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MODERNIZATION OF THE UKRAINIAN AGRICULTURAL SECTOR: FACING GLOBAL FOOD CRISIS CHALLENGES

The main reasons for the aggravation of the situation in the global food system are investigated. The peculiarities of Ukrainian agricultural sector are analyzed. The modernization algorithm of Ukrainian agricultural sector via adaptation to the European multifunctional agricultural model is proposed.

Key words: global food crisis, agricultural sector of Ukraine, Ukrainian agricultural exports, multifunctional agriculture, agricultural convergence.

Relevance of the issue. The current trend of increasing world population and the growing demand for food associated with it, is a significant threat to global food security. Under such conditions, the contribution of Ukraine to overcome the shortage of food in the world becomes of strategic importance.

Ukraine, known in Soviet times as a «bread-basket», has lost much of its agricultural capacity since its early years of independence. However, in the current crisis in the economy, with the falling revenue from exporters of chemical and metallurgical products, agricultural exports are becoming an important source of foreign trade earnings. Yet Ukrainian specialization in agricultural goods with low added value is a rather negative factor. Therefore, the need to efficiently use the potential of the Ukrainian agricultural sector and harmonize it with the EU standards becomes crucial. That's why, modernization of Ukrainian agriculture via adaptation to the European multifunctional agricultural model is now on the agenda of both researchers and policy-makers here.

Analyses of the recent research. The issues of global food crisis were investigated by Altukhov A [1] and Ilyina Z. [2]; whereas the functioning of Ukrainian agricultural sector was researched by Sabluk P. [3, 4], Mesel-Veselyak V [5], Berezin O. [6] and Tsybok V. [7]. Nevertheless, the issue of modernization of Ukrainian agricultural sector via adaptation to European standards, in order to mitigate the instability in the global food system needs further research.

The purpose of this article is to highlight both theoretical and practical issues of modernization of Ukrainian agricultural sector in the context of tempering the global food crisis.

Main results. Global food crisis having escalated in the early years of the XXI century, focused the attention of governments on the issue of effective use of agricultural potential. Taking into account the fact that food is a basic and vital human need, its constant and plentiful supply became an important task to realize for policy-makers world-wide without exception.

The main reason for the aggravation of the situation in the global food system, and hence the food crisis, is the increasing scarcity of agricultural products and, consequently, the rapid growth in prices [2]. Thus, the imbalance between supply and demand on the global market for agricultural products became obvious. Among the factors influencing growth in demand are those due to: the rapid economic growth in China, India and other developing countries, causing an increase in effective demand for food products locally; this, in addition, to the uncontrolled growth of world population that gains 80 million people each year [1]. The supply of agri-

cultural products in the global food market, however, has not kept at an adequate pace, primarily because of:

- Moderate growth in yields for such important crops as wheat, rice and maize;
- Increased natural disasters, like droughts, floods, fires, all leading to significant crop losses;
- The high cost of getting new lands involved in agricultural production;
- Reduction in natural soil fertility due to excessive use of fertilizers;
- Repurpose of agricultural lands for growing energy crops to produce biofuels [2].

Moreover, there are several other important factors that contributed to the rise in world prices for agricultural products, such as: increased cost of fuel resources with the corresponding rise in transportation costs; speculation in the agricultural commodity exchanges that artificially inflated the prices of agricultural products in the short term; and a gradual transition by developed nations – the leading exporters of agricultural products – into organic production, with its output priced higher due to more costly inputs.

According to the projections by the OECD-FAO Agricultural Outlook 2011-2020, commodity prices are to rise – up to 20% for cereals (maize), and up to 30% for meat (poultry) over the 2011-2020 period – compared to the previous decade. Global agricultural production, at the same time, is forecasted to demonstrate slower growth: a pace of 1,7%, although the past decade growth accounted a 2,6% pace. The slower pace of growth will mostly involve the crops sector, mainly oilseeds and coarse grains, as both face higher production costs while lacking the means to increase yields substantially [8].

Considering the above mentioned, the world food situation can only worsen, requiring a set of adequate measures to ensure permanent and sufficient amounts of affordable food supplies available to all. Consequently, modernization of the Ukrainian agricultural sector and enhancing of its production capacity – a prerequisite to improve the Ukrainian social-economic sphere – can positively contribute to global food security as well.

It is worth mentioning that the agricultural sector of Ukraine, due to favorable climatic conditions and soil features, has considerable potential as a competitive producer of agricultural products for the world market. For example, 44% of Ukrainian soils is represented by various types of highly productive black soil, called chernozem, occupying 26,5 million hectares of state territory, amounting to 6,7% of the world's black soils [9, p. 6].

However, it should be noted that the land in Ukraine is characterized by excessive tillage, with an area that is 72 % of the total; while in France, Italy

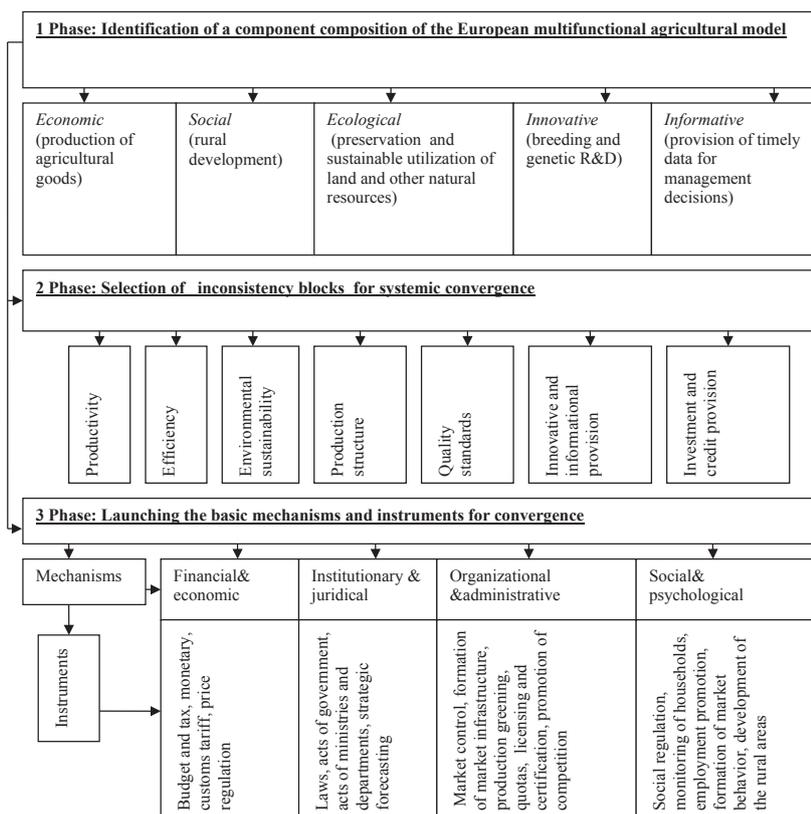


Figure 6. Convergence algorithm of Ukrainian agricultural model to the European

Source: worked out by the author based on [4, 6, 7, 14, 15, 16]

and Germany, it is no more than 30% of overall land. Moreover, about 30 % of arable land is undergoing erosion, resulting in the loss of highly productive farmland. Also there is the shortage of forested area, being only 14,3%; for comparison, in Germany the percentage is over 25%, while for Finland and Sweden it equals 57%. Clearly, the environmental component of agriculture concerning sustainable land use – by afforestation of areas which are unsuitable for agricultural production, and expanding forest strips – should be of particular importance for Ukraine [3].

Agriculture is an important sector of the Ukrainian economy; as in 2012, when it contributed a significant proportion – 9,5% – to GDP, while 5,6 % of all labor force was engaged in it [10]. Moreover, Ukraine is characterized by various forms of management in the agricultural sector, such as: private households that meet the Japanese- Chinese mod-

el of agricultural production; farms that are specific to the European model of agriculture; and agricultural enterprises of market type, which are inherent to the American model of agriculture. Thus, it means that management structure already meets the requirements of various types of businesses – whether small, medium or large [5]. Unresolved issues of land ownership, however, present a serious obstacle for investment.

Agricultural sector is an important source of export revenues as well; thus in 2013 the parcel of exported agricultural goods accounted for 27%. With exports of 17,3 billion \$ and imports of 8,6 billion \$: a positive trade balance equal to 8,8 billion \$. However, the structure of agricultural exports from Ukraine is represented mostly by – grain crops, 34%; sunflower oil, 20%; and sunflower and rapeseeds, 11%. With the bigger parcel of exports going to: Asian countries, above 34%; the European Union, above 27%; and CIS countries, above 21% [11].

Ukrainian production and exports in the crop sector demonstrate positive trends in recent years (See Table 1), and the opportunities available. For example, cereals yields remain rather low – amounting to 3,17 MT/HA, whereas in the US and the EU they are over 5,9 MT/HA and 4,9 MT/HA respectively [12]. This situation is caused by the insufficient use of fertilizer, crop protection substances and lack of modern machinery; while the natural high fertility of Ukrainian soils allows for superior crop productivity per unit of applied fertilizer [9, p. 8-9]. Thus, providing opportunity to enhance crop yields substantially at moderate input costs.

The dynamics of livestock production and export still remain insufficient. Yet due to substantial governmental support, poultry production has made serious progress. Beef and veal, as well as pork production, remain at levels below the primary independence years; a situation resulting from low demand in the local market, low production standards preventing export, and an unfavorable investment climate that discourages investment in modern and efficient livestock farms.

Table 1

Ukrainian production and export trends in crop sector

Year/ Product	Wheat, 1000MT		Barley, 1000MT		Corn, 1000MT	
	Production	Export	Production	Export	Production	Export
2003	3599	66	6833	1517	6875	1238
2004	17520	4403	11084	4312	8867	2334
2005	18699	6461	8975	3959	7167	2464
2006	13947	3366	11341	5103	6426	1027
2007	13938	1236	5981	1044	7421	2074
2008	25885	13037	12612	6371	11447	5497
2009	20866	9337	11833	6232	10486	5072
2010	16844	4302	8484	2794	11919	5008
2011	22324	5436	9098	2462	22838	15157
2012	15761	7190	6935	2134	20922	12726
2013	22000	10000	7500	2500	30000	18000

Source [13]

Presently, the structure of Ukrainian agricultural sector is distorted, and dominated mostly by primary products with low added value. To unlock the country's agricultural potential, there is a need to adapt the European agricultural model, which provides the opportunity to produce high quality and high added value goods, provides for the animal welfare and the protection of the environment, while preserving rural landscapes as part of the national cultural heritage.

At the moment, Ukrainian protectionist agricultural model differs significantly from the multifunctional European one. Therefore, harmonization between the two models, should be carried out gradually and with adequate levels of protection for local producers in the transitioning period. A convergence algorithm comprising three phases of interrelated activities would successfully achieve the adjustment (See Figure 1).

The first phase identifies the main components of the European multifunctional model of agriculture, itself a part of the sustainable development approach. It combines economic growth with social and environmental components, requiring public guarantees of adequate social standards and economic development with minimum harm to the environment – to preserve it for future generations. Therefore, within the multifunctional model framework, agriculture is defined as an area crucial to the viability of society. Hence the sector's inclusion of, not only a typical commercial production (economic) component, but also a number of (significant for society) non-profit components: social, environmental, innovative and informational.

In particular, an economic component is related to the direct production of goods, such as crop and livestock, and therefore contemplates profit from such activities. On the other hand, socially significant non-profit components that are unique to agriculture are associated with maintaining the environmental balance of ecosystems, preserving the agricultural landscapes, protecting society from the negative effects of over urbanization, preserving the rural lifestyle as part of the cultural heritage, and maintaining viable rural areas. That being the case, the EU aims to support agricultural producers proportionately to the public goods they provide. Furthermore, two modern principles of the Common Agricultural Policy of the EU, cross – compliance and modulation, are intended to enhance the sustainability of agricultural production.

The next phase, the second, is a selection of blocks itemizing significant gaps between Ukraine and the EU in the agricultural sector. The main points of divergence identified are:

- *low productivity* – due to lower yields in the crop sector;

- *low efficiency* – due to lack of modern technical equipment, and consequent big losses at harvest time; lack of cooperation among farmers resulting in weak negotiating positions with storage, processing and marketing sectors where a greater parcel of profits is accumulated;

- *environmental sustainability* – mostly ignored in Ukraine, with neither the government, nor the public giving enough support- allowing for high levels of erosion, inappropriate crop-rotation, replacement of organic fertilizer by minerals: all detrimental to the future productivity of soils, yet posing a significant threat to the agricultural potential of the country;

- *a distorted production structure* – characterized by the predominance of a crop sector with low

added value, insufficiently developed organic farming, with a much reduced livestock sector – make Ukraine mostly a supplier of raw materials;

- *low quality standards* – preventing exports of finished products with higher degree of processing and added value to European markets- thus, the real implementation of the Law of Ukraine «On Safety and Quality of Food Products», harmonizing requirements to the product, production process, packaging and labeling, is important. Moreover, the utilization of the International HACCP system, providing for control of food safety at the stages of production, storage and marketing should become obligatory to all national enterprises;

- *low quality innovative and informational provision* in agricultural production is institutionalizing backwardness in the agricultural sector country-wide. Farmers require relevant and reliable data on the situation of the agricultural commodities markets and of any changes in terms of labeling. Such information enables proper managerial decisions to be made on what to produce, what distribution channels to use for products marketing, and what advanced logistical tools to use for increasing their efficiency. Electronic commerce, as well as the application of technical and technological innovations, can significantly improve the efficiency of agricultural production in Ukraine;

- *insufficient investment and credit provision* is detrimental for agriculture, due to its specific character – the seasonality of production. Agriculture encounters the cyclical flow of financial resources, governmental regulation of food prices and fluctuations that are common in international markets. Unfortunately, only a small parcel of agricultural producers here receives state support compensating for loan interest, while others face stringent conditions for obtaining bank loans. Moreover, an unfavorable investment climate and disorder in land property rights discourages further investments in the sector here in Ukraine. Reducing, in this way, the possibility to modernize the technical and technological equipment that would otherwise increase the efficiency of agricultural production.

The third and final phase encompasses the launching of basic mechanisms and instruments for convergence between Ukraine and the European Union in the agricultural sphere. To overcome the existing backlog, convergence should be carried out in an integrated manner, involving: financial, economic, institutional, legal, organizational, administrative, social and psychological regulatory mechanisms.

The improvement of the *financial and economic mechanism* should include the following instruments:

- a) fully transparent governmental funding aimed at achieving the specific objectives of agricultural policy;

- b) balanced taxation, that takes into account the full complexity of the agricultural production process, provides incentives for technological modernization and the adaptation to market conditions;

- c) continued access of farmers to credit on reasonable terms;

- d) efficient customs tariff policy, that protects domestic producers from foreign dumping, and promotes exports;

- e) an effectively-functioning Antimonopoly Committee of Ukraine – monitoring domestic prices to avoid their sharp increases, while also investigating cases of market collusion.

The improvement of the *institutional and legal mechanism* should be carried out via eliminating of contradictions between the normative acts of the executive and legislative branches, as well as by effective strategic forecasting; all effective measures that would substantially enhance the legal framework.

Advancement of the *organizational and administrative mechanism* should incorporate such important instruments as:

- a) strengthening agricultural market controls in order to promote competition;
- b) stimulation of organic production via adaptation of European certification standards;
- c) development of the market infrastructure, to stimulate the creation of appropriate public and private institutions, for the effective interaction between agricultural market participants;
- d) promotion of wholesale markets, information centers, fairs and farmers' cooperatives;
- e) supporting cooperation between banks, insurance companies, investment agencies and agricultural producers so as to provide a permanent supply of credit resources;
- f) boosting collaboration between scientific institutes, universities and agricultural producers to implement their latest developments.

Last is the *social and psychological mechanism*, contributing to the implementation of multifunctional agricultural model in Ukraine, and comprising the following instruments: social normalization via food stamps for people living below the poverty line; expansion of social programs for human development in rural areas; promotion of entrepreneurship and employment of rural residents in branch-

es unrelated to agriculture; and advancement of healthy diet patterns.

Deliberate but gradual adjustments to the multifunctional agricultural model will guarantee a sustainable enhancement of efficiency. It will help to modernize Ukraine's agricultural sector and assist its adaptation to European standards, and most certainly: face global food crisis challenges.

Conclusions. The threatening effects of global food insecurity has raised the attention of both policy-makers and scientists to agriculture, particularly in recent years. It may seem to appear that a backward and subsidized sector can become a significant source of both revenues and opportunities, and potentially increase the global political weight of Ukraine. Despite significant losses in the agricultural sector during the first few years since independence, a gradual increase of agricultural production and exports is taking place now. However, a distorted production structure is a serious drawback. For instance the crop sector benefits from a fast turnover of capital producing low added value goods, and it is booming; in contrast, livestock and organic farming do not demonstrate a similarly rapid growth.

Considering Ukraine's aspirations to join the EU, agricultural convergence is a necessity. Its adaptation should be gradual, assuming a balance of economic interests between agricultural participants and vulnerable social groups suffering the most from rising food prices. Clearly, then, a successful implementation of the European multifunctional agricultural model will enable Ukraine to modernize its agricultural sector and facilitate in tempering the global food crisis.

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МОДЕРНІЗАЦІЯ АГРАРНОГО СЕКТОРУ УКРАЇНИ: ПОДОЛАННЯ ВИКЛИКІВ ГЛОБАЛЬНОЇ ПРОДОВОЛЬЧОЇ КРИЗИ

Резюме

Досліджено основні причини погіршення ситуації у глобальній продовольчій системі. Проаналізовано особливості аграрного сектору України. Запропонований алгоритм модернізації аграрного сектору України через адаптацію до багатофункціональної моделі ЄС.

Ключові слова: глобальна продовольча криза, аграрний сектор України, аграрний експорт України, багатофункціональне сільське господарство, аграрна конвергенція.

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МОДЕРНИЗАЦІЯ АГРАРНОГО СЕКТОРА УКРАЇНИ: ПРЕОДОЛЕННЯ ВИЗОВІВ ГЛОБАЛЬНОГО ПРОДОВОЛЬСТВЕННОГО КРИЗИСА

Аннотация

Исследованы основные причины ухудшения ситуации в глобальной продовольственной системе. Проанализированы особенности аграрного сектора Украины. Предложен алгоритм модернизации аграрного сектора Украины через адаптацию к многофункциональной аграрной модели ЕС.

Ключевые слова: глобальный продовольственный кризис, аграрный сектор Украины, аграрный экспорт Украины, многофункциональное сельское хозяйство, аграрная конвергенция.

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РОЗВИТОК ТІНЬОВОГО БАНКІНГУ В ПРОЦЕСІ ГЛОБАЛЬНИХ ЗМІН У ФІНАНСОВОМУ РЕГУЛЮВАННІ

Досліджено теоретичні та практичні аспекти розвитку тіньового банкіngu та визначено роль фінансового регулювання у цьому процесі. Виявлений пробіл між практикою та регулюванням тіньового банкіngu, заповнити який покликана глобальна регуляторна реформа. Визначено особливості сучасного стану та посткризові перспективи розвитку тіньового банкіngu в світі.

Ключові слова: тіньовий банкіng, тіньова банківська система, глобальна регуляторна реформа, фінансове регулювання.

Постановка проблеми. Масштаб руйнівних наслідків сучасної фінансово-економічної кризи для країн світу вимагає глибокого переосмислення не лише подій, що передували настанню кризи, а й фундаментальних змін у фінансовому посередництві та фінансовому регулюванні. Одним з чинників, який зробив свій вагомий внесок посилення негативних наслідків кризи, став майже безконтрольний розвиток тіньового банкіngu та його операторів – інститутів парабанківської системи.

Аналіз останніх досліджень та публікацій. Не дивлячись на те, що небанківські фінансові інститути розпочали свою діяльність майже 40 років тому, дослідники стали приділяти цьому явищу більш пильну увагу лише із настанням світової фінансової кризи. Дослідженням різних аспектів розвитку тіньового банкіngu займаються такі вчені, як: Т. Адріан [1], Ф. Аллен [9], А. Дворецька [5], А. Ешкрафт [6], Я. Міркін, Е. Сантомеро, Л. Співак [10], Н. Фаренюк [17], М. Шапіро [15], а також групи фахівців Європейського центрального банку [3] та Ради з фінансової стабільності [12].

Виділення невирішених раніше частин загальної проблеми. Не дивлячись на достатньо велику кількість досліджень із заданої проблематики, невирішеним залишається питання ролі змін у фінансовому регулюванні як першопричини та наслідку розвитку тіньового банкіngu.

наansomому регулюванні як першопричини та наслідку розвитку тіньового банкіngu.

Мета статті. Головною метою статті є виявлення особливостей розвитку тіньового банкіngu у світі на сучасному етапі у процесі глобальних змін у фінансовому регулюванні.

Виклад основного матеріалу. Початок світової фінансової кризи був безпосередньо пов'язаний з проблемами зі складними кредитно-іпотечними фінансовими інструментами, що водночас актуалізувало проблему більш ретельного їх моніторингу та регулювання, а також дослідження самої тіньової банківської діяльності – тіньового банкіngu.

Визначення тіньового банкіngu у вітчизняній літературі викликає дискусії, що пояснюється його відносною новизною та різне трактування його з позиції різних національних юрисдикцій. Слід відзначити, що у контексті даного економічного явища термін «тіньовий» не означає неофіційний або незаконний статус суб'єктів, це лише констатація альтернативного характеру їх функціонування порівняно з більш жорстко контрольованим банківським сегментом [1; 2]. У широкому сенсі тіньовий банкіng означає діяльність, пов'язану з інтермедіацією кредиту, трансформацією ліквідності та строків погашення, яка має місце за межами регульованої банківської системи. У свою чергу, установи,