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KEY FACTORS INCREASING COMPETITIVENESS OF AGRICULTURE IN UKRAINE

KLUCZOWE CZYNNIKI ZWIĘKSZENIA KONKURENCYJNOŚCI ROLNICTWA NA UKRAINIE

Key words: international trade, products competitiveness, Ukraine

Słowa kluczowe: handel międzynarodowy, konkurencyjność produktów, Ukraina

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Abstract. Agriculture is one of the most important sphere in the world. It's development is a key question for all countries. Ukraine takes significant part on agricultural markets and has a big potential for future development. In last times, Ukraine is growing its export of agricultural products to the EU-countries. On the world food markets its plant and animal products are taking leading positions and are highly competitive. Ukraine made a big step in agricultural development since 1990th. In present times domestic enterprises developing new technologies and increasing volumes of production and processing. The main key points of Ukrainian agriculture development in described in article. Based on data analyses of FAO, World Bank and State Statistical Service of Ukraine, it was defined main points of increasing the competitiveness of Ukrainian agricultural products on the world market and forecasted its future development based on correlation and regression analysis which can help public and private sector to identify the strategies of cooperation with Ukrainian agricultural producers.

Introduction

Assumptions on population growth are derived from the United Nations *World Population Prospects. The 2008 Revision* [UN 2009]. The expected fall in global demographic growth over the next forty years (0.75% per year between 2005/2007 and 2050, down from 1.7% between 1963 and 2007) is expected to translate into a reduced growth rate of agricultural consumption. However, it is important to note that the slowdown in global population growth is made up of continuing fast growth in some countries and slowdowns or declines in others. The majority of countries whose population growth is expected to be fast in the future are precisely those showing inadequate food consumption and high levels of undernourishment. Most of them are in sub-Saharan Africa. This region's population growth rate is expected to fall from 2.8% in the past to a still high 1.9% per year in the period to 2050, while the rest of the world declines from the past 1.6% to 0.55% per year. Successive revisions of demographic outlooks, moreover, suggest that population growth in these very countries is projected to slow down much less than previously anticipated: in the 2002 revision of the UN Population Prospects – used in FAO [UN 2006] – sub-Saharan Africa was projected to reach a population of 1,557 million or 17% of the world total in 2050. In the projections employed in this study, the region is projected to reach 1,753 million or 19% of the world total in 2050. In the just published 2010 revision [UN 2011], the region's projected population in 2050 has been raised further to 1,960 million or 21% [Alexandratos, Bruinsma 2012].

The main question that underlines research in economics is how to allocate resources in order to ensure social welfare, including full employment and high living standards. Researchers are interested in which sector can contribute the most to a nation's economic growth and they often turn to the concept of competitiveness as a basis for analysis. The Organization for Economic Co-operation and Development (OECD) defines competitiveness as the "ability of companies,

industries, regions, nations, and supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis” [Aiginger 2006]. The European Commission uses the following definition: “a sustained rise in the standards of living of a nation or region and as low a level of involuntary unemployment as possible” [Latruffe 2010].

In parallel, the trade negotiations over the past couple of decades in the context of the General Agreement on Tariffs and Trade (GATT) and World Trade Organization (WTO) have increased government interest in evaluating their country’s competitiveness. In particular, the competitiveness of the agricultural sector, which in general has been protected in developed countries, is central, especially given the potential consequences if protection is reduced.

The European Union (EU) and Ukraine have developed an increasingly dynamic relationship since 1991, when Ukraine gained independence. Ukraine is a priority partner country within the European Neighborhood Policy (ENP) and the Eastern Partnership. In March 2007 negotiations on a new EU-Ukraine Association Agreement were launched and have been finished in December 2011 (however, the agreement still has to be signed and ratified).

Ukraine occupies an area of 603 670 km² and is one of the largest European countries being the home to 46.2 million people. Ukraine is a land of wide, fertile agricultural plains, with large pockets of heavy industry in the east. Ukraine’s agricultural sector represents an essential part of the country’s economy. Throughout Ukraine’s history agriculture has played a dominant role in the development of rural areas and in the shaping of rural landscapes. After the collapse of Soviet Union, the situation in the Ukrainian economy as well as in the agriculture started worsening from year to year, which resulted in weakening of Ukraine’s leading position on the world agricultural arena and in the lost of its huge profits gained due to the effective development of agriculture [Kovtun et al. 2011].

Transformation of agricultural sector was conducted under significant political influence and resistance. Since the early beginning there were identified the main directions of reforms, but the expected social-economic results were not clearly defined and fixed within the legislative field. These main directions of agricultural transformations include:

- land reform;
- reorganization of property relations;
- reorganization of collective and soviet agricultural enterprises into the market oriented types;
- development of the lease relations;
- recognizing equal rights of all patterns of ownership in the rural areas;
- creating the preconditions for the social and economic strengthening of rural households.

There are distinguished two stages of transformations. The first one covers period from the beginning of 90’s till 1999 and features slow pace and breaking in development of preconditions for reformation, almost complete absence of the state policy in establishment of economic conditions for working in rural areas, significant drop in production. At the second stage (after 2000) there was conducted complete reorganization of collective and state agricultural enterprises, new organizational structure of agricultural production developed, started process of concentration and capitalization of production, increase of volumes of agricultural production, improvement of its productivity. Gradually increasing export potential of agri-food sector; increasing openness of the domestic market. Also import of agricultural and food produce is growing faster, the level of food security of Ukraine yet stays on the significantly high level and currently is 13-14% with the threshold level on 30% [E. Borodina, A. Borodina 2007].

Development of competitive ukrainian agriculture

The farm structure in Ukraine is characterized by corporate farms or so-called agricultural enterprises and individual farms, with the latter comprising peasant farms and household plots. In 2010, agricultural enterprises produced about 76% of total grains, 92% of sugar beets and 83% of sunflowers in Ukraine. On the other hand, Ukrainian household farms produced about 97%

of total potatoes, 88% of vegetables and 84% of fruits and berries. The majority of all types of livestock (excluding only poultry) is kept by household farms, and regarding production output, households have produced 80% of total milk production in Ukraine, whereas 55% of all meat has been produced by agricultural enterprises [Fellmann et al. 2012].

Ukraine's 2015 harvest resulted in an estimated 26.8 million metric tons (MMT) of wheat, 8.5 MMT of barley, and 365 thousand MT of rye according to data by the Ministry of Agricultural Policy and Food [MAPF 2015]. This data does not include information about crop harvested in Crimean Peninsula. Compared with the 2014 crop, 2015 wheat production increased by 2.6 MMT, which makes it a record-breaking harvest, while both barley and rye production decreased by 571 thousand MT and 113 thousand MT respectively [MAPF 2015].

Despite the fact that the meat market both in volume and value showed growing trends in the period 2005-2010, the importance of the meat sector for Ukraine's economy decreased. The contribution of meat production (in actual wholesale prices) to the GDP of the country has decreased from 4.4% to 3.2%. The various types of meat, the contribution of pork and beef to GDP declined the most, while the contribution of poultry meat increased from 1.2% to 1.4% of GDP. The key reason for the decline in the contribution of pork and beef to GDP was the faster growth of other sectors of the economy in comparison with the meat sector.

Ukrainian companies in order to continue growing sought markets outside of the country, which led to an impressive 86% increase in exports in 2010 compared with 2008, although exports were still 26% lower than in 2005 largely due to lower exports of beef. Ukrainian meat products also rapidly replaced imports: from 2005 to 2010, imports of meat dropped by 8% and the decrease in imports after the crisis was even more dramatic, reaching 40%. Dynamic market growth in the production of fresh meat in Ukraine is explained by several factors. First, the growth in incomes allowed people to purchase more meat. Second, on the one hand, depopulation in rural areas resulted in a smaller supply of meat produced by households, and, on the other hand, urbanization resulted in an increase in the demand for meat on the market. Third, behind increasing consumption was growing domestic production and supply of fresh meat, and improved logistics [FAO 2015].

Nowadays under the processes of globalization and internationalization of the Ukrainian economy, international competition problems are becoming actual. Ukraine has enough powerful agricultural sector, which should be highly efficient and highly competitive. Agricultural products and foodstuffs occupy an important place in its export potential and their share is growing. For the last 15 years, Ukrainian domestic production was only increasing (Fig. 1). At the same time, producers were working on improving not only the quantity of products, but also on development of quality. Between January-August 2015 Ukrainian market was satisfied with domestic products

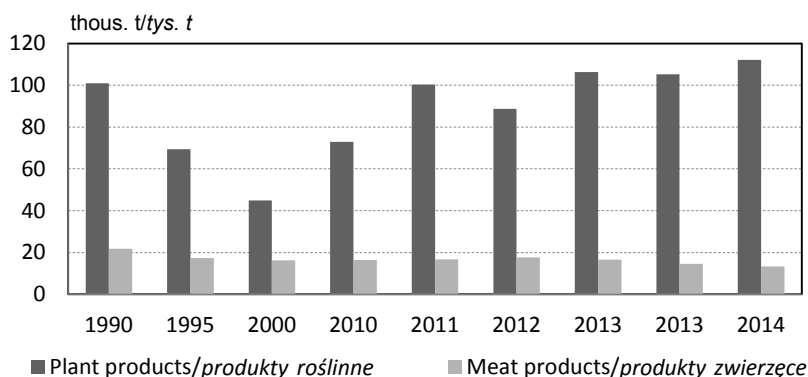


Figure 1. Dynamic and structure of Ukrainian agricultural production

Rysunek 1. Dynamika i struktura ukraińskiej produkcji rolnej

Source: own elaboration based on data from State Statistical Service of Ukraine data [www.ukrstat.gov.ua]

Źródło: opracowanie własne na podstawie danych Urzędu Statystycznego Ukrainy [www.ukrstat.gov.ua]

thus producers started to use export possibilities and sale their goods on foreign markets. World agricultural market is highly regulated with a lot of standards and rules. Furthermore important, international food markets are highly demanded for the food products. Analyses showed that Ukrainian products is very competitive and taking leading positions in export of several products on the world markets. The key period for Ukrainian domestic agriculture will start on January, 1, 2016 when the economic association with the EU will be launched. That is why the developing and increasing competitiveness of agricultural products is becoming actual and important issue for Ukraine's producers.

Wins or loses on foreign markets is the result of a successful or unsuccessful situation at the national level and at the level of individual producers. Among the most important factors of competitiveness at the micro level are:

- technology production processes,
- productivity,
- management personnel qualifications,
- experience marketing,
- investment,
- the intensity of competition in the internal market,
- the volume, structure and nature of demand,
- the development of information infrastructure,
- use of scientific and technological achievements.

In the last times there are present trends of successfully competing. It can be explained by moving the emphasis from comparative advantages (such as natural resources, fertile land, cheap labor) to competitive advantages based on developed institutional environment, new organizational and institutional forms, unique products and technologies. Important factors that significantly weaken the competitive position of Ukrainian producers are: backward technology in various sectors of agriculture and the food industry; low level of marketing, management, passivity for innovation, lack of qualified staff, weak intensity of competition in the internal market and so on. There are a lot of variety of agricultural products which is producing by domestic enterprises and small farmers. Labor productivity belongs to one of the most important characteristics in structure of products competitiveness. In Ukraine labor productivity calculated as money returns for 1 employee position (Fig. 2). Dynamic shows that in last years money returns only goes up.

The process of European integration of Ukraine's economy requires an innovative model for further economic development of the country in general and especially. its agricultural sector. In the short term it can be possible through innovation growth. Increased integration of science and production, the widespread introduction of scientific achievements in the practice of agricultural enterprises and organizations is an important condition for the development and improve the efficiency of agriculture and its competitiveness.

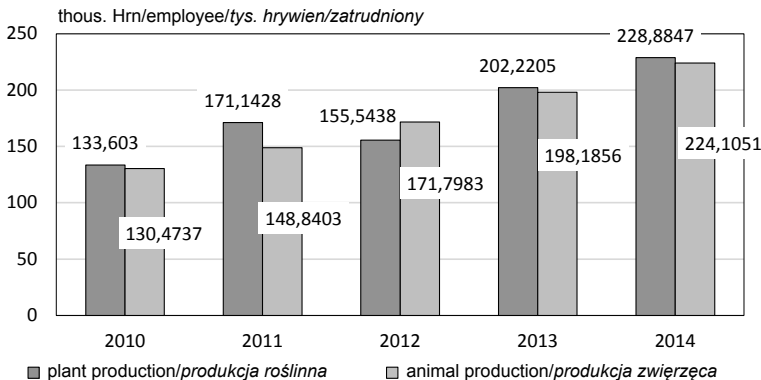


Figure 2. Dynamic of labor productivity in agriculture in Ukraine
 Rysunek 2. Dynamika wydajności pracy w ukraińskim rolnictwie
 Source: see fig 1
 Źródło: jak na rys. 1

Innovative model of agricultural development – a new dimension of economic and social relations in the field, based on priority of knowledge and technology use. In the transition to a new dimension of social values – knowledge are the material basis of human existence, and their use of technology create a new dimension of well-being of society. The main purpose of these changes is to increase the competitiveness of the economy and improving the quality of life.

Innovative activity ensures the creation and dissemination of innovations – innovations in equipment, technology, labor and management, based on the use of science, excellence and competition can satisfy public demand. According to M. Porter, that innovation can create competitive advantage products.

Innovation activity is the most flexible indicator of competitiveness. Indeed, there is a regular cyclic dynamics of the close relationship of innovation and competitiveness. If innovation activity producers reduced, it is losing ground in the market, its production apparatus rapidly aging unfolds investment and technology and economic crisis. With increased innovation is technical and technological renewal of production, increased economic efficiency and competitiveness. Innovations increased the economic efficiency of enterprise functioning. New technologies give an opportunity for all producers to short expenditures on goods production and increase revenues at the same times. During last 5 years Ukrainian producers were working on stability and growing economic efficiency with improving technologies, tax optimization, findings new sources of investments etc. At the same time since 2011 and till 2013 political situation wasn't favorable for producers – economic efficiency decreased rapidly as in plant production do did in animal production. However since 2013 situation is becoming more optimistic. In the last year economic efficiency of plants production is around 30% and in animal production – 15%.

It should be emphasized on various industries and sectors of the economy essence of innovation development has fundamental differences. However, the nature of agriculture and the main directions of this process significantly different. In this connection, it is possible to identify the main features of the formation and development of innovative processes in agricultural production:

- a large and diverse range of agricultural products and processed products, a significant difference in the technologies of production of various types of crops and livestock,
- significant differentiation land fertility and production conditions,
- strong dependence of agricultural production technologies of natural and weather conditions, seasonal agricultural work,
- work with living organisms and land, which is part of the process,
- different degrees of differentiation workers in the sector in terms of education and social status,
- a large gap in time between the creation of new developments and their mass development (particularly new crop varieties and animal breeds), which provides for an additional period of tests and reproduction,
- lack of an efficient mechanism to clear the transfer of science businesses and, consequently, a significant lag in the development of agricultural innovation.

The main of the goal innovation in agriculture is to ensure the efficiency and environmental performance of agricultural production. In the present situation for Ukraine is particularly important activation of innovative processes that can provide the desired development of the agri-

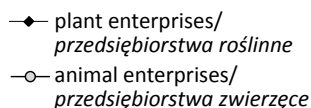
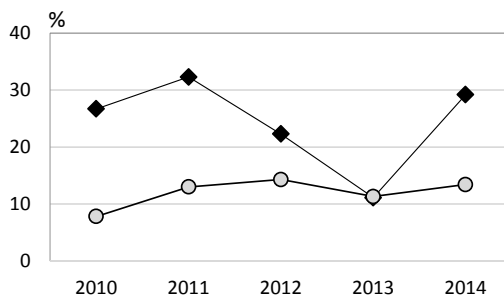


Figure 3. Dynamic of economic efficiency in Ukrainian agriculture

Rysunek 3. Dynamika opłacalności ekonomicznej ukraińskiego rolnictwa

Source: see fig. 1

Źródło: jak na rys. 1



cultural economy. Due to the low solvency of the population in the domestic market is the export of agricultural products can be a reliable source for innovation in agriculture and improving the competitiveness of agri-food products. More competitive products on the international market will provide stable income, contribute to the accumulation of capital for expansion. The development of innovation in agriculture Ukraine – an important direction to build competitive advantage, since agricultural sector economically developed countries is gradually becoming a knowledge-intensive production, making in the future competition from their domestic agricultural producer without further changes impossible. Admittedly, Ukraine compared with the developed countries lagging performance indicators for the main production: productivity, technical and technological security, energy intensity, crop yields, livestock productivity. Because there is only one major factor that can ensure success in the competition – is the latest and resource-saving technologies.

In connection with the situation in Ukraine, there are three approaches to solving the problems of domestic agriculture:

- primitivism production, which spontaneously implemented through the mass importation of foreign high-tech products,
- the use of modern technology in developed countries, resulting in joint with foreign companies access to the world market,
- approach directed exclusively to market their own high technology and relevant products, the determination of priority directions of scientific technical research, concentration on resources and raising motivation teams of scientists, workers and innovative structures.

It was determined that the most efficient in terms of reliable prospects of development of agrarian economy, the third approach is the simultaneous use of certain elements of the other two.

To increase the competitiveness of agriculture it should be established national innovation model of development of the industry, the main elements of which are:

- the definition of the main directions of innovative development of Ukraine’s agriculture,
- focus on these areas of scientific, technical and educational potential,

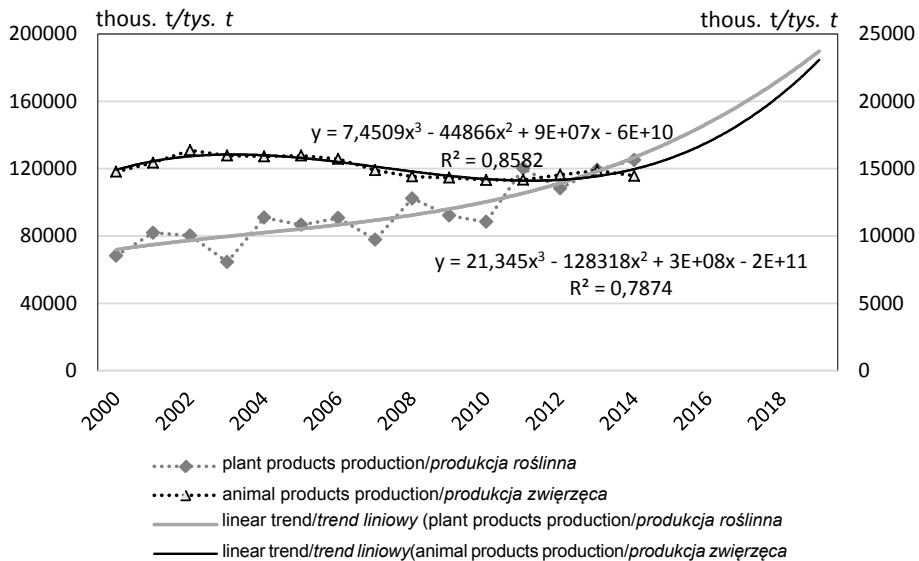


Figure 4. Perspectives of animal and plants production in Ukraine

Rysunek 4. Perspektywy produkcji zwierzęcej i roślinnej na Ukrainie

Source: own calculation based on available data of state statistical service of Ukraine

Źródło: obliczenia własne na podstawie dostępnych danych Urzędu Statystycznego Ukrainy

- at points such concentration integration efforts leading scientific and educational institutions on the grounds of competition;
- system Management in agriculture creation of national and regional innovation structures,
- ensuring a functioning organizational and economic mechanism of innovative development of agriculture.

According to last available FAO statistical data, Ukraine is a leader of export of different agricultural products on the world market. The geography of agricultural export is very wide, but mainly it concentrated on East, Asia, Africa and little bit on European Union countries. It is very important to increase production and use export potential as much as possible. To make sure that Ukraine can use it's potential we make a forecast for future possible agricultural production (Fig. 4). Coefficients of reliability are very high which demonstrates significant level of calculations. It shows that in next 5 years Ukrainian producers can increase volumes of production rapidly. These points can be reached if producers can fully use all possibilities out of cooperation with European Union. Figure 4 demonstrated the tendency in Ukrainian agricultural production. For the last 15 years agricultural production of plants including grains, cereals, feeds was increasing. The main reasons for such positive tendency were high prices on the world markets and government support.

Conclusions

Moving Ukrainian agriculture on the path of innovative development can only be done through an integrated combination of science, research and innovation service at the infrastructure.

Agricultural science is a closed organizational mechanism innovation, activities aimed at ensuring constant of basic and applied research on which innovations are created, produced a set of knowledge and scientific advice in their adaptation to the natural and economic conditions of the country for accelerating scientific and technological progress in agriculture.

Information and advisory activity responsible for distribution and innovation in agricultural production, the organization regularly inform the agricultural producers of all new technologies in agricultural production, as well as training and retraining.

Correlation and regression analysis gave the possibility to make a forecast the future perspectives of Ukrainian export agricultural potential. It also gives the opportunity to define key factors, which needs to be improved for a better development. In case of proper development of agricultural infrastructure and government support, producers have all possibilities to rise volumes of production both – plant and animal products. It will give the opportunity to increase first of all domestic production and to export more food on the global markets. Analysis give the opportunity to say that Ukrainian agriculture has a big potential and it is very attractive for investments. Despite the political situation in Ukraine, its agriculture is developing very fast and gives the opportunity for future expansion.

Improvement of clear legislation base, improving and providing quality standards of World trade organization can do the situation in Ukrainian agriculture more attractive for investments. Especially, it is very important to define a stable government support and protect of producers from small different crises.

Direct development of innovations in production as the final stage of the innovation process takes place directly on farms. Between information and advisory services and direct agricultural producers are closely linked, as the first activity, mostly aimed at their service and Ukraine has here a great potential.

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Streszczenie

Przedstawiono najważniejsze i kluczowe punkty rozwoju rolnictwa na Ukrainie. Analizując dane Organizacji Narodów Zjednoczonych ds. Wyżywienia i Rolnictwa, Banku Światowego i Urzędu Statystycznego Ukrainy zdefiniowano główne punkty, które odpowiadają za zwiększenie konkurencyjności ukraińskich produktów rolnych na rynku światowym oraz dokonano prognozy jej przyszłego rozwoju opartego na korelacji i regresji, które mogą być pomocne dla sektora publicznego i prywatnego w przyjęciu strategii współpracy z producentami rolnymi z Ukrainy. Ukraina odgrywa znaczącą rolę na rynkach rolnych i dysponuje dużym potencjałem do dalszego rozwoju. W ostatnim czasie wzrósł eksport produktów rolnych z Ukrainy do krajów Unii Europejskiej. Na światowych rynkach żywności produkty pochodzenia roślinnego i zwierzęcego zajmują czołowe pozycje i są bardzo konkurencyjne. Począwszy od 1990 roku, Ukraina zrobiła duży postęp w zakresie rozwoju rolnictwa. Obecnie przedsiębiorstwa rozwijają nowe technologie oraz zwiększają wielkość produkcji i przetwarzania.

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