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The impact of the agricultural sector on the development of Ukraine's domestic market

The intrinsic characteristic of the interaction between the agricultural sector and domestic market is defined. The empirical testing of the structure of the modern competitive agricultural market is carried out. The use of Dickey-Fuller stationarity test facilitated doing complex research of the nature of interdependence and factors of the agricultural sector development of the national economy. The dominants of macro-economic and non-price instruments to stimulate the agricultural sector of the national economy are systematized. The priority directions to support the competitiveness of the agricultural sector and domestic market are offered.

Key words: domestic market, agricultural sector, national economy, agricultural production.

The characteristic feature of the modern development of the national economy is strengthening competitive potential and expanding the activities of a real sector of the economy in order to stabilize the domestic market and increasing export. Agricultural production as a part of the real sector gains the importance of a special sphere of people's life support and growing export potential. Accordingly, the scientific research of the accelerated development of the agricultural sector, enhancing its competitiveness, growth and optimization of the production structure according to market needs are activated. Due to this fact the problem of interaction between the agricultural sector and domestic market, strengthening of the impact of this sector on effective functioning and stabilizing the market, ensuring the dynamic equilibrium of supply and demand for agricultural products becomes urgent.

The scientific-theoretical and methodological bases of the interaction of the agricultural sector with functionally interrelated sectors and industries of the economy are developed by the domestic and foreign scientists: V. Andriyчук, V. Heyets, M. Demyanenko, K. Jensen, W. Cochrane, I. Lukinov, Yu. Lupenko, A. Nikonov, T. Ostashko, B. Paskhaver, I. Prokopa, P. Sabluk, V. Tykhonov, I. Ushachev, V. Shevchuk, O. Shpychak, V. Yurchyshyn. Some theoretical and applied aspects of the interaction between the agricultural sector and domestic market are investigated in the works of: V. Apopii [1], O. Berezin [2], A. Mazaraki [3], N. Popadynets [4], V. Tochylin [5], V. Shevchuk [7].

However, many-sided dependence of the agricultural sector and domestic market, their interdependence and mutual influence on the rate and quality of the growth of these areas passed by researchers' attention. Thus, there is an objective need for the profound study of theoretical and methodological principles and scientific and practical approaches to the agricultural sector development according to the needs and requirements of the domestic market, due to the development of the mechanisms of their interaction and tools of the government support and regulation in the conditions of increasing competition.

The aim of the article is scientific substantiation of theoretical and methodological principles and development of applied recommendations to improve the functioning efficiency of the economy's agricultural sector and its impact on the development of Ukraine's domestic market.

The multi-functionality of the agricultural sector results in the extensive system of connections and relationships with branches and sectors of the economy and commodity markets. The domestic market expansion deepens the whole spectrum of relations and relationships of its participants and enhances interdependence. For some objective reasons, the interaction of the agricultural sector and domestic market is caused by deep social and economic motives, which are expressed through needs for agricultural products, commodity production and commodity-money exchange. The

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organic unity of basic categories of the reproductive process and market objectively demonstrates the relationship and interdependence of the agricultural sector and domestic market. Their interaction is supported by a complex system of relations of economic, social and organizational nature and relations mainly commodity ones. The material content of trade relations is the flows of agricultural products and processed products, material and technical resources for the needs of the agricultural sector and consumer goods and services to meet the needs of rural population. These commodity flows have counter direction and support inter-branch relationships. National accounts confirm preferably the inter-branch nature of the agricultural sector relationships. Afterwards, the main function of the domestic market is to provide inter-branch commodity-money exchange of huge masses of products, goods and services and not just the exchange, but equivalent exchange.

Thus, the agricultural sector and domestic market interact on the basis of inter-branch relationships in order to achieve an equivalent commodity-money exchange. However, the interaction includes not only the exchange but also a wider range of relationships due to the influence of varied factors (Fig. 1).

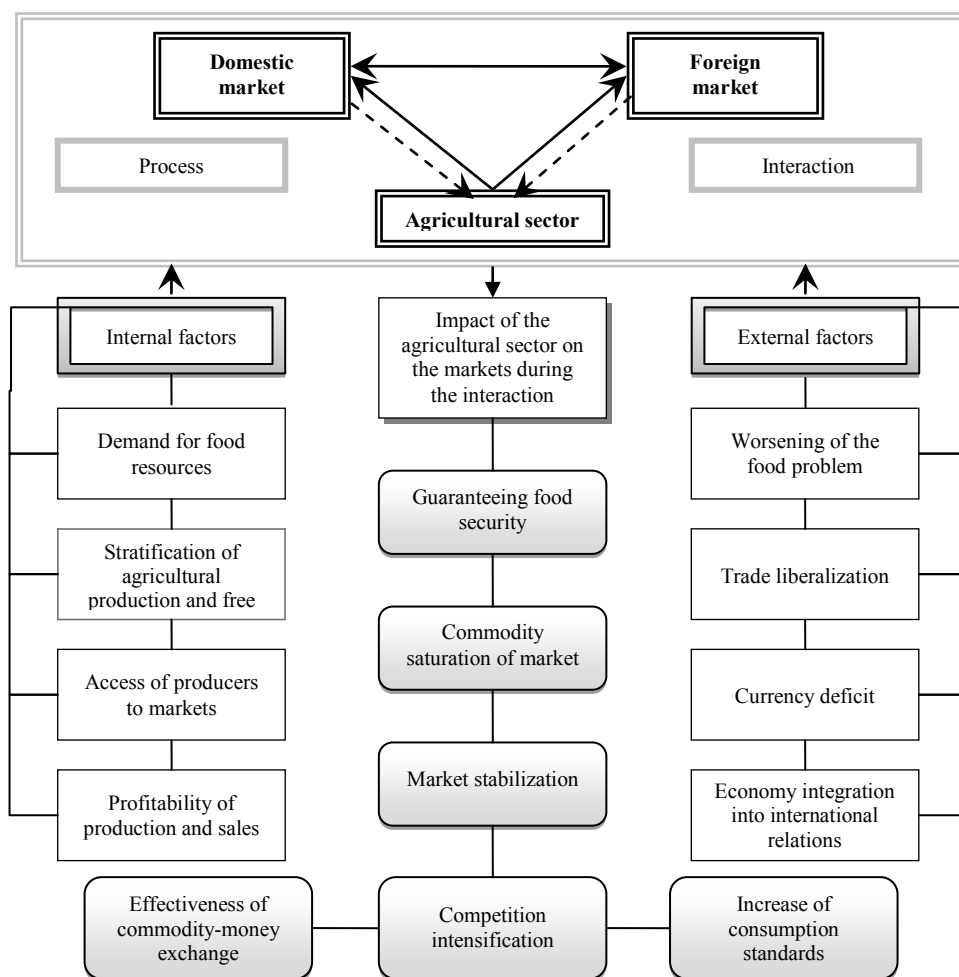


Figure 1. Factors of strengthening the interaction and impact of the agricultural sector on trade domestic markets

Internal and external factors significantly affect the strengthening of the process of the interaction of the agricultural sector of domestic and foreign markets, giving this process continuity and multidirectional features. The interaction is accompanied by constant mutual influence of the agricultural sector and commodity markets. This fact is worth emphasizing, as currently the view of the market total impact on the agricultural sector is prevailing. The exaggeration of a market role is not supported by either theory or practice. The studies prove that the reverse effect is no less extensive, but poorly studied.

The agricultural sector affects domestic and foreign markets constantly and in a multi-dimensional way. It is necessary to note the impact of the agricultural sector on the mechanisms and tools of the domestic market for guaranteeing food security. The output of the agricultural sector is about 260 billion UAH per year. Not less than 80 billion UAH of these volumes makes up the export potential and 60 billion UAH is sold through the channels of the domestic market for production and personal consumption [9]. Thus not only own needs are satisfied, but also the expansion of imports is constrained.

The interaction between the economy's agricultural sector and domestic market develops in specific socio-economic conditions, which are typical of a market economy. These conditions include economic life liberalization, free enterprise, market pricing, competition, market relationships, state protection of all forms and methods of business activity as well as active government support.

The state support of the domestic agricultural sector is not only weak, but also unstable. Therefore, it is important to use the OECD criteria for defining a support level as an indicator of the agricultural policy efficiency. State support can be effective under the availability of a modern mechanism aimed at increasing the competitiveness of agricultural enterprises. In OECD countries, government subsidies make up 34% of producers' total revenue, the same subsidies compared to the cost of output in the EU countries make up 45%, Japan 63%, Norway 70%, Switzerland 73%.

In order to study the nature of relationships and factors of the agricultural sector development the test of Dickey-Fuller stationarity (ADF) (Table 1) was used. For empirical testing of the functional dependence of the economic development in Ukraine the following criteria are applied: exports and imports volumes of agricultural products, agricultural production volumes, wages and the real exchange rate, world prices for agricultural raw materials, production volumes of trade partner countries for the period of 2004-2013 years.

The basic statistical model for the agricultural sector is as follows:

$$\begin{aligned}
 AEXP_t &= \alpha_0 + \alpha_1 AEXP_{t-1} + \alpha_2 RER_t + \alpha_3 P_t^* + \alpha_4 W_t \\
 &\quad + \alpha_5 A_t + \alpha_6 Y_t^* + \alpha_7 A_t^* + \alpha_8 AIMP_t, \\
 AEXP_t &= \alpha_0 + \alpha_1 AEXP_{t-1} + \alpha_2 RER_t + \alpha_3 P_t^* + \alpha_4 W_t \\
 &\quad + \alpha_5 A_t + \alpha_6 Y_t^* + \alpha_7 A_t^* + \alpha_8 AIMP_t,
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 AIMP_t &= \beta_0 + \beta_1 AIMP_{t-1} + \beta_2 RER_t + \beta_3 P_t^* + \beta_4 W_t \\
 &\quad + \beta_5 A_t + \beta_6 A_t^* + \beta_7 AEXP_t,
 \end{aligned} \tag{2}$$

$$A_t = \gamma_0 + \gamma_1 A_{t-1} + \gamma_2 RER_t + \gamma_3 P_t^* + \gamma_4 A_t^* + \gamma_5 AEXP_t + \gamma_6 AIMP_t, \tag{3}$$

where $AEXP_t$ and $AIMP_t$ are exports and imports volumes of agricultural output (in US dollars), respectively, RER_t is a real exchange rate (index, 2005=100), W_t is real wages (index, 2000=100), A_t is agricultural production volumes (index, 1998=100),

Table 1

The results of ADF test for stationarity of export, import and agricultural production in Ukraine 2004-2013 [6]

Lags	Variables					
	Export of agricultural products		Import of agricultural products		Volumes of agricultural production	
3	-1.18	-7.24*	-1.52	-2.20*	-1.39	-7.16*
6	-0.75	-6.29*	-1.54	-4.23*	-0.19	-5.89*
9	-0.76	-4.98*	-2.04	-4.62*	-0.34	-4.45*
12	-0.93	-5.08*	-1.66	-4.64*	-0.34	-4.21*
15	-0.46	-3.98*	-2.01	-4.28*	0.02	-4.57*

Note: test values for the levels and first differences are given in the left and right columns, respectively.

At* is production volumes of trade partner countries (index, 1998=100), P_t^* and Y_t^* are the indicators of world prices and income abroad, respectively. The approximate income value abroad is chosen the indicator of industrial production in Russia (index, 2005=100).

There is weak restriction influence on agricultural production volumes (Fig. 2.). The inverse dependence between the reduction of a real exchange rate and agricultural production gradually weakened in 2004–2006 (the corresponding negative ratio decreased from 1 to 0.5) then stabilized at a rather sufficient level, but with the beginning of the global financial crisis has decreased to barely

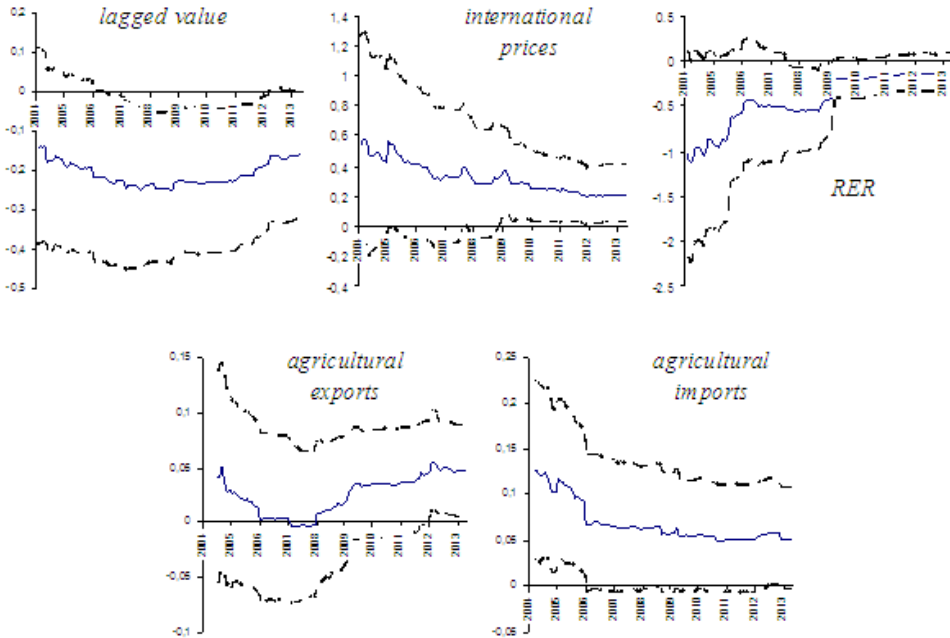


Figure 2. Factors of the change of the volume of Ukraine's agricultural production, 2004-2013

Note: the assessment of the flexible coefficients is given in firm line, while the dotted line represents a confidence interval ± 2 standard deviation

0.13. Simultaneously, agricultural production favorably depends on world prices for agricultural raw materials, however, the corresponding relationship has somewhat weakened in the last decade. On average, the increase in world prices by 1% facilitates the growth of agricultural production volumes by 0.3%, which is quite noticeable. The first of these effects reflects unfavorable influence of the «weak» currency on supply, as in this case the costs of critical imports of fuels and lubricants, fertilizers, plant protection drugs or agricultural machinery grow. Although an undervalued exchange rate is considered to be an instrument to protect the domestic market from excessive competition (conceptually it could be regarded as a customs security equivalent) and export promotion, this does not concern the Ukrainian particular case.

Thus, the decrease of a real exchange rate appears to be neutral as for the export of agricultural products, but the increase in world food prices is favourable for export (since 2008). It is proved that the import of agricultural products leads to a slowdown of export dynamics of agricultural output, while the increase in real wages at least does not impede an increase in agricultural exports, thus creates favorable conditions for the development of the agricultural sector on the basis of work capacity of technologies (including production of environmentally friendly products).

For agricultural production both an increase in exports and imports is favorable, as the determining factors (a real exchange rate, world prices) have an asymmetric impact on the agricultural sector.

The development and functioning of an economy's sector is impossible without active government support in the conditions of tough competition. Such support in the domestic agricultural sector is insufficient and makes up only 6-7 billion a year, which is much lower than in developed countries [8]. It is necessary to support agricultural enterprises, priority-strategic activities, which are based on innovative principles. The forms of state support, in addition to traditional ones (reduced taxes, subsidies) should be credit investments, tax breaks, subsidies from various funds, including ensuring development national programs. In addition, it is important to introduce directions of ensuring effective support of the agricultural sector competitiveness (Fig. 3).

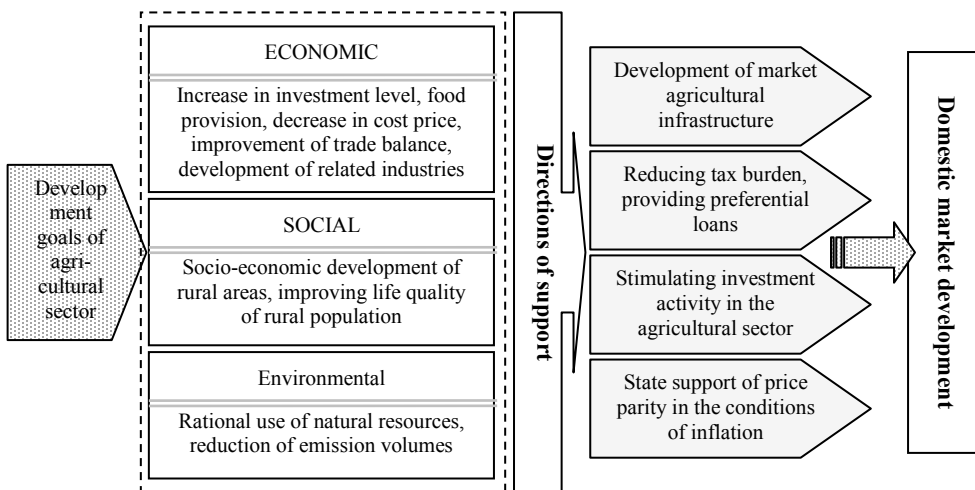


Figure 3. Development goals and the directions of support of the agricultural sector competitiveness in Ukraine

The advanced development of the competitive agricultural sector and domestic market is connected with the profound transformation of organizational forms and structures.

Conclusions. The agricultural sector of the national economy and domestic market are interrelated and inter-stipulated by functional dependence and the unity of a relationship system. During this interaction there is a multidimensional impact of the agricultural sector on the domestic market. The agricultural sector generates the resources of agricultural products and ensures product supply to meet domestic market needs, actively affects a market structure, pricing policy, economic, social and technological aspects of its development. In its turn, the domestic market affects the production program of the agricultural sector, intensifies the competitive environment, provides the needs for material and technical resources, goods and services for rural population, promotes socio-economic development of rural areas. Thus, there is a scale and varied inter-influence on the basis of a complex system of relationships and inter-branch connections. It is proved that the development of agricultural production fosters the establishment of related industries and export increase, reinforcing the impulses for the agricultural sector development. For this purpose it is necessary to ensure the activation of the food industry development. The increase in demand for domestic agricultural machinery and equipment should facilitate the establishment of favorable dependence of industrial production on the increase of agricultural production. Favorable for agricultural production is increasing both exports and imports of agricultural products. The world agricultural policy must be justified by economic expediency of the identified priority directions of state support for the agricultural sector.

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Іванюк У. В. Вплив аграрного сектору на розвиток внутрішнього ринку України.

Визначено сутнісну характеристику взаємозв'язків аграрного сектору та внутрішнього ринку. Обґрунтовано, що аграрний сектор економіки є системоутворюючим елементом національної економіки, який об'єднує різні галузі сільського господарства, головним завданням якого є забезпечення країни продовольством і сільськогосподарською сировиною. Аграрний сектор і внутрішній ринок взаємодіють на базі міжгалузевих зв'язків, що охоплюють не лише обмін, але й ширший діапазон відносин унаслідок впливу різновекторних чинників і супроводжуються постійним взаємовпливом. Аграрний сектор формує ресурси агропродовольства та забезпечує товарну пропозицію відповідно до потреб внутрішнього ринку, активно впливає на структуру ринку, цінову політику, економічні, соціальні і технологічні аспекти його розвитку. Своєю чергою, внутрішній ринок впливає на виробничу програму аграрного сектору, інтенсифікує конкурентне середовище, забезпечує потреби в матеріально-технічних ресурсах, товарах і послугах для сільського населення, сприяє соціально-економічному розвитку сільських територій. Таким чином, відбувається масштабний і різновекторний взаємовплив на базі складної системи відносин. Здійснено емпіричне тестування структури сучасного конкурентного ринку сільськогосподарської продукції. Використання тесту на стаціонарність Дікі-Фуллера сприяло комплексному дослідженню характеру взаємозв'язків і чинників розвитку аграрного сектору національної економіки. Простежується слабкий рестрикційний вплив реального обмінного курсу на обсяги сільськогосподарського виробництва. Оборнена залежність між зниженням реального обмінного курсу та сільськогосподарським виробництвом поступово послабилася в 2004-2006 рр. Водночас сільськогосподарське виробництво залежить від світових цін на сільськогосподарську сировину. У середньому підвищення світових цін на 1% спричиняє збільшення обсягів сільськогосподарського виробництва на 0,3%, що досить відчутно. Слід підкреслити, що реальний обмінний курс і світові ціни на сільськогосподарську сировину здійснюють асиметричний вплив на обсяги сільськогосподарського виробництва. Запропоновано цілі розвитку та напрями підтримки конкурентоспроможності аграрного сектору економіки України. Розвиток сектору економіки можливий лише при активній державній підтримці в умовах посилення конкуренції. Формами державної підтримки, крім традиційних (пільгові податки, субсидії,) мають бути кредитні інвестиції, податкові канікули, дотації з різних фондів, у тому числі забезпечення національних програм розвитку. Зростання та стабілізацію розвитку аграрного сектору національної економіки необхідно забезпечити шляхом використання прямих і непрямих важелів державного регулювання, що дозволить підвищити конкурентоспроможність аграрного виробництва.

Ключові слова: внутрішній ринок, аграрний сектор, національна економіка, сільськогосподарське виробництво.

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