in the internal market meant that exports prevented events developing into a crisis [16].

Summarizing the above-stated approaches, export potential can be considered to be the amount of competitive products which can be created and placed in foreign markets by industry in a specific space-time frame. Such a definition allows the research questions to be set as follows:

- What is the current situation concerning Ukraine's export potential?
- What is the current and future position of Ukrainian producers in the EU market?
- What forms of economic cooperation between Ukrainian enterprises and the EU are most in demand?

These questions will allow a consideration of the reorientation of Ukraine's foreign economic market from East to West, and the consequences for economic trends will be considered below. Such an approach ensures a logical flow from the research provided.

## Methodology

Research into methodological approaches to assess export potential shows that no generally accepted approach exists. As a rule, research into export potential concludes with prognostic developments of the export commodity and particular branch structures, which precedes an analysis of its retrospective dynamics, commodity and geographical structure. From our point of view, it is constrained by the impossibility to quantitatively estimate export potential due to its subjectivity and an absence of direct dependence between potential and the market position of a firm, and also with other countries. A common feature of the proposed approaches is the static nature of the assessment and an emphasis on quantitative methods and techniques of analysis, which can demonstrate the scale of changes and the impact of individual components on the overall export potential of an enterprise. However, there is omitted the qualitative aspect of the export potential of enterprises, which should reflect changes in its structure, export product quality etc. Consequently, in order to provide consistent research results, a set of different methods was used.

To ensure the reliability and validity of the research results, as well as for the achievement of its goals, analysis and synthesis methods were used to study the conceptual and categorical apparatus (the export potential term). Theoretical synthesis and formal logic methods were used to study the realization of export potential by Ukrainian enterprises.

Basic statistical methods were used to analyse the export potential of Ukrainian enterprises from 2007 to 2014 as the Ukraine's foreign economic policy switched to the European market. The statistical base of the analysis is data from the State Statistics Service of Ukraine over the period under research [19]. The processed data were highlighted in tables and graphs, which provide a visualization of the trends and tendencies discovered. Other basic instruments of statistics analysis, such as correlation and regression analysis, were also used and were supported by theoretical conclusions from economic science. For these purposes, STATISTICA and Microsoft Excel software was used.

In order to achieve the outlined goals, the research began with an overview of the current situation concerning the export potential of Ukraine and highlighted Ukrainian companies' recent foreign economic relations. The best option for this case was the consideration of both the commodity composition of Ukraine's foreign trade and its geographical structure, as well as the dynamics in the volume of exports and imports. Moreover, it was essential to build a correlation and regression model on key indicators related to export potential by providing it with economic projections. This determined the key branches of Ukrainian industry which can be presented in the European market.

The next logical step is to discuss the present and future economic condition of Ukrainian producers in the European market from the perspective of selected sectors and a presentation of the comparative data on the reorientation of Ukraine’s foreign economic policy. Using these methods allows for the understanding of Ukrainian companies’ export potential and their prospects for the future.

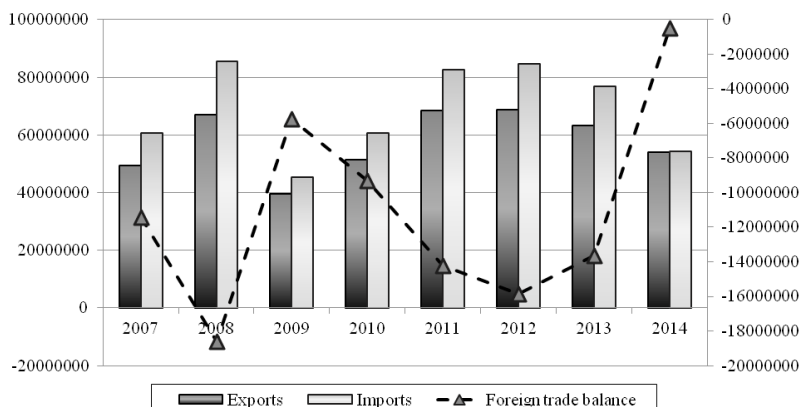
**Results**

*The current situation concerning Ukraine’s export potential*

The current situation concerning Ukraine’s export potential was explored using research into the dynamics of the general volume of Ukraine’s exports in comparison with its imports from 2007 to 2014, as well as with an explanation of the trends which were discovered (Tab.1 and Fig.2).

Year	Exports	Imports	Foreign trade balance	Foreign trade turnover
2007	49248064	60669923	-11421859	109917987
2008	66954430	85535356	-18580927	152489786
2009	39702883	45435559	-5732676	85138443
2010	51430522	60739969	-9309448	112170491
2011	68394196	82608240	-14214044	151002436
2012	68809811	84658060	-15848249	153467871
2013	63312022	76963965	-13651943	140275988
2014	53913548	54381792	-468244	108295341

Tab.1: Key indicators of Ukraine’s export potential from 2007 to 2014 (thousand U.S. dollars)



Author’s note: The statistical series “Foreign trade balance” is oriented to the right axis.

Fig.2: Dynamics of Ukraine’s foreign economic activity from 2007 to 2014 (thousand U.S. dollars)

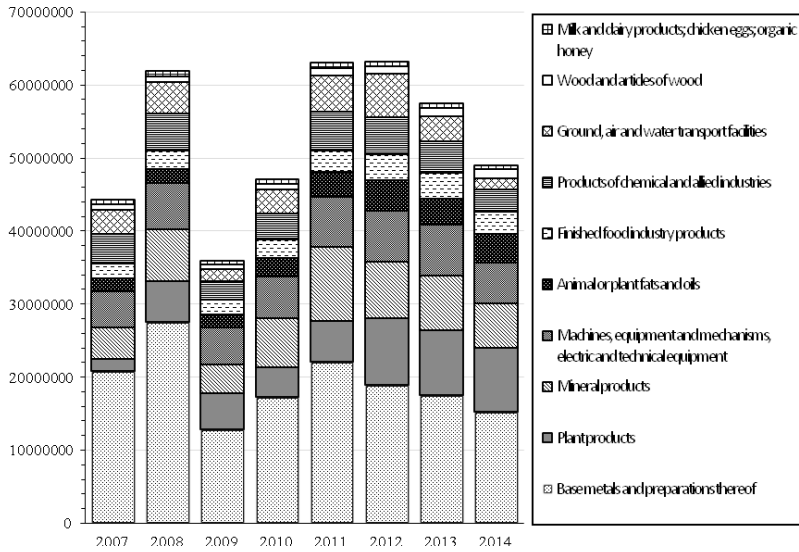
As can be seen in Fig.1, the export potential of Ukrainian enterprises grew from 2007 to 2008 until 2009, when the slump happened due to the first wave of the world financial crisis. From 2010 to 2012 the recession phase was replaced by a growth phase until 2013. From 2013 to 2014 the volume of exports fell again. It is important to notice that the drop in exports in 2014 can be partially explained by the removal of exports from the temporarily occupied territory of the Autonomous Republic of Crimea.

When comparing the volumes of exports and imports, it is obvious that during the whole research period there was a foreign trade deficit, which indicates inefficient management of the export potential of Ukrainian enterprises' foreign economic activities. It is also partly explained by the ineffectiveness of Ukrainian foreign policy. The lowest indicator of the foreign trade deficit was achieved in 2014 due to a fall in imports rather than a growth in exports.

After a general overview of Ukraine's current export potential, it is necessary to consider the commodity composition of Ukraine's foreign trade, which will show Ukrainian enterprises' place in the world markets. Ukrainian exports in 2014 were made up of commodities from the metallurgical, mineral, machine-building and chemical industries, as well as agriculture (Tab.2 and Fig.3).

Commodity groups	2014 (% of general export volume)	2013 (% compared to 2014)	2013-2014 (abs. deviate in %)
Base metals and processing	28.3	86.9	-13.1
Plant products	16.2	98.7	-1.3
Mineral products	11.3	84.9	-15.1
Machines, electrical and technical equipment	10.5	82.9	-17.1
Animal or vegetable fats and oils	7.1	109.3	+9.3
Finished food industry products	5.7	88.5	-11.5
Products from chemical and associated industries	5.7	76.2	-23.8
Ground, air and water transport facilities	2.7	45.0	-55.0
Wood and wood products	2.3	110.4	+10.4
Milk and dairy products; eggs; organic honey	1.1	83.2	-16.8
Other products	9.1	-	-
Total	100.0	85.6	-14.4

Tab.2: Ukrainian exports: the share of basic commodity groups in 2014 compared to 2013



**Fig.3: Commodity patterns of Ukrainian exports from 2007 to 2014 (thousands U.S. dollars)**

Ukraine is mainly an exporter of steel products (28.3%) and other products with low added value. In comparison to 2013, the volumes of almost all commodity groups in 2014 fell. The exceptions were wood and wood products (+10.4%) and animal or vegetable fats and oils (+9.3%). The greatest decline was seen in the products from chemical and associated industries (-23.8%), machines, electrical and technical equipment (-17.1%) and milk and dairy products; eggs; organic honey (-16.8%).

The decline in the export volume of machine-building products, and others, can be explained by the fact that many of the economic ties between Ukrainian and Russian machine-building enterprises were broken.

This, coupled with the fact that Ukraine is barely visible in the markets of high-tech products, make regional and European integration the only path for Ukraine's economic recovery. Moreover, high-tech industries and international cooperation are the main areas of integration in today's global economy [1].

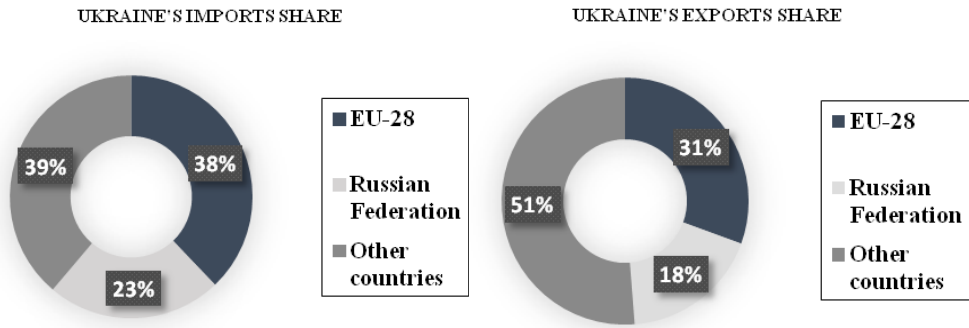
The next step will be to consider the geographical structure of Ukraine's foreign trade by comparing Ukraine's flows of goods to EU member states and the Russian Federation in 2014 (Tab.3 and Fig.4).

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Country	Exports		Imports		Balance
	Thousands U.S. dollars	% of general volume	Thousands U.S. dollars	% of general volume	Thousands U.S. dollars
EU-28	16492025	30.5	20592422	38.8	-4100397
Austria	18249	0.0	138896	0.3	-120647
Belgium	425236	0.8	553266	1.0	-128030
Bulgaria	550604	1.0	238352	0.4	312252
Croatia	39173	0.1	47794	0.1	-8621
Cyprus	283725	0.5	50299	0.1	+233426
Czech Republic	772580	1.4	687703	1.3	+84877
Denmark	125812	0.2	234800	0.4	-108987
Estonia	82377	0.2	77307	0.1	+5071
Finland	62231	0.1	319185	0.6	-256953
France	532716	1.0	1267165	2.3	-734450
Germany	1590592	3.0	5360240	9.9	-3769648
Greece	201238	0.4	308395	0.6	-107157
Hungary	1510170	2.8	1463888	2.7	+46282
Ireland	69479	0.1	134007	0.3	-64528
Italy	2468289	4.6	1508557	2.8	+959733
Latvia	226190	0.4	89650	0.2	+136539
Lithuania	362123	0.7	1032188	1.9	-670064
Luxembourg	16183	0.0	30204	0.1	-14021
Malta	1623	0.1	10926	0.0	-9303
Netherlands	1106112	2.1	763642	1.4	+342470
Poland	2645040	4.9	3067394	5.6	-422355
Portugal	310310	0.6	60466	0.1	+249844
Romania	584516	1.1	847345	1.6	-262829
Slovakia	670578	1.2	426814	0.8	+243764
Slovenia	15971	0.0	203566	0.4	-187595
Spain	1166565	2.2	607329	1.1	+559236
Sweden	65132	0.1	371354	0.7	-306222
United Kingdom	589211	1.1	691694	1.3	-102483
Russian Federation	9799164	18.2	12678683	23.3	-2879519

*Author's note: without calculating the Autonomous Republic of Crimea and Sevastopol.*

**Tab.3: Geographical structure of the Ukraine's foreign trade in goods in 2014 (EU-28 vs Russia)**



**Fig.4:** Geographical structure of Ukraine's foreign trade

Tab.3 and Fig.4 show that Ukraine gradually changed its foreign economic direction and started focusing on the European Union market, with indicators of almost 38% of exports and 31% of imports in 2014. However, the presence of the Russian Federation amounts to 23% of Ukraine's exports and 18% of Ukraine's imports. It means that Russia's share of Ukraine's foreign economic activity remains significant, though lessening.

As for its EU trade partners, the most balanced and active trade is where EU member states have more than one percent of Ukraine's exports and imports. This group of countries includes the following: the Czech Republic (exports: 1.4%; imports: 1.3%), Germany (exports: 3.0%; imports: 9.9%), Hungary (exports: 2.8%; imports: 2.7%), Italy (exports: 4.6%; imports: 2.8%), Netherlands (exports: 2.1%; imports: 1.4%), Poland (exports: 4.9%; imports: 5.6%), Romania (exports: 1.1%; imports: 1.6%), Spain (exports: 2.2%; imports: 1.1%), the United Kingdom (exports: 1.1%; imports: 1.3%) and France (exports: 1.0%; imports: 2.3%).

After investigating the geographical structure of Ukraine's foreign trade and highlighting its most important trade partners from the perspective of EU countries, it makes sense to look at the biggest Ukrainian exports and imports (Tab.4).

No.	Top 10 exports	No.	Top 10 imports
1.	Base metals and processing	1.	Machine-building products
2.	Grains/Crops	2.	Products of chemical and associated industries
3.	Machine-building products	3.	Natural gas
4.	Ores, slags, ashes	4.	Base metals and processing
5.	Organic fats and oils	5.	Plastics and plastic products
6.	Finished food industry products	6.	Finished food industry products
7.	Products of chemical and associated industries	7.	Textiles
8.	Sunflower seeds	8.	Products from stone, gyps, cement
9.	Wood and wood products	9.	Fruit and vegetables
10.	Textiles	10.	Fish

**Tab. 4:** Ukrainian exports and imports in 2014



As can be seen in Tab. 4, machine-building products make up the highest number of Ukrainian imports. The majority of this sector's products was imported from the Russian Federation and other countries. This gap could be filled by cooperating with the Czech Republic, where the manufacture of machine tools is one of the most important sectors of the economy and has a long tradition.

The machine-tool industry in the Czech Republic ranks among the most highly competitive sectors in the world's most discerning markets and covers a very diverse range of machine tools and forming machines. Roughly 80% of Czech production is exported around the world, mostly to Germany, Italy, France and other European countries, as well as to Russia, China and the United States [7; 15].

The Czech experience of cooperating with the former Soviet Republic is also an advantage to Ukraine, as it ensures a more efficient level of economic relations. In addition, Ukraine and the Czech Republic are specialized in the production of different groups of machine-building products, which is why it is possible to initiate mutual trade.

The next step will be to test the hypothesis by using mathematic economic modelling, specifically a regression model. It can discover the correlation relationships between key indicators of Ukraine's export potentia and can make some time-series predictions.

### Regression model

In order to develop an adequate model for the research objectives and to test the proposed hypothesis, the linear dependence of variable  $Y$  was used from the factors which strongly influence Ukraine's export potential in the context of economic relations with the EU member states (Tab.5):

$Y$	Ukraine's exports volume to EU countries
$X_1$	Ukraine's imports volume from EU countries
$X_2$	Direct foreign investment from EU countries to Ukraine

**Tab.5: Key factors of the regression model**

The linear dependence will appear as follows:

$$Y = a_0 + a_1x_1 + a_2x_2,$$

where  $a_0, a_1, a_2$  – the regression parameters.

These factors were chosen from the perspective of three points which influence Ukraine's export potential in the context of entering the European market: 1) mutual trade with a view to imports volume, which characterizes the balance of international trade between Ukraine and the EU member states; 2) the level of interest from the European side in the development of Ukraine, which can be highlighted by the volumes of the FDI inflows to Ukrainian enterprises.

For better and more precise results the data set of the decennial period was used (Tab.6).

	Y	X <sub>1</sub>	X <sub>2</sub>
2005	10.2	12.2	5.0
2006	12.1	16.2	16.3
2007	13.9	22.2	22.9
2008	18.1	28.9	28.1
2009	9.5	15.4	31.4
2010	13.1	19.1	35.2
2011	18.0	25.8	40.1
2012	17.1	26.2	43.4
2013	16.8	27.1	43.8
2014	16.5	20.6	35.6

**Tab.6: The input spreadsheet for the regression analysis (billions US dollars)**

Using STATISTICA and Microsoft Excel software, the following results from the regression analysis were gained.

Regression Statistics		ANOVA (dispersion analysis)					
Multiple R	0.92869	<b>Title</b>	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>Significance F</b>
R Square	0.86247	Regression	3	79.70685	39.85342	21.94898	0.00096
Adjusted R Square	0.82318	Residual	6	12.71011	1.81573		
Standard Error	1.34749	Total	9	92.41696			
Observations	10						

	Coefficients	Standard Error	t Stat	P-value
Intercept	3.21014	1.76693	1.81679	0.11209
X Variable 1	0.53000	0.11242	4.71427	0.00217
X Variable 2	-0.00014	0.05060	-0.00272	0.99790

**RESIDUAL OUTPUT**

Observation	Predicted Y	Residuals	Standard Residuals
1	9.67015	0.55985	0.47111
2	11.78859	0.30141	0.25363
3	14.98357	-1.06357	-0.89498
4	18.50735	-0.37735	-0.31753
5	11.36251	-1.86251	-1.56728
6	13.32827	-0.27827	-0.23416
7	16.85210	1.11790	0.94069
8	17.06894	0.01106	0.00931
9	17.54059	-0.78059	-0.65686
10	14.11792	2.37208	1.99607

**Tab.7: Results of the regression analysis**

After using the mathematical tools technique, the next regression model was received:

$$Y = 3.21014 + 0.53X_1 - 0.00014X_2$$

Statistical analyses of the model were carried out using the following indicators:

- a ratio of the correlation relationship;
- the measure of precision;
- the reliability and accuracy of fit.

The ratio indicator of the correlation relationship is the coefficient of the multiple correlation R (Multiple R). Its value uses the ratio of the correlation relationship between variable Y and the factors, which are parts of the regression equation. In our case, **multiple R is 0.92869**. It means that there is a high correlation ratio, which characterizes the dependency of Ukraine's export potential on the factors chosen with the help of logical analysis.

The **Standard Error** of the regression serves as an absolute measure of the model's precision. Its value (**1.34749**) testifies to the high precision of our model.

In order to obtain the relative characteristics of the regression equation's precision, an **R Square** is used, which is also called the determination coefficient. The determination coefficient (**0.86247**) shows that 86.2% of the variation of Ukraine's export volume to the EU countries is explained by the variation of Ukraine's import volume from the EU countries and direct foreign investment from EU countries to Ukraine. The section of factors whose influence was not included in the regression equation is only 13.8% of the variation of the variable Y. In a small number of observations ( $N < 20$ ), the **Adjusted R Square** is also considered. In our case the number of observations is small ( $N = 10$ ), but the Adjusted R Square shows that the regression model is precise (82.3% of the variation of Ukraine's export volume to EU countries was explained by the variation of selected factors).

The reliability of the model is defined by the reliability of both the multiple correlation relationships and the separate regression coefficient. First of all, it is necessary to test the statistical significance of the regression equation in general. If the model is not reliable in general, there is no need to test the statistical significance of the separate regression coefficients. In this context, a contemporary approach to F-test consideration was used. Fisher's variance ratio is compared to the appropriate level of significance ( $\alpha = 0.05$ ). Therefore, Fisher's variance ratio is larger, which means that the factual error probability of the first type is in the area of permitted values and the zero hypothesis does not stand out. The statistical aggregate does not include conflicting observations.

The final step in the analysis of the model will be to determine the autocorrelation coefficient of the first order residual values, which is used to show the accuracy of the results compared to the empirical data.

In order to build an autocorrelation coefficient of the first order  $r(1)$  and to test its statistical significance, it is recommended to repeat the regression analysis, where the variable Y will be the residual range short by one row, and as a factor X – the residual range moved on one row of the observation:

Observation	Residuals $e_i$	Residuals $e_i-1$
1	0.55985	0.30141
2	0.30141	-1.06357
3	-1.06357	-0.37735
4	-0.37735	-1.86251
5	-1.86251	-0.27827
6	-0.27827	1.11790
7	1.11790	0.01106
8	0.01106	-0.78059
9	-0.78059	2.37208

Tab.8: The input spreadsheet for  $r(1)$  calculation

In the data table of the regression analysis, indicators such as **multiple R** and significance of F for  $X_1$  have key importance. The main indicator is the autocorrelation coefficient of the first order  $r(1)$  (**0.09355**). The results show that the value  $r(1)$  is positive and small.

Therefore, the significance of the autocorrelation coefficient is in the area of permitted values (**0.09355 > 0.05**) and the zero hypothesis  $H_0: r(1) = 0$  does not stand out. Therefore, the conclusion is that the regression model is one which describes adequately the dependence of the Ukraine’s export volume to the EU countries from the variation of Ukraine’s import volume from the EU countries and direct foreign investment from EU countries to Ukraine, because  $r(1)$  is small and statistically non-significant.

After confirming the proposed hypothesis, a three-year forecast of Ukraine’s export volume to the EU countries was made using the regression model and the new developed trends of the selected  $X_1, X_2, X_3$  factors (Fig.5).

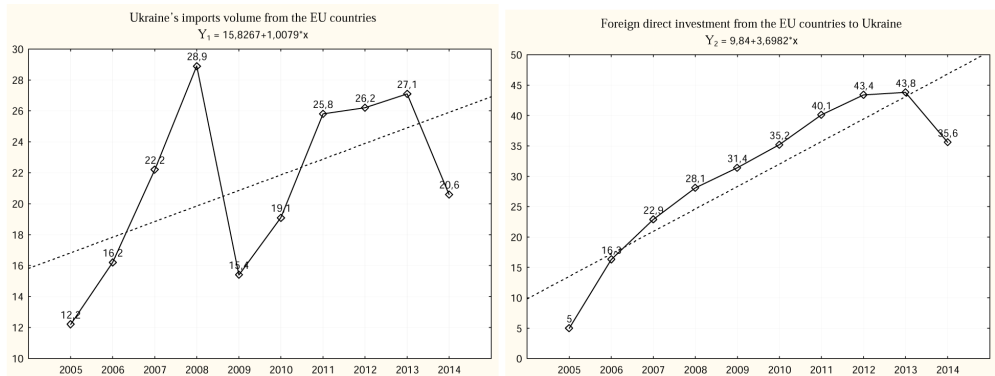


Fig.5: Linear trends of the key factors of the regression model for Ukraine’s export potential in the European market

From Fig.5, the next trend equations are as follows:

1. the trend equation Ukraine’s import volume from EU countries:

$$Y_1 = 15.8267 + 1.0079 * X;$$

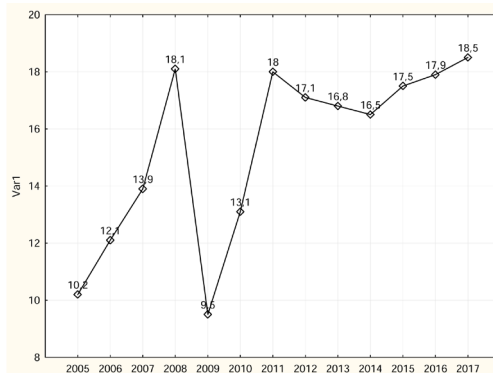
2. the trend equation of direct foreign investment from EU countries to Ukraine:

$$Y_2 = 9.84 + 3.6982 * X.$$

On the basis of both the trend equations and the equation of the dependent variable (the main regression model), the forecast for Ukraine’s exports volume to EU countries for the period 2015–2017 was made, which considered the dynamics of this indicator (Tab.9 and Fig.6).

Forecast	2014	2015	2016	2017	Deviate	
					abs.	%
Ukraine’s export volume to EU countries	16.5	17.5	17.9	18.5	+2.0	+12.1
Ukraine’s import volume from EU countries	20.6	26.9	27.9	28.9	+8.3	+40.3
Direct foreign investment from the EU countries to Ukraine	35.6	50.5	54.2	57.9	+22.3	+62.6

**Tab.9: Forecast for Ukraine’s export volume to EU countries over a three-year period (billion US dollars)**



**Fig.6: Dynamics of Ukraine’s export volume to EU countries and its forecast for 2015–2017**

This forecast shows that Ukraine’s export volume to EU countries will grow by 12.1% until 2017. The quickest rate will be direct foreign investment from EU countries to Ukraine (62.6%) and will amount to 57.9 billion US dollars in 2017. Ukraine’s import volume from EU countries will grow by 40.3% and will amount to 28.9 billion US dollars by 2017.

The results confirm the hypothesis of the reorientation of Ukraine's export potential towards the European market. They also show that there is potential growth in exports and imports between Ukraine and EU member states from 2015–2017. For these forecasts to come true, it is necessary to provide strong government support to Ukrainian enterprises oriented towards the European market.

This potential growth in Ukraine's export volume to EU countries can be delivered by a few key sectors in the Ukrainian economy, a discussion of which is presented below.

## **Discussion**

These results allow a discussion concerning the present and future situation of Ukrainian producers in the European Union market. The ratification of the Ukraine-European Union Association Agreement gave two advantages to Ukrainian business: firstly, time to comply with EU standards; secondly, open access to the EU market and access to the closed domestic market for European producers (tariffs on entering the Ukrainian market remained the same) [29].

Here we might consider in more detail the economic sectors that provide Ukraine with its export potential in the European Market.

### ***Agriculture***

At present agricultural produce is one of Ukraine's main exports to the EU. In the future, agriculture is expected to have a significant share in the structure of Ukrainian exports. In addition to crop production, which currently dominates agricultural exports, Ukraine also has great potential for increasing its supplies of animal products. Recently, Ukrainian producers have significantly increased exports of poultry to the EU countries. Preferential treatment given to Ukraine will likely result in the abolition of 94.7% of the duty on Ukrainian industrial products and more than 80% for Ukrainian agricultural exports.

The European Commission has extended the validity of quota tariffs on exports of Ukrainian agricultural products until 31 December 2015. The changes were made to European Union regulations relating to the management and delivery of Ukrainian agricultural tariff quotas.

These are the quotas for various product groups: eggs – 3,000 tons, egg products – 1,400 tons, poultry meat – 35,000 tons, beef – 11,000 tons, pork – 35,000 tons. Volume of quotas on tariffs which have been provided within autonomous trade preferences of the EU: wheat – 1 million tons, barley – 300,000 tons, corn – 450,000 tons. Ukraine also made full use of EU quotas for honey, grape juice, wheat flour and corn. 77% of the quota was met for the export of meat and semi-finished products, 78% for cereals and 72% for tomatoes. While the sale of meat to Russia fell by 81%, Ukrainian exports of various kinds of products increased by 30–100% to other countries. While sunflower oil exports decreased by 50%, the supply to the EU, India and Iran increased on average by 17% [12].

Therefore, in 2014 agricultural production in Ukraine increased by 16%, and is probably the only branch of the Ukrainian economy which is growing.

### ***Food industry***

Ukraine has the potential to increase its food-industry sales to the EU, especially milk and milk products.

One of the main barriers which prevents the increase of exports of milk and dairy products is the problem of the certification of products and raw materials. As much of the milk is pro-

duced by households, it cannot be certified. As a result, it is impossible to certify products derived from milk, particularly cheese. In order to provide certification, it is necessary to create cooperative associations of individual households under one “roof” or to engage larger farms in this business. On the other hand, Ukrainian dairy products can be competitive due to their cheapness. Ukrainian milk producers are attracted by the possibility of trade with the EU - the second largest market in the world after the United States, where prices for dairy products are several times higher than in Ukraine. The quotas are as follows: milk powder – 1, 600 tons, butter – 1,400 tons, milk, dairy products and yogurt – 9,000 tons. However, EU countries are only allowed to import extra-class milk. In Ukraine this accounts for only 1% of milk, so only a small number of Ukrainian milk processing enterprises will enter the European market [28].

Therefore, the Ukrainian dairy industry has the potential to win a highly competitive position in foreign markets, which is why it is so promising and attractive for the investment sectors of agriculture. However, the lack of government support significantly inhibits the development of this industry’s export potential. In order to change the situation it is necessary to suggest improvements to the budget, tax, investment, financial and credit policy, and make the appropriate changes to the legislative framework, which will provide an opportunity to transform the current market situation of milk producers [12].

### ***Machinery-producing industry***

The situation for many high-tech sectors of the machine-building industry, which focused on the Russian market, has become much worse. This is the case for locomotives, rolling stock, wheel sets, components for the military-industrial complex and other products focused exclusively on the Russian market.

It is thought to be impossible to enter the European high-tech markets, because there is so much competition. However, if we consider the example of Poland (its breakthrough in transport machine building sector), then access to the markets in Europe is possible. Of course, the reorientation of some of the major industries focused on CIS countries is a complex and long-term process, but the example of Poland shows that it can be done. Some Ukrainian manufacturers also occupy a very narrow and specific market niche, for example, engines for helicopters (the “Motor Sich” company, which is mostly focused on the Russian market) and it is very difficult to break into the European market, which already has two large players: the global company “Airbus Helicopters” with its headquarters in France (formerly Eurocopter Group) and the Italian manufacturer “Agusta”) [14].

The certification of machine-building products is an issue as well. However, there was a slight growth in the export volume in 2014, though this was mostly simple, labour-intensive products with low added value (for example, electric cables for cars), where Ukraine has the advantage of lower labour costs.

In addition to the traditional search for new markets for domestic products, Ukrainian companies need to constantly modernize and expand their product range. The following high-tech companies have good prospects in the global market: aviation, the defence industry, the production of rocket and space equipment.

### ***Mining industry: metallurgy***

While there was positive development within the agricultural sector of Ukraine, many iron-works lost their leading positions. However, one positive aspect here was their integration within corporate companies. For example, while there are Ukrainian companies which produce crude steel and semi-finished products, there are businesses in the EU that continue to recycle this finished product. Thus, in the steel sector, Ukraine can closely integrate into the EU market.

Nevertheless, there are also some problems. There are significant difficulties for Ukrainian steel companies created by the so-called REACH-legislation, adopted by the EU in June 2008 [10]. According to this legislation, metallurgical and chemical industries have to register their products with the European Chemicals Agency, otherwise the EU market is simply closed. Obviously, the registration procedure is expensive and requires the services of European intermediary companies which receive royalties for their work. These fees cannot be paid by every company, especially in difficult times of crisis.

In addition, companies from this sector were not prepared for the challenges of the global crisis, especially the following: non-ferrous metals, the decline in demand for steel products of poor quality, increased competition and the emergence of new players in the world markets (China, India and South Korea). In addition, over the years systemic problems have accumulated associated with the need to modernize facilities, to improve the quality of ferrous metals and the production of new types of steel and rolled iron. Compared to developed countries Ukrainian metallurgical enterprises lag behind technologically and consume excessive amounts of energy [16].

The state of this industry also became worse due to the military actions in the east of Ukraine, where the main metallurgical potential is concentrated. Obviously, in the current circumstances it is difficult to predict the industry's future. Without the Donbas region, Ukraine's metallurgy will lose its leading role in the economy. It is clear that an effective strategy for the development of the industry requires investment in order to improve technology and reduce energy consumption, as well as to improve the range and quality of products, which is not possible in the current difficult conditions [18].

### ***Innovative activities***

From the above-stated, it is obvious that agricultural products will continue to be successfully exported to the EU market, but there is a question mark hanging over machine-building products and other goods with higher added value. Cooperation between universities and enterprises and their joint participation in international projects and programmes can be a problem to the solution. In order to be able to release Ukrainian engineering products onto the foreign market, it is necessary to introduce innovations to improve their quality.

For many years, Ukrainian producers failed to allocate research funds to universities and relied solely on their own resources. However, the European Union improves the competitiveness of its products by focusing on innovation and research.

Such cooperation can begin immediately or through special platforms. One of these platforms is the Horizon 2020 research programme, funded by the EU. This programme allocates huge funds for the cooperation of European universities and businesses, and Ukrainian universities and enterprises could utilize it to act as partners.

There are also other development programmes funded by the EU, such as Romania-Ukraine-Republic 2007–2013, EAPTC Moldova-Ukraine 2014-2020 etc. However, these

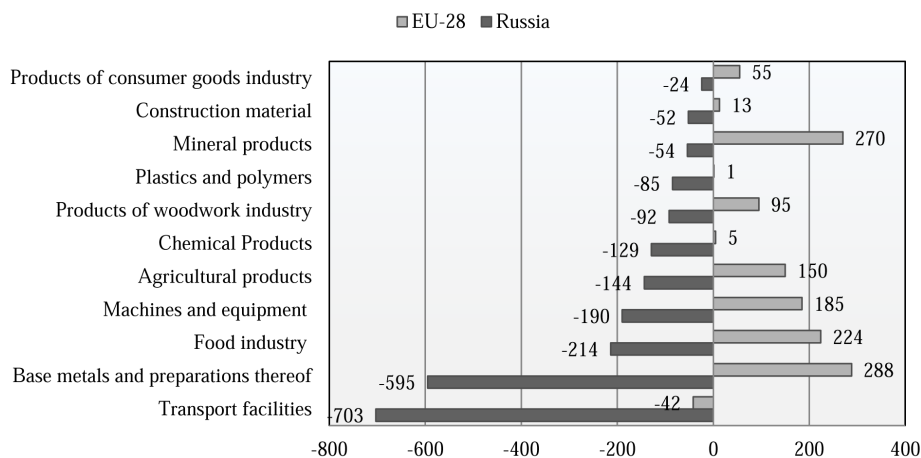


only have an indirect influence on the development of entrepreneurship as participation in these programmes is only open to state institutions and non-profit organizations. These tools cannot be underestimated. For example, at the moment the “Development of sustainable production and use of best practices on dairy farms in Romania, the Republic of Moldova and the border region of Ukraine” project is being carried out within the framework of Romania-Ukraine-Republic of Moldova 2007-2013, within which the Odessa State Agrarian University is a project partner. As part of this project, based in the Odessa State Agrarian University, there was created the first European-standard laboratory in Ukraine with the appropriate technology to analyse the quality of milk and dairy products. This can be a starting point to solve the problem of certification for the milk and dairy sub-sector of the Odessa region, which thereby simplifies access to the EU market. Therefore, the time for real cooperation between universities and enterprises has come [5].

***The final choice for the foreign economic direction: Ukraine on the way to the EU***

The years 2013 and 2014 were vital for Ukraine’s final choice regarding its foreign economic direction. Being located between two huge integrating associations (the European Union and the Customs Union), which to varying degrees are interested in cooperation with Ukraine, made it economically impossible for Ukrainian enterprises to balance their presence in the markets of both these communities. Events in the east of Ukraine marked the transition from a bipolar economic direction to a unipolar one, which is oriented towards the European Union’s market (Fig.7).

The loss of the Russian market, which is represented by almost 144 million people and 2.8% of the world’s GDP, has had a negative impact on the economic situation of Ukrainian producers. It has led to the destruction of long-standing trade and economic relations with Russian enterprises (in 2014 the volume of Ukrainian exports to the Russian Federation fell by 33.7% compared to 2013).



**Fig.7: Comparison of the reorientation of Ukraine’s export potential (million U.S. dollars)**

Nevertheless, the entire share of Ukrainian exports to Russia remains significant at 18.2% in 2014, though with a decreasing trend.

On the other hand, at the same time there has been opened a “Window on Europe” for the Ukrainian businessmen in the form of the EU market with a population of about 502 million people and a 23.1% GDP share of the total world volume. Therefore, in the first half of 2014 exports to the EU increased by 13.4% and amounted to 32.1% of Ukraine’s total exports [4].

Almost half the amount of base metals and processing was compensated for. Exports to the EU for this area have increased by 280 million U.S. dollars, while the fall in the direction of Russian market was 595 million U.S. dollars.

In absolute terms, the supply of food products was fully compensated for. Falling exports to Russia for million U.S. dollars is balanced by a gain of 224 million U.S. dollars of supplies to the EU. It is not quite the same grouping and some areas do not coincide. In general, however, we can speak of the emergence of alternative markets.

Ukraine has reduced the supply of machinery and equipment by 190 million U.S. dollars to the Russian market, but increased it by sales totalling 185 million U.S. dollars to the EU, etc.

For Ukrainian foundries it is recommended to search for outsourcing opportunities from Europe and European companies. They should try to participate in the value chain and produce and deliver the required goods to the European Union. Produced in Ukraine, they will at least be cheaper because of the lower labour costs.

Apart from this, there are at least three reasons why a partnership with Ukrainian producers might be interesting for the EU’s companies.

Firstly, Ukraine has the materials and components. If, for example, Ukrainian enterprises decided to make casting, it is a great deal easier because Ukraine has its own raw materials. There is no need to bring steel billets or semi-finished products as it can all be produced in Ukraine.

The second reason is logistics and geographical proximity to Europe. There is a long common border with European countries (Poland, Hungary, Slovakia, Romania), as well as access to international transport corridors.

Finally, there is the quality of personnel in Ukrainian enterprises, where they are highly qualified in high-tech industries.

## Conclusions

In summarizing the results, it is possible to state that for the development of Ukraine’s export potential it is necessary in the near future:

- to promote the competitiveness of Ukrainian producers on the basis of structural reforms to the economy, particularly to export-oriented sectors;
- to carry out high-quality changes in the specialization of Ukrainian labour, based on the development and realization of a comprehensive export strategy, oriented towards increasing the export of innovative and traditional Ukrainian products with a high level value and increased grants to high-tech services;
- to reorientate import strategy towards providing comprehensive solutions to the problems of modernizing national industry and an active policy of import substitution (limiting the importing of commodities when analogical production is intensifying in Ukraine);
- to solve the problem of the disparate purchase and import prices of agricultural products.

The findings of this research indicate the accuracy of the hypothesis proposed concerning the redirecting of the export potential of Ukrainian enterprises towards the European market in the context of a modern geopolitical situation.

Based on the results from the regression analysis, the author forecast positive trends in further EU-Ukraine economic cooperation. There was also discovered a deficit balance between Ukraine and the EU countries within international trade, which points to the fact that there is a need to balance Ukraine foreign trade by increasing the export volume. The most important economic sectors here are agriculture, the food industry, the machinery-producing industry, the metallurgy industry and innovative activities.

Furthermore, it is possible to develop a group of activities based on the results, which will help to develop Ukraine's export potential and increase its efficiency. Moreover, the research findings can be of interest to EU member states which are concerned about the current state of Ukraine's economy.

This article is invaluable due to its analysis of the current position of Ukrainian enterprises' foreign economic activity and the prospects for its future development. The results can be considered to be a substantial research paper, which can become an integral part of further research focused on specific goods or trade partners.

## References

- [1] Alexandrova, R., Patoshyna, G., Platoshyn, A., 2009. Statistical study of foreign trade of Ukraine. *Bulletin of Azov State Technical University*. – No. 19. – pp.362–365
- [2] Begma, V., Mazurov, G., 2007. Some aspects of determining the export potential of Ukrainian military-industrial complex. *Problems of science*. – No.7. – pp. 45–51
- [3] Chukhrai, N., Suhomlin, L., 2010. The problem of the Ukrainian enterprises entrance to the European market. [online] available at: <http://ena.lp.edu.ua:8080/bitstream/ntb/18784/1/20-90-94.pdf>
- [4] Dyakonov, V., 2014. Fasten whether Ukraine in the European market. *The newspaper "Economic News"*. [online] available at: <http://ekonomika.eizvestia.com/full/231-zakrepitsya-li-ukraina-na-evropejskom-rynke>
- [5] Eastern Partnership Territorial Cooperation Programme, 2014. Joint operational programme "Moldova-Ukraine" 2014–2020. [online] available at: [http://www.eaptc.eu/struct\\_file.php?id\\_pr=74](http://www.eaptc.eu/struct_file.php?id_pr=74)
- [6] Hutiv, H., 2012. The essence of machine-building industry export potential and factors influencing it. *Proceedings of the National University "Lviv Polytechnic". Management and Entrepreneurship in Ukraine: stages of formation and development problems*. – No.748. – pp. 133–140. [online] available at: [http://nbuv.gov.ua/j-pdf/VNULPM\\_2012\\_748\\_23.pdf](http://nbuv.gov.ua/j-pdf/VNULPM_2012_748_23.pdf)
- [7] Investment opportunities: High-Tech Mechanical Engineering in the Czech Republic. 2010. CzechInvest. [online] available at: <http://www.czechinvest.org/data/files/high-tech-engineering-1963-fr.pdf>
- [8] Kirichenko, A., 1999. Export potential of the food industry of Ukraine. *Proceedings of the Ukrainian State University of Food Technologies: C.: UDUHT*. – No. 5. – pp. 66–69
- [9] Komárková, L., Pirožek, P., Pudil, P., 2014. The Factors and Other Characteristics Influencing Competitiveness of Enterprises in Countries in the Post-Transition Phase of the Economy. *Inžinerine Ekonomika-Engineering Economics*, roč. 25/2014, č. 5, s. 513 – 521. ISSN 1392–2785
- [10] Kovalchuk M., 2006. Export potential of Ukraine: problems and ways to improve the implementation. *Journal of National University "Lviv Polytechnic"*. – № 554. – pp.300–304

- [11] Kubičková, L., 2013. Teoretické aspekty řízení rizika internacionalizačního procesu malých a středních podniků. *Trends: Economics & Management / Trendy: Ekonomiky a Managementu*; Vol. 7 Issue 14, pp.44–54
- [12] Kushnir, N., Dyachenko, B., 2014. Association Ukraine–EU: potential benefits and possible risks for the development of the Ukraine's economy. *Scientific bulletin of the Uzhgorod University*. – Vol.2 (43). – pp.224–228
- [13] Kuzmin, O., Tymoshchuk, M., Feschur, R., 2005. Methods for evaluating the potential of enterprises. *Economy: problems of theory and practice*. – Kharkiv, Kharkiv Economic University, – pp.374–383
- [14] Kyzym, M., Matyushenko, I., Haustova, V., Kozyryeva, O., Kostenko, D., 2014. Opportunities and treats from the Ukraine's membership within WTO in merchandise trade of high-tech industries in the context of cooperation with EU countries and counties of the EvrAzES. *Problems of Economics*. – No.1. – pp.6–25
- [15] Mechanical and Electrical Engineering in the Czech Republic. 2012. Osec in cooperation with MARKETIN CEE s.r.o. [online] available at: [http://www.businessinfo.cz/app/content/files/teritoria/Svycarsko\\_studie\\_CR\\_strojirenstvi\\_121108.pdf](http://www.businessinfo.cz/app/content/files/teritoria/Svycarsko_studie_CR_strojirenstvi_121108.pdf)
- [16] Melnyk, T., 2008. The export potential of Ukraine: the methodology of assessment and analysis. *International Economic Policy*. – Iss. 1–2. – pp. 201–227. [online] available at: [http://nbuv.gov.ua/j-pdf/itrep\\_2008\\_1-2\\_11.pdf](http://nbuv.gov.ua/j-pdf/itrep_2008_1-2_11.pdf)
- [17] Mikhaylovskiy, V., 2003. Formation of a new paradigm for the development of region's foreign economic activity. *Author. of the diss for the degree of doctor of economics*: 08.00.05 [Russ. Economics. Academy] – M., – p. 10
- [18] Official web-site of "Vtormet" company. Ukraine may restrict the export of scrap metal. [online] available at: <http://vtormet.dp.ua/news/ukraina-mozhet-ogranichit-eksport-metalloloma/>
- [19] Official web-site of State Statistics Service of Ukraine. [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)
- [20] Piddubna, L., 2012. Export potential of the machine-building complex in Kharkiv region of Ukraine in the context of challenges caused by global competition. *Economy of development*. – No.3. – pp. 79–84
- [21] Piddubna, L., Ivaniienko, K., 2014. Systemic Imperatives for Formation and Development of the Export Potential of an Industrial Enterprise. *Problems of Economy*. Issue 4, pp.311–316
- [22] Pirožek, P., Komárková, L., 2010. Konkurenceschopnost podniků v čase prosperity a krize. In *Ekonomika a management organizací – výzkum, výuka a praxe*. ESF MU Brno: Masarykova Univerzita, – s. 179 – 185, 6 s. ISBN 978–80–210–5273–4
- [23] Pyrec, N., 2004. Developing factors of the export potential of Ukraine. *Problems of foreign economic relations and attraction of foreign investments: regional aspect*. – Donetsk, Donetsk National University, – pp. 166–170
- [24] Rogachov, V., 2004. The export potential of Russia: state, landmarks and the terms of development. *The external economic newsletter*. – № 5. – pp. 5–11
- [25] Skornyakova, I., 2006. Manufacturing is the basis of the export potential of Ukraine. *The Economist*. – No. 3. – pp. 32–35
- [26] Sotnikov, Y., Kravchenko, I., 2013. Cross-border cooperation development of Ukraine: forms and instruments of competitiveness increase. *Economics and management*: 18 (1), pp.95–101. ISSN 2029–9338 (ONLINE)
- [27] Starzyczna, H., 2010. Vybrane aspekty internacionalizace vnitřního obchodu v teoretických prístupech a v empirickém zkoumání v Česke republice v období transformace. *Ekonomie a Management*, v. 13, iss. 1, pp.115–30
- [28] Vengerska, N., Kalantarova, A., 2014. Export potential of the food industry of Ukraine. *Economy of Development*. – No.4. – pp.15–18
- [29] Vlasjuk, V., 2014. Why exports to the EU more perspective deliveries to Russia. Ukraine Forbes. [online] available at: <http://forbes.ua/opinions/1380585-pochemu-eksport-v-es-perspektivnee-postavok-v-rossiyu>

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