

Investment Instruments for Managing Innovative Transformations of the Agricultural Sector to Ensure Sustainable Development in the Context of Globalization

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ABSTRACT

Current financial instruments have been evaluated to ensure the increase of investment resources in the face of the current global challenges and to ensure sustainable development. The positive impact of globalization processes on the agricultural insurance market has been confirmed, which has led to the use of new innovative tools. The importance of creation of the Infrastructure Investment Fund for solving strategic tasks of development of the agricultural sector of the national economy by expanding the volume of financing at the expense of the Fund of subjects of agribusiness, foreign investment of agro companies and attracting them to tenders of international organizations is substantiated. The mechanism of selection of agribusiness entities was developed based on a comprehensive assessment of their compliance with the requirements of attracting the studied financial instruments. The authors conclude that there are positive changes in the agricultural sector of Ukraine due to various financial initiatives that have been launched in recent years. However, the country is only at the initial stage of successful implementations that will help increase the investment attractiveness of national agricultural producers in the future. The authors note that the choice of financial instruments for the transfer of investment resources for agribusiness should be made depending on many factors. The authors emphasize the expediency of creating a Fund for Infrastructure Investments in the agricultural sector in Ukraine with a mixed principle of income generation. Such a fund should include infrastructure projects in the agricultural sector, the development of production facilities for processing agricultural products, soft loans, and more.

Keywords: Management of Investments; Financial Instruments; Innovative Development; Digital Assets; Agrarian Sector; Distributed Ledger Technology; Blockchain Technology.

JEL Classifications: G23, O16, O31, Q14

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Instrumentos de Inversión para Gestionar las Transformaciones Innovadoras del Sector Agrícola con el Fin de Garantizar el Desarrollo Sostenible en el Contexto de la Globalización

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RESUMEN

Se han evaluado los instrumentos financieros actuales para garantizar el aumento de los recursos de inversión frente a los actuales retos mundiales y asegurar el desarrollo sostenible. Se ha confirmado el impacto positivo de los procesos de globalización en el mercado de los seguros agrícolas, lo que ha llevado a la utilización de nuevos instrumentos innovadores. Se corrobora la importancia de la creación del Fondo de Inversión en Infraestructuras para resolver las tareas estratégicas de desarrollo del sector agrícola de la economía nacional mediante la ampliación del volumen de financiación a cargo del Fondo de los sujetos de la agroindustria, la inversión extranjera de las empresas agropecuarias y la atracción de éstas a las licitaciones de las organizaciones internacionales. El mecanismo de selección de las entidades de la agroindustria se desarrolló sobre la base de una evaluación exhaustiva de su cumplimiento de los requisitos de atracción de los instrumentos financieros estudiados. Los autores concluyen que hay cambios positivos en el sector agrícola de Ucrania debido a las diversas iniciativas financieras que se han puesto en marcha en los últimos años. Sin embargo, el país se encuentra sólo en la fase inicial de las implementaciones exitosas que ayudarán a aumentar el atractivo de las inversiones de los productores agrícolas nacionales en el futuro. Los autores señalan que la elección de los instrumentos financieros para la transferencia de recursos de inversión para la agroindustria debe hacerse en función de muchos factores. Los autores subrayan la conveniencia de crear un Fondo de Inversiones en Infraestructuras en el sector agrícola de Ucrania con un principio mixto de generación de ingresos. Dicho fondo debería incluir proyectos de infraestructura en el sector agrícola, el desarrollo de instalaciones de producción para el procesamiento de productos agrícolas, préstamos blandos, etc.

Palabras claves: Gestión de inversiones; Instrumentos financieros; Desarrollo innovador; Activos digitales; Sector agrario; Tecnología de libro mayor distribuido; Tecnología Blockchain.

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1. Introduction

Modern transformations of the economic system of Ukraine determine the instability and uncertainty of conditions and mechanisms for financing the agrarian sector. At the same time, the relevance of the most popular of them, such as bank lending, leasing services and investing in agro-projects are reduced due to their dependence on the stability of the exchange rate, the bank's policy on the directions of lending, the unsettled issue of the land market, since lack of collateral from agricultural enterprises limits their access to credit resources and more. These trends have necessitated the introduction of new financial instruments that will enhance the ability of the agricultural sector to generate investment resources in the face of globalization challenges.

In this context, one of the problematic issues is the construction of adaptation mechanisms for the integration of innovative instruments that have become widely used in international practice to finance the agricultural sector of Ukraine.

The authors have an aim to evaluate modern financial instruments aimed at increasing the volume of attracting investment resources in the face of the current globalization challenges and ensuring sustainable development; identifying opportunities for multilateral cooperation between seed producers, plant protection products, machinery, equipment, etc. with banks, insurance companies and international partners on preferential lending to agricultural producers; to substantiate the mechanism of selection of agribusiness entities based on a comprehensive assessment of their compliance with the requirements for attracting the studied financial instruments (agrarian receipts, leasing, forwarding, bank lending, agricultural insurance, avowed promissory notes, bonds, letters of credit, guarantees, factoring, initial public offering); an innovative mechanism for selecting financial instruments for the formation of investment resources in the agricultural sector of the national economy has been developed.

Recently, in the field of investment instruments for managing innovative transformations of the agricultural sector to ensure sustainable development in the context of globalization and with the development of economic and legal relations, the formation of digital economy is taking place.

The problem of choosing financial instruments for agricultural enterprises is due to their uniqueness and readiness for digital transformation on the one hand. On the other hand, not all financial instruments are available for use. Therefore, the problem of the methodology of selection of appropriate financial instruments is relevant. A striking example of mergers and acquisitions and investment activities is the conclusion of smart contracts using distributed ledger technology (blockchain technology) when buying Mriya Farming PLC (Ukraine), Saudi Agricultural and Livestock Investment Co. (SALIC) (Saudi Arabia).

The processes of digital economy formation in today's financial space lead to the search for new forms of assets. Kud (2019) in his work proposes such a definition of a digital asset, is an information resource derived from the right to value and circulating in the distributed ledger as a unique identifier. In other work, he indicates that a digital asset is more functional and reliable than cryptocurrency. It is presented by an informational resource, displayed by a code, can be circulated both in a distributed register and other fields. Pypenko and Kud (2019) determines the right for usage, levels mediators' services, etc. In the context of the transformation economy to the digital economy, digital assets could be recognized as a modern form of innovative investment instruments. The novelty of the research is in the authors' approach to the valuation of current financial instruments (Dar et al 2018). The study presents the mechanism of selecting agribusiness entities based on a comprehensive assessment of their compliance with the requirements of attracting the studied financial instruments.

2. Literature Review

It should be noted that the questions of theory and practice of application of different instruments of financial-credit mechanism of activation of investment processes in certain branches

of national economy were thoroughly researched by scientists: Peresada (2006), Denysenko (2003), Mayorova T.V. (2014), Angelko I.V. (2015) and others. Foreign scholars mainly cover the experience of using various financial instruments to invest in sustainable economic development, in particular Kleiman and Sahu (1997), Fabocci (2010), Tropea and Corvall (2016). However, in spite of the existing scientific achievements, the issues of the use of different financial instruments in the practice of investing in the domestic agricultural sector, the characteristics of existing opportunities and the probable reservations regarding the choice of financial instruments by agricultural producers in the context of globalization challenges remain under consideration today. It is the above and determines the relevance of the study, the formulation of its purpose and the specification of tasks.

Castellano-Álvarez, Durán-Sánchez, de la Cruz, Álvarez-García (2020), in their research provides interesting conclusions regarding the projects implemented, their type of promoters, the innovative content of the investments, as well as the long-term viability of the projects carried out within these two lines of action. Bukhtiarova, Hayriyan, Chentsov, and Sokol (2019) noted, that development of instruments aimed to increase investment potential of agrarian sector is an important component of the country's economy growth.

Gmyria V. (2013) during researching aspects of financial relations indicates, that improving the financial sustainability of agricultural production is impossible without state support based system aimed at mobilizing the use of existing productive capacity. Among the measures for its implementation in terms of instability arising from agricultural production, and the lack of equal mutually beneficial relations between producers of agricultural products and the industry in the first place include loans and subsidies (shaikh et al 2020).

Davydenko and Skrypyk (2017) explored in her works methods of evaluation of investment attractiveness. According with this approach and methodology for the evaluation of investment attractiveness of enterprises can be successfully applied in agrarian enterprises as during the choice of priority directions of investment investments, as well as for operating current costs, technologies, etc..

3. Data and Methodology

The methodological basis of the study is the fundamental provisions of economic theory, state regulation of the economy, investment, the theory of agrarian relations and scientific work on the formation of investment resources in the agricultural sector of the national economy. Structural and systematic analysis was used to structure the financial instruments and determine the compliance of agro-companies with certain indicative features. Functional and comparative analysis was the basis for forming the concept of multilateral cooperation of seed producers, plant protection products, machinery, equipment, etc. with banks, insurance companies and international partners on preferential lending to agricultural producers. A method of analogies, comparisons, logical generalization for the study of trends in the implementation of the outlined financial instruments in the process of financing agricultural companies. Calculation and constructive method for substantiation of innovative mechanism of choice of financial instruments for formation of investment resources in agricultural sector of national economy.

4. Results

The use of new financial instruments in the face of globalization challenges broadens the ability of the agricultural sector to generate investment resources. In this context, the Chief Financial Officer of AgroGeneration Levchenko O. (2017) emphasizes the increasing investment attractiveness of the country's agricultural sector and the potential for its development that can be achieved through the implementation of various financial instruments such as agrarian receipts, forward contracts, bank lending. The use of these financial instruments is a promising direction for the formation of investment resources, as a future yield can be used as collateral, which is a rather new approach but risky, and therefore requires the improvement of existing agricultural insurance products.

Positive changes in lending to representatives of the agrarian sector were noted by experts of the banking sector. For example, Porvina N., director of the agribusiness support department of PJSC "CREDITS AGRICOLE BANK", notes the chain growth of lending to agricultural enterprises in 2018 compared to 2017 (Agroonline, 2020). Reaffirming the importance of lending to the agricultural sector, Advisor to the Chairman of the Board of PJSC BANK UKRAINIAN CAPITAL, Kasian I. stresses the importance of the interest compensation program as an effective financial instrument for reducing costs in the agricultural sector (Results of Agribusiness, 2017).

Taking into account the current state of the foreign exchange market, the share of loans to the national currency up to 78.3% is quite predictable, amounting to UAH 47.4 billion (an increase from the previous year by 24.1%). At the same time, financing of the agrarian sector has a small share of overdue loans of only 5.6% with an average overdue debt on loans of 38.9%. The situation with the reduction of arrears in the direction of lending to agricultural corporations has also improved (Agropolit, 2020). Today, according to the financial policy expert of the Institute for Social and Economic Research, Deshko A., improving the rate of repayment of loans by representatives of the agrarian sector is one of the important indicators that have a positive effect on the stabilization of bank financing of this sector (Leasing in TOP 3 financial instruments for agricultural business, 2020).

Confirms change of position of banks for lending to the agricultural sector and the executive director of the Independent Association of Banks of Ukraine Alexander Korobkov, which states that currently formed two key trends in this area increases the activity of banks towards lending to agricultural companies and increasing lending to farmers (Agropolit, 2020).

Expanding the network of banks engaged in lending to the agricultural sector has softened the conditions for obtaining loans in terms of collateral and agri-insurance requirements. Positive trends were also noted regarding the financing of farms, since the terms of the loan are determined based on the term of the loan, the terms of the affiliate programs, when it comes to the investment goals of lending, without adjusting the size of the borrower. It is also worth dwelling on the general requirements for the solvency of borrowers: medium or high level of profitability, moderate profitability and positive credit history (Tielietov and Letunovska, 2014). In addition, it is worth noting the importance of government support as a reasoned lever in making a positive loan decision. In this context, it is worth noting that the action of the interest compensation program is real support for a specific part of the agricultural sector entities, but this instrument of state support does not directly affect the reduction of the interest rate (Results of Agribusiness, 2017).

Continuing the review of financial instruments, which will enhance the ability to generate investment resources in the agricultural sector, it is advisable to focus on the most used in recent years (Alrizq et al 2018). Thus, the director of the financial department of the Agrarian Fund, Shvets O. notes that in 2018 the project financing of agricultural producers had the following components: forward with commodity component (fuel and lubricants, fertilizers); contract trading (with the participation of the Agrarian Exchange); lending to agricultural production (jointly with commercial banks) (Agrobusiness, 2017).

Agrarian sector banking lending trends have been outlined above, let us dwell more on the forwards, which are considered to be one of the most dynamic instruments of agricultural sector financing in the last three years. The leading companies that buy grain in Ukraine on the basis of a forward are PJSC "Agrarian Fund" and the State Food and Grain Corporation of Ukraine (SFGCU). The SFGCU cooperates not only with large, but also with small producers, the minimum shipment is only 100 tons. The annual interest rate on use of funds ranges from 9.5% to 13% per annum. Loyalty program for regular customers with at least 2 years of positive experience with SFGCU is available, at which an additional 0.25% discount can be obtained. In the framework of the Spring Forward Program 2020, it is planned to purchase additional 150 - 200 thousand tons of grain (State Food and Grain Corporation, 2020).

The results achieved are due to the adaptability of the forward contracts to the agrarian sector, as they determine the length of time at which it is necessary to make delivery at a price that is not

lower, than the market. Therefore, this approach enables agricultural sector producers to obtain funds for the pledge of future harvest and accordingly have a planning horizon (Agrobusiness, 2017). In addition, as noted by the Chairman of the Board of PJSC "Agrarian Fund", Radchenko A., the forward program has several financing conditions and is more accessible to medium and small producers through a simpler clearance procedure than the bank. During 2015-2018, Agrarian Fund PJSC financed agrarians for UAH 8.4 billion. according to the forward program. During the last two years the Company provided 1.1 million tons of mineral fertilizers to agricultural producers (Agrarian Fund, 2020). In addition, the share of "small" contracts in the portfolio in 2018 compared to 2017 increased by 20%.

Continuing to review the financial instruments used to lend to the agricultural sector, it is advisable to focus on the introduction of bills of exchange. The experience of banks implementing this financial instrument in the agrarian sector of Ukraine has received positive feedback. For example, Spivak R., Director of Corporate Products and Partnerships at Raiffeisen Bank Aval, notes that the promissory note program has proven to be effective, as it enables it to optimize borrowing costs in the context of high cost of credit and is a convenient tool for all market participants. The effectiveness of this financial instrument is achieved by taking full or partial responsibility of the bank for fulfilling the obligations of any party to the promissory note agreement (Avaluation of bills, 2020).

This line of financing is part of the loan portfolio of a number of banks, in particular, PJSC "Raiffeisen Bank Aval", PJSC "Credit Agricol Bank", PJSC "UkrSibbank", PJSC "ProCredit Bank", PJSC "Kredobank", PJSC "OTP Bank" "Ukrsotsbank", PJSC "FUIB", PJSC "State Export-Import Bank of Ukraine", PJSC "State Savings Bank of Ukraine" and others. The total volume of Bills of Exchange of Raiffeisen Bank Aval PJSC increased by 5% in 2018 and reached UAH 2.3 billion (Securities Issuer Annual Information, 2018).

Under the partnership program between Bayer and Raiffeisen Bank Aval, agricultural enterprises and farmers have the opportunity to purchase plant protection products from Bayer under 1% financing terms with a promissory note of 9 months (Bills of exchange, 2020). For comparison:

- PUMB PJSC lays 4% per annum on the product of oval bills of exchange;
- within the framework of partnership programs between Singenta LLC (seed production and plant protection products) and PJSC Raiffeisen Bank Aval, PJSC "Credit Agricol Bank", PJSC "UkrSibbank", PJSC "ProCredit Bank", PJSC "Kredobank", PJSC "OTP Bank", PJSC "Ukrsotsbank", PJSC "PUMB", PJSC "State Export-Import Bank of Ukraine", PJSC "State Savings Bank of Ukraine" has a 7% or 9% discount on the company's products depending on the amount provided bills of exchange or bank guarantee (issuing bank) (Avalued promissory notes, 2020).

Given some difficulties with bank lending, it is advisable to consider other models of financing for the agricultural sector, which include agrarian receipts. Financing the agricultural sector through the introduction of agrarian receipts has become widely used in Brazil, as an effective financial instrument. The retrospective of the introduction of agrarian receipts in Brazil dates back to 1994, and now it provides the bulk of the working capital of agricultural enterprises in the country, which in monetary terms is \$ 20-30 billion. US per year. There is a direct correlation between introducing agricultural receipts in Brazil and the development of the agricultural sector, so for 20 years in the country has grown grain production from 60 million tons to 200 million tons. default risk, which ranges from 0.35% to 1% (The Brazilian experience, 2020).

Brazil's successful experience in implementing an innovative approach to financing agricultural enterprises has led experts to study various aspects of the use of agrarian receipts (banking, registry, enforcement, etc.) and assess the feasibility of introducing and adapting this financial instrument in Ukraine. As a result, in 2015, the International Finance Corporation (IFC), a member of the World Bank Group in partnership with the Swiss Confederation, public authorities of Ukraine (Ministry of Agrarian Policy and Food of Ukraine, Ministry of Justice of Ukraine), suppliers of logistics resources, banks, grain traders, international organizations began the implementation of the pilot project "Agrarian Receipts in Ukraine". The introduced model is slightly different from the Brazilian one, in

particular, in Ukraine there is a single centralized electronic registration system, the use of which enables banks and suppliers of production resources to track the already harvested crop, which significantly reduces the risk of default (Agrobusiness, 2017).

There are two types of agrarian receipts in Ukraine - commodity and financial, commodity guarantees the delivery of products, financial, respectively, provide for cash payment. As of the beginning of 2018, 160 agricultural receipts were issued in Ukraine, of which 65 were commodities, 95 were financial ones. Seventy-three were successfully completed and closed. There have not yet been any reports of non-compliance by the borrower with the opening of the procedure of compulsory execution on agrarian receipts (Agrarian receipts, 2020).

Besides, over the past two years, there has been a significant increase in farmers' demand for agricultural receipts. On the whole, the successful implementation of a financial instrument in the form of agrarian receipts was achieved in Ukraine by correcting the shortcomings of the functioning mechanism in Brazil. First, the process of issuing and executing agrarian receipts was standardized. Secondly, a single electronic registration system was introduced. Third, at the legislative level, the procedure for enforcing the obligation after the enforcement of the security within seven days is set (The Brazilian experience, 2020).

A rather well-known instrument that has been functioning effectively in the investment portfolio of agricultural enterprises in recent years is leasing, with growth in the context of this financial instrument in recent years. Thus, according to the Association of Ukrainian Lessors Association for the first 9 months of 2018, the growth amounted to UAH 4.3 billion. in the volume of new financial leasing agreements. At the same time, the volume of the leasing portfolio increased by UAH 1.5 billion compared to the third quarter of 2017. in the volume of new financial leasing agreements and UAH 4.6 billion. in the volume of the portfolio of leasing companies. In the truck and LCV segment, six top 15 sales reached 20% or more leasing penetration. Of the 388 new tractors leased, the top five brands are as follows: Belarus, New Holland, Case, John Deere and Massey Ferguson. Among the harvesters, most of the leasing agreements were signed for the three top brands, namely New Holland, John Deere and Claas. In total, 996 agricultural objects were leased in the third quarter (Results of the 3rd quarter, 2018).

Cooperation with the agricultural sector accounts for 50% of the overall structure of the company. Agrarians work in the following directions: transport, machinery, equipment, real estate. The conditions of cooperation are quite flexible, because they provide the possibility of convenient choice of payment schedule: classic, seasonal or annuity (Agrobusiness, 2020). In summary, while leasing is not a new financial instrument for the formation of investment resources in the agricultural sector, in the context of globalization, the attraction of money through various international projects, it acquires new qualitative characteristics as a component of a comprehensive financial system for the development of the agricultural sector.

It is obvious the necessity of forming the minds of representatives of the agricultural sector on the importance of introducing innovative approaches, both in the production process and in the management process that cannot be done without quality equipment and skilled professionals. The urgent problem is the lack of desire of small and medium-sized agricultural producers to find opportunities to attract financial resources and use existing financial instruments.

Another important and sufficiently problematic issue that is directly linked to both the agricultural production process and the process of attracting financial resources to the agricultural sector is insurance. The complexity of this issue is related to the high cost of agri-insurance, and this trend is inherent not only in Ukraine, but is worldwide, because of the high risk of catastrophic damage from weather conditions. However, unlike in Ukraine, where only 2-3% of the agricultural sector is insured by the agricultural sector, the share of insured agricultural activity in the European countries ranges from 50-70%. Although, according to 2018, the ratio of insurance payments to insurance payments of agricultural producers in Ukraine was 5.5% to 94.5%, which indicates the profitability of this line of insurance.

Despite the difficulties in cooperation between agricultural producers and representatives of insurance companies, it is worth noting the positive developments, among the 60 companies that can provide insurance services in the agricultural sector, working in this direction 10. During the last insurance period, 1200 insurance policies were insured. \$ 240 million and up to 1 million hectares of acreage. In total, it is only 6.5% of all arable land. If we look at index weather insurance, almost 800 contracts were signed this year and about 420,000 hectares of land were insured (Prospects for agricultural insurance in Ukraine, 2020).

In the context of the application of new tools in agricultural insurance, it is advisable to focus on the MeteoSecurity index insurance program as the newest innovative instrument implemented by Singenta in conjunction with IFC. This program protects the agrarian sector producers from the weather risks and is a new financial instrument that is used in the framework of the company's financial programs together with agrarian receipts and forward contracts. The main distinguishing feature of this type of traditional insurance is that the decision to pay compensation is not based on the estimates of the insurance company, but is based on objective temperature indices and rainfall during the stipulated period in the fields. In 2018, MeteoSecurity was named the largest insurance project in Ukraine by volume of reimbursement. If last year 421 thousand hectares were covered all over Ukraine, this year already 586 thousand hectares. Most areas are located in the east and south of the country. Other regions of Ukraine join the program. The number of its participants within the program increased from 420 to 517 enterprises (MeteoSecurity Index Insurance, 2020).

Given that in recent years considerable attention in the country's economic environment has been given to developing promising areas for attracting investment resources, it is advisable to focus on the agricultural sector's ability to attract external financing through bonds. According to the Executive Director of the Independent Association of Banks of Ukraine, Korobkova O., the current state of the country's economic system exerts a negative influence on the possibility of attracting financial resources to the agricultural sector of the country through bonds. This situation is not an exclusive characteristic of the agrarian sector, but has a national character, as the reform of the stock market in Ukraine is currently an additional constraint (Results of Agribusiness, 2017). However, in view of the expert's critical remarks, it is advisable to note that Kernel's investment portfolio contains a given financial instrument.

Considering the importance of the development of outlined financial instruments for the formation of an investment-active agrarian environment, we present in Fig. 1 their generalized breakdown by funding lines.

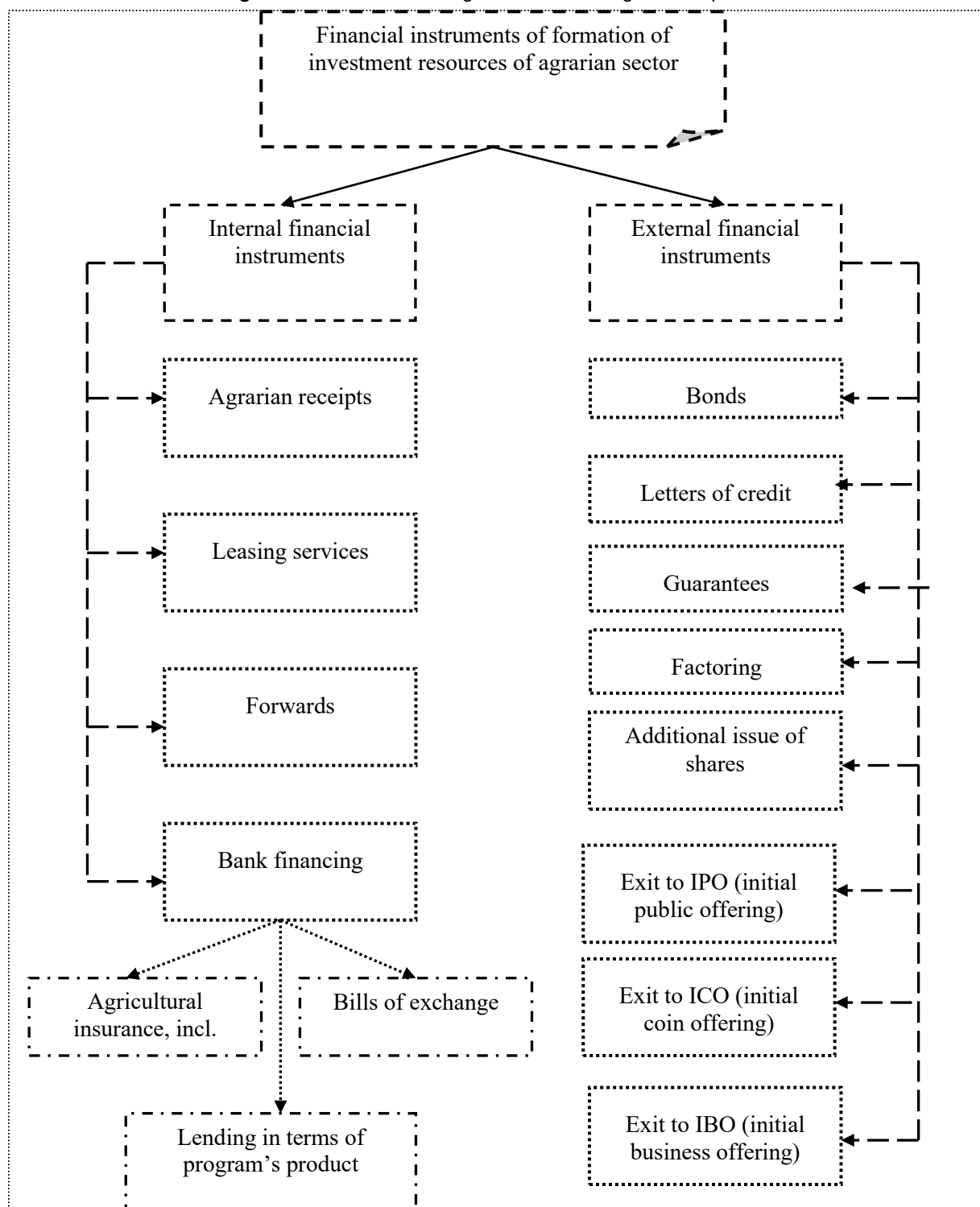
Presented in Fig. 1 financial instruments are a functional toolkit for the formation of investment resources in the agricultural sector of Ukraine. To sum up, it is worth mentioning that one of the most promising areas of financing for the agricultural sector is the multilateral cooperation of seed producers, plant protection products, machinery, equipment, etc. with banks, insurance companies and international partners on preferential lending to agricultural producers.

Attraction of foreign exchange resources in 2013 in the form of Eurobonds was carried out by Oschadbank, Ukreximbank, DTEK, PrivatBank, Ukrzaliznytsya, Myronivsky Khliboproduct, Mriya, Ukrlandfarming. Since 2014, this trend has been used annually to attract funds only by the Ministry of Finance of Ukraine, some companies have entered the foreign market only for restructuring of previous issues (The macroeconomic situation in the country, 2017).

In concluding the review of financial instruments, it is advisable to note that some banks cooperate with agricultural producers on such instruments as letters of credit, guarantees, factoring. However, the experience of using them in Ukraine is limited only by large companies, due to the lack of knowledge of small manufacturers about the possibilities of access to them and their passive attitude to the use of these financial opportunities.

Financial instruments are a form of fixing the conditions for transfer of investment resources for use by agro companies (Fig. 1). Their choice is proposed to be carried out according to the mechanism shown in Fig. 2, depending on a combination of factors that determine specific features:

Figure 1 Innovative financing instruments for agricultural producers



* Source: grouped by author according to [3, 4, 10, 13,14,17,19, 20, 23, 25, 33, 35]

- 1) directly to the subject of agribusiness (scale and efficiency of its investment activity);
- 2) the region in which the subject is planning to invest in agribusiness (determined by the value of the coefficient of efficiency of development of investment resources in the agricultural sector of the region);
- 3) Agrarian sector of the country in which the subject is planning to invest in agribusiness (determined by the coefficient of investment susceptibility of the agricultural sector).

These parameters are summarized in a five-component indicator $FI \{LB_i; QE_i; RI_i; UE_i; CIS_i\}$, where

each of them is rated in scores of 1 to 4 depending on the ranges of values. The mechanism of application of this indicator for choosing a financial instrument is presented in Fig. 2.

Figure 2 The mechanism of selection of financial instruments for the formation of investment resources in the agricultural sector of the national economy

INDICATOR DETERMINATION MECHANISM $FI \{ LB_i; QE_i; RI_i; UE_i; CIS_i \}$					
Factor	Legend	Score			
		1	2	3	4
Area of the land bank of the subject of agribusiness, thousand hectares	LB_i	≤ 1	1,01 – 10,00	10,01 – 100,00	> 100
Quantity of persons employed in the farms of the agribusiness entity	QE_i	≤ 50	50,01-500,00	500,01-5000,00	> 5000
The return on investment of an agribusiness entity (average over the last 5 years)	RI_i	0 – 0,20	0,21 – 0,50	0,51 – 0,80	0,81 – 1,00
The value of the level of efficiency of utilization of investment resources in the agricultural sector of the region	UE_i	0	0 - 0,1505	0,1505 - 0,3005	0,3005 – 0,4505
The value of the coefficient of investment susceptibility of the agricultural sector	CIS_i	0-0,60	0,7-0,9	1	> 1

APPLICATION OF THE INDICATOR $FI \{ LB_i; QE_i; RI_i; UE_i; CIS_i \}$ FOR SELECTION OF FINANCIAL INSTRUMENTS (fragment)	
The value of the indicator	Recommended financial instruments
$FI \{ 1; 1; 1; 2; 1 \}; FI \{ 1; 1; 1; 3; 1 \}; FI \{ 1; 1; 1; 4; 1 \}; FI \{ 1; 1; 1; 4; 1 \}$	Agrarian receipts
$FI \{ 3; 1; 1; 1; 1 \}; FI \{ 4; 1; 1; 1; 1 \}$	Leasing
$FI \{ 1; 1; 1; 1; 1 \}; FI \{ 2; 2; 2; 2; 2 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 1; 1; 1; 4; 4 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 4; 4 \}$	Forwards
$FI \{ 1; 1; 1; 2; 1 \}; FI \{ 1; 1; 1; 3; 1 \}; FI \{ 1; 1; 1; 4; 1 \}; FI \{ 2; 2; 2; 2; 2 \}; FI \{ 3; 3; 3; 3; 2 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 4; 3 \}; FI \{ 4; 4; 4; 2; 4 \}; FI \{ 4; 4; 4; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Bank lending, agricultural insurance, oval bills
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Bonds
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Letters of credit
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Guarantees
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Factoring
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Additional issue of shares
$FI \{ 2; 2; 2; 3; 3 \}; FI \{ 2; 2; 2; 4; 4 \}; FI \{ 3; 3; 3; 3; 3 \}; FI \{ 3; 3; 3; 3; 4 \}; FI \{ 4; 4; 4; 4; 4 \}$	Exit to IPO, ICO, IBO (initial public/coin/business offering)

* Source: developed by the authors

The aforementioned matrix of compliance of agricultural enterprises (Fig. 2) of the list of set standards can guide their development and adherence to the principles of social responsibility, environmental and profile standards will allow the formation of additional investment resources for the development of infrastructure projects and will facilitate the creation of value-added centers.

5. Discussion

The positive impact of globalization processes on the agricultural insurance market, which has acquired new qualitative instruments, is argued. Significant achievements are the introduction of partnership programs, both within the insurance and lending and leasing sectors, which significantly improve the conditions for agricultural producers, including small and medium-sized ones, and enhance their ability to replenish circulating assets.

One of the effective tools for increasing the quality of institutional support for priority sectors of the economy in different countries of the world is the creation of funds of national wealth or development funds of future generations. It has been empirically confirmed that in Ukraine all three basic conditions for the creation of such a fund are fulfilled precisely for the purpose of solving the strategic tasks of development of the agricultural sector of the national economy, namely:

1) one or more types of raw materials (practically monopoly) occupy a significant share (almost monopoly) of exports (for Ukraine it is agricultural sector products);

2) fluctuations in the price of these raw materials (agricultural products) are directly dependent on the change in world average prices and practically do not take into account its domestic cost in Ukraine;

3) Ukraine has no influence on the world pricing policy for these raw materials (products of the agricultural sector) and fully agrees with the already established rules of market pricing.

On this basis, the feasibility of establishing in Ukraine the Fund for Infrastructure Investment in the Agrarian Sector.

6. Conclusions

The positive impact on the agricultural sector of financial initiatives that have been initiated in recent years is obvious, but it is now an initial stage, the successful implementation of which can help to increase the investment activity of agricultural producers. However, in order to achieve positive developments in ensuring the sustainable development of the agricultural sector, it is necessary not to dwell on the results obtained, but to work towards qualitative and territorial deepening of the introduced innovative financial instruments. It is possible to form the proper investment support for the agricultural sector, provided that the investment processes in the agricultural environment are intensified, through the use by agricultural producers of all possible instruments to attract funds, the range of which has expanded considerably in recent years.

The choice of financial instruments for the transfer of investment resources for use by agribusinesses should be made depending on a combination of factors that determine specific features: directly to the agribusiness entity (scale and effectiveness of its investment activity); the region in which the subject is planning to invest in agribusiness (determined by the value of the coefficient of efficiency of utilization of investment resources in the agricultural sector of the region); agrarian sector of the country in which the subject is planning to invest in agribusiness (determined by the coefficient of investment susceptibility of the agrarian sector).

The feasibility of establishing in Ukraine the Fund for Infrastructural Investments in the Agrarian Sector by type of development funds, with the mixed principle of forming the Fund's revenues (a combination of fixed deductions from exports of agricultural products and income from the Fund's investments), with a high level of self-government and mixed structure. Directions of investment of the Fund: agrarian sector infrastructure projects, agricultural processing facilities, preferential lending (through partner banks) of agricultural products and processing industries with high added value.

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