

**Sodoma Ruslana**

*Ph. D. in Economics,*

*Associate Professor at the Department of Finance, Banking and Insurance,*

*Lviv National Agrarian University, Ukraine;*

*e-mail: sodomaruslana@gmail.com; ORCID ID: 0000-0002-5020-6440*

**Agres Oksana**

*Ph. D. in Economics,*

*Associate Professor at the Department of Finance, Banking and Insurance,*

*Lviv National Agrarian University, Ukraine;*

*e-mail: oksana\_agres@ukr.net; ORCID ID: 0000-0003-3398-0933*

**Havryliuk Olha**

*Ph. D. in Economics,*

*Associate Professor of Department of Accounting and Audit,*

*Lutsk National Technical University, Ukraine;*

*e-mail: bortniko@gmail.com; ORCID ID: 0000-0001-6693-5958*

**Melnyk Kateryna**

*Ph. D. in Economics, Associate Professor,*

*Associate Professor of Department of Accounting and Audit,*

*Lesya Ukrainka Eastern European National University, Ukraine;*

*e-mail: pristypakatia@ukr.net; ORCID ID: 0000-0001-9167-5801*

## **MORTGAGE LENDING IN THE AGRICULTURAL ECONOMY: OPPORTUNITIES AND RISKS**

**Abstract.** The development of the agrosphere is possible through the development of all areas of the mortgage (mortgages of agricultural land). However, the efficiency of mortgage lending in agriculture is low. A powerful source of attraction of funds to agricultural production is bank mortgage lending. A prerequisite for its effective development, besides accessibility and transparency for borrowers, is the development of effective instruments for risk management of creditors in the pledging of agricultural land.

The problem of mortgage lending in the agrarian sphere in scientific literature and in banking practice has received considerable attention in the studies of I. Baranovsky, Y. Grudzev, M. Demyanenko, M. Styphen, S. Fisher, and others. Risks to mortgage relations in the agrarian sector of the economy are insufficiently explored.

The purpose of the study is to substantiate the basic principles of mortgage in agriculture, the development of theoretical provisions and practical recommendations for mechanisms for the implementation of mortgage schemes for lending to agricultural producers. Covered land-mortgage lending on the example of foreign countries. The main risks faced by the credit and financial system with land-mortgage lending are considered. The main components of the organizational and economic mechanism of land mortgage in agriculture are described. The stages of development of mortgage lending in the agrarian sector and schemes of mortgage operations on the basis of mortgage of agricultural land are offered.

After the completion of the land reform, the land mortgage in agriculture will be an important tool for ensuring the growth of the efficiency of agricultural production. It is worth giving more rights to individual commercial banks to conduct mortgage transactions, taking into account the competence of existing institutions.

**Keywords:** agrarian enterprises; risks of mortgage lending; mortgage bonds; land mortgage; agricultural land.

**JEL Classification** G21, Q14, Q15

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**Содома Р. І.**

кандидат економічних наук,  
в. о. доцента, кафедра фінансів, банківської справи та страхування,  
Львівський національний аграрний університет, Україна;  
e-mail: sodomaruslana@gmail.com; ORCID ID: 0000-0002-5020-6440

**Агрес О. Г.**

кандидат економічних наук,  
в. о. доцента, кафедра фінансів, банківської справи та страхування,  
Львівський національний аграрний університет, Україна;  
e-mail: oksana\_agres@ukr.net; ORCID ID: 0000-0003-3398-0933

**Гаврилюк О. О.**

кандидат економічних наук, доцент,  
кафедра обліку і аудиту,  
Луцький національний технічний університет, Україна;  
e-mail: bortniko@gmail.com; ORCID ID: 0000-0001-6693-5958

**Мельник К. П.**

кандидат економічних наук, доцент,  
кафедра обліку і аудиту,  
Східноєвропейський національний університет  
імені Лесі Українки, Україна;  
e-mail: pristypakatia@ukr.net; ORCID ID: 0000-0001-9167-5801

## **ПОТЕЧНЕ КРЕДИТУВАННЯ В АГРАРНІЙ СФЕРІ ЕКОНОМІКИ: МОЖЛИВОСТІ ТА РИЗИКИ**

**Анотація.** Розвиток агросфери можливий шляхом поліпшення всіх напрямів іпотеки (застави земель сільськогосподарського призначення). Проте ефективність реалізації іпотечного кредитування в сільському господарстві є низькою. Потужним джерелом залучення коштів у сільськогосподарське виробництво є банківське іпотечне кредитування. Необхідною умовою його ефективного розвитку, окрім доступності та прозорості для позичальників, є розроблення дієвих інструментів управління ризиками кредиторів при заставі земель сільськогосподарського призначення.

Проблемі іпотечного кредитування в аграрній сфері в науковій літературі та в банківській практиці приділена значна увага, зокрема в дослідженнях І. Барановського, Ю. Грудзева, М. Дем'яненка, М. Ступеня, С. Фішера тощо. Проте недостатньо досліджено ризики при реалізації іпотечних відносин в аграрному секторі економіки.

Метою дослідження є обґрунтування основних засад іпотеки в сільському господарстві, розроблення теоретичних положень і практичних рекомендацій щодо механізмів реалізації іпотечних схем кредитування сільськогосподарських товаровиробників. Висвітлено земельно-іпотечне кредитування на прикладі зарубіжних країн. Розглянуто основні ризики, з якими стикається кредитно-фінансова система при земельно-іпотечному кредитуванні. Охарактеризовано основні складові організаційно-економічного механізму земельної іпотеки в сільському господарстві. Запропоновано етапи розвитку іпотечного кредитування в аграрному секторі та схеми здійснення іпотечних операцій на основі іпотеки сільськогосподарських земель.

Після завершення земельної реформи саме іпотека землі в сільському господарстві буде важливим інструментом забезпечення зростання ефективності сільськогосподарського виробництва. Варто надати більше прав окремим комерційним банкам проводити іпотечні операції, ураховуючи компетентності наявних установ.

**Ключові слова:** аграрні підприємства, ризики іпотечного кредитування, іпотечні облигації, земельна іпотека, сільськогосподарські угіддя.

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**Содома Р. И.**

кандидат экономических наук,  
и. о. доцента, кафедра финансов, банковской деятельности и страхования,  
Львовский национальный аграрный университет, Украина;  
e-mail: sodomaruslana@gmail.com; ORCID ID: 0000-0002-5020-6440

**Агрес О. Г.**

кандидат экономических наук,  
и. о. доцента, кафедра финансов, банковской деятельности и страхования,  
Львовский национальный аграрный университет, Украина;  
e-mail: oksana\_agres@ukr.net; ORCID ID: 0000-0003-3398-0933

**Гаврылюк О. А.**

кандидат экономических наук, доцент,  
кафедра учета и аудита,  
Луцкий национальный технический университет, Украина;  
e-mail: bortniko@gmail.com; ORCID ID: 0000-0001-6693-5958

**Мельник К. П.**

кандидат экономических наук, доцент,  
кафедра учета и аудита,  
Восточноевропейский национальный университет  
имени Леси Украинки, Украина;  
e-mail: pristypakatia@ukr.net; ORCID ID: 0000-0001-9167-5801

## **ИПОТЕЧНОЕ КРЕДИТОВАНИЕ В АГРАРНОЙ СФЕРЕ ЭКОНОМИКИ: ВОЗМОЖНОСТИ И РИСКИ**

**Аннотация.** Развитие аграрной сферы возможно путем улучшения всех направлений ипотеки (залога земель сельскохозяйственного назначения). Однако эффективность реализации ипотечного кредитования в сельском хозяйстве является низкой. Мощным источником привлечения средств в сельскохозяйственное производство является банковское ипотечное кредитование. Необходимым условием его эффективного развития, кроме доступности и прозрачности для заемщиков, является разработка действенных инструментов управления рисками кредиторов при залоге земель сельскохозяйственного назначения.

Проблеме ипотечного кредитования в аграрной сфере в научной литературе и в банковской практике уделено значительное внимание, в частности в исследованиях И. Барановского, Ю. Грудзева, М. Демьяненко, М. Ступени, С. Фишера и др. Однако недостаточно исследованы риски при реализации ипотечных отношений в аграрном секторе экономики.

Целью исследования является обоснование основных принципов ипотеки в сельском хозяйстве, разработка теоретических положений и практических рекомендаций относительно механизмов реализации ипотечных схем кредитования сельскохозяйственных товаропроизводителей. Освещено земельно-ипотечное кредитование на примере зарубежных стран. Рассмотрены основные риски, с которыми сталкивается кредитно-финансовая система при земельно-ипотечном кредитовании. Охарактеризованы основные составляющие организационно-экономического механизма земельной ипотеки в сельском хозяйстве. Предложены этапы развития ипотечного кредитования в аграрном секторе и схемы осуществления ипотечных операций на основе ипотеки сельскохозяйственных земель.

**Ключевые слова:** аграрные предприятия, риски ипотечного кредитования, ипотечные облигации, земельная ипотека, сельскохозяйственные угодья.

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**Relevance of the research.** In nowadays conditions the share of those willing to transfer land to rent has increased, due to the lack of opportunities for own agricultural production. The development of the agrosphere is possible through the development of all areas of the mortgage

(mortgages of agricultural land).

Formation and reproduction of the resource potential of the agrarian sector of the economy, effective implementation of socio-economic reforms in this direction and reducing the number of depressed rural areas is impossible, first of all, without substantiation and implementation of measures for the development of mortgage lending in this area [1, p. 80]. However, the efficiency of mortgage lending in agriculture is low.

**Formulation of the problem.** The current state of agriculture in Ukraine is problematic, which prevents its successful development. A powerful source of attraction funds to agricultural production is bank mortgage lending. But under current conditions it is unprofitable for agricultural producers to borrow money on the latest technology, because the interest rates of commercial banks are very high, and there is no liquid bonds of the economy, and the land mortgage is not used in Ukraine.

A prerequisite for the effective development of mortgage lending, apart from its accessibility and transparency for borrowers, is the development of effective risk management tools for creditors.

**Analysis of recent research in publications.** The problem of mortgage lending in the agrarian sphere in the scientific literature and in banking practice has been given considerable attention in studies by I. Baranovsky, Y. Grudzev, M. Demyanenko, M. Stephen, C. Fischer and other. However, the problem of mortgage lending in the agrarian region has not been resolved so far and needs further in-depth research in this field.

**Selection of unexplored parts of the general problem.** Risks to mortgage relations in the agrarian sector of the economy are insufficiently explored.

**Setting objectives.** The aim of the study is to substantiate the basic principles of mortgage in agriculture, to develop theoretical principles and practical recommendations for implementing mortgage schemes mechanisms of lending agricultural producers.

**Presenting the main material.** Land mortgage lending is widely used in countries where the share of loans reaches 60 % of the total volume of the loan portfolio, which is directed to agriculture, where lending is based on the pledge of agricultural land.

In the agricultural sector, credit resources play a decisive role: the seasonal gap between investment and cash flow, the continuity processes of reproduction, a significant need for circulating assets – turn the loan into a main source of replenishment of financial resources. Limited own funds force agrarian companies to hope for banks support [2, p. 238; 10].

For economic development of the agrarian sector it is expedient to attract long-term loans, as the main financial source of development agricultural production. One of the ways of developing long-term lending is the mortgage of land in agriculture. In accordance with Article 1 of the Law of Ukraine «On Mortgage» [3], a mortgage is a form of maintenance of the fulfillment of obligations by real estate, which remains in the possession and use of the mortgagee, according to which the mortgagee is entitled in case of failure by the debtor to secure the mortgage secured satisfaction of their claims at the expense of the subject of mortgage mainly to other creditors of this debtor. In the Article 133 of the Land Code of Ukraine [4] states that mortgages should be carried out by banks, including the state land (mortgage) bank, which should be established and functioned. Agricultural land is considered as a liquid collateral. But, given that the alienation of agricultural land in Ukraine imposed a moratorium (until 2018), today it makes it impossible to develop mortgages in agriculture. If the mortgage was a land, then the borrower (the mortgagor) would carried the risk of such lending, because the land is the product, the price of which is practically not a variable, and it is a commodity that can not be damaged or abducted.

The important role are played as the state authorities as the infrastructure of the land market, since not all agrarian enterprises that own the land can agree on the pledge of their land, that is the risk of its loss.

The main components of the organizational and economic mechanism of land mortgages in agriculture are shown in Figure 1.

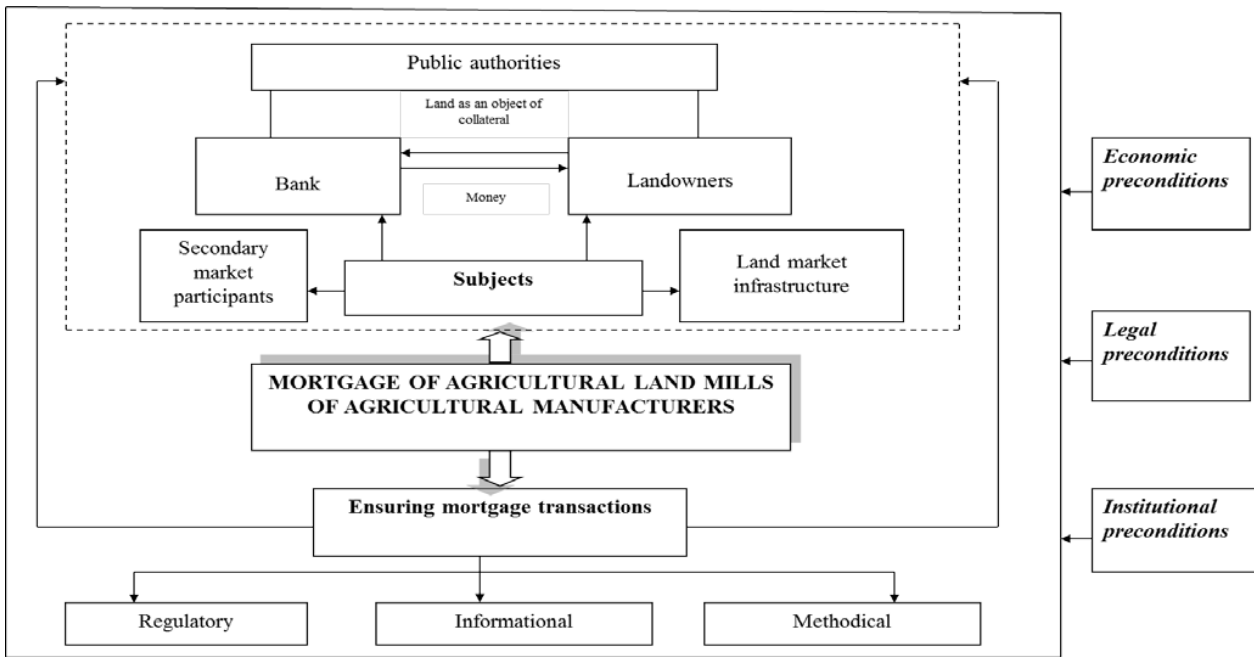


Fig. 1. The mechanism of mortgage of agricultural land plots [5 , p. 126]  
 Built by authors based on: [5, p. 126].

The implementation of mortgage operations should take place with the participation of all forms of agrarian enterprises, including farms, on the basis of the mortgage agreement (Fig. 2). Important conditions of the contract are: content and size of the main obligation; a description of the land plot for its identification; registration data with the obligatory indication that the land plot has an agricultural purpose and a copy of the plan of this land plot.

An important aspect of lending to agrarian enterprises is the prospect of the introduction of agricultural land market (Fig. 3).

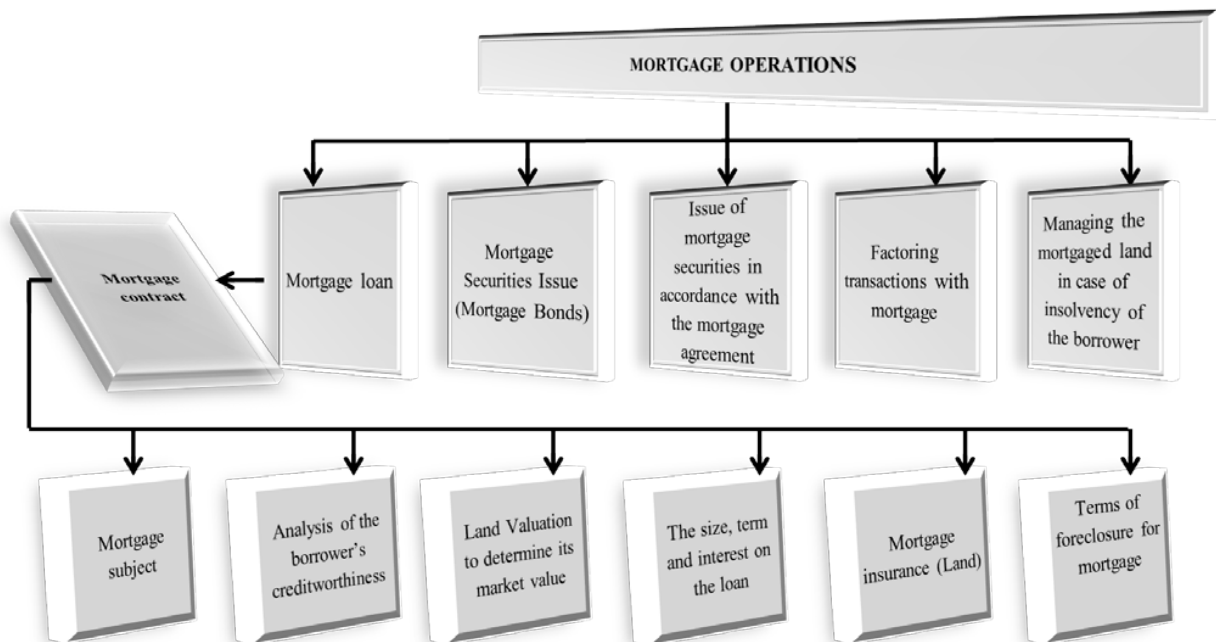


Fig. 2. Scheme for the implementation of mortgage operations on the basis of mortgage agricultural land\*  
 \*Own development.

This scheme is based on using the securities that certify ownership, placement and cost of

land. In the case of obtaining the loan agreement from the bank, the agrarian enterprise appeals to the State Mortgage Institution to guarantee the return of interest for using the loan; The State Mortgage Institution considers the received application and, in the case of a positive decision, sends its consent to the bank and the agrarian enterprise. When receiving a loan from a bank, an agrarian company transfers securities to agricultural land as a pledge. The lender transfers securities to the State Mortgage Institution, which repurchases them to a sum of 90 % of the total amount of the loan body with interest. For these 90 %, the State Mortgage Institution should issue bonds with a maturity longer than repayment terms, and also a value lower than the loan rate. This is quite possible, since interest rates on term bonds in Ukraine are lower than in lending. These bonds are the object of purchase and sale on the financial market, where other enterprises, financial intermediaries, individuals, and state can act as buyers. Upon returning an agrarian business loan, the lender carries out redemption of securities in the State Mortgage Institution. This allows it to carry out a repayment of issued bonds for this loan. If the agrarian enterprise does not repay the loan funds, then the bank, in conjunction with the State Mortgage Institution, addresses the division of the State Property Fund at the location of the land plot for the auction of the sale of collateral, the starting price should be equal to the normative appraisal of the land plot. Mandatory conditions for an auction should be: admission to trading only by residents, the immutability of the target use of land or the establishment of maximum terms during which the land should be used in its intended purpose. After realization of the land plot and transfer of securities to the new owner, the received funds are transferred to the State mortgage institution, which carries out repayment of issued bonds and return of the bank.

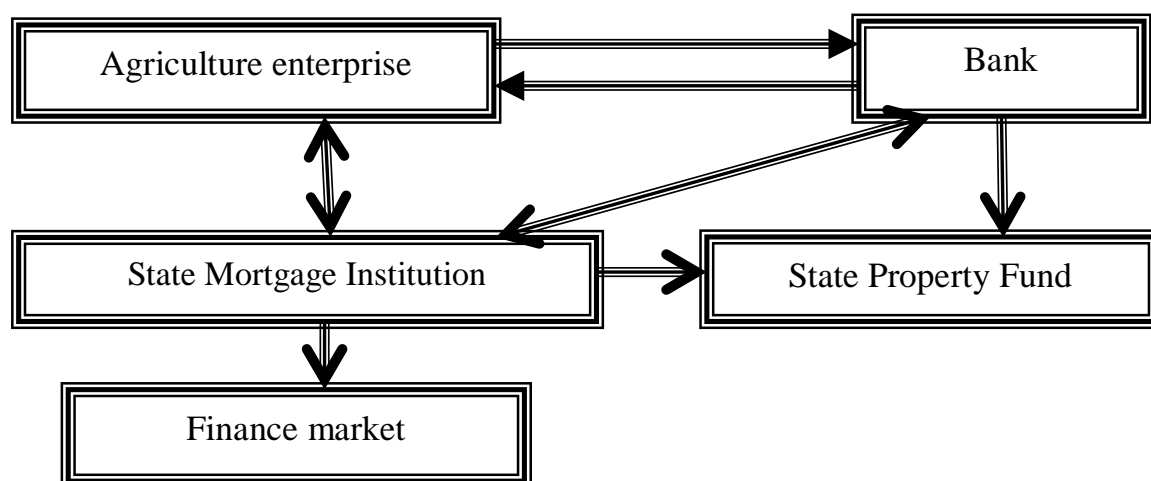


Fig. 3. Scheme of credit agrarian enterprises relations with the bank due to using agricultural land as collateral\*  
\*Own development.

Mortgage land loan should be long-term (5–30 years) with a relatively low interest rate on the loan. The land is mortgaged in the form of securities (mortgage bonds), which serve as a financial instrument of collateral. The open nature of the mortgage involves its registration in the relevant authorities, there is the possibility of repossessing the land, if its value is not exhausted by the previous mortgage [6 , p.538].

If the economy is big and the provision of loans is guaranteed by a large area of agricultural land, which serves as an opportunity to receive higher mortgage loans than small farms.

An important argument is that land mortgages enable agricultural producers to expand agricultural production through the use of fixed assets acquired through mortgage loans, as well as accelerate capital turnover and generate additional profits. Comparing the practice of foreign countries, in the structure of agricultural capital of countries such as Great Britain, Germany, France, Sweden, the share of financing from borrowed funds in agriculture is about 50%, in the USA – 70 % [7].

The main risks faced by the credit and financial system for land-mortgage lending can be divided into five groups (Fig. 4).

Describing the first group of risks associated with the lack of agricultural land market, we can state that no clear procedure for the implementation of land plots from the agricultural land. Therefore, only large and financially sustainable agrarian enterprises can be the first clients in land-mortgage lending.

According to the second group of risks, it is necessary for the state to grant subsidies to compensate part of the cost of paying interest on a loan granted to agricultural producers and secured by land. It is also necessary to provide state guarantees to credit organizations to ensure the issuance of bonds in order to attract financial resources for agricultural producers to finance land mortgage loans.

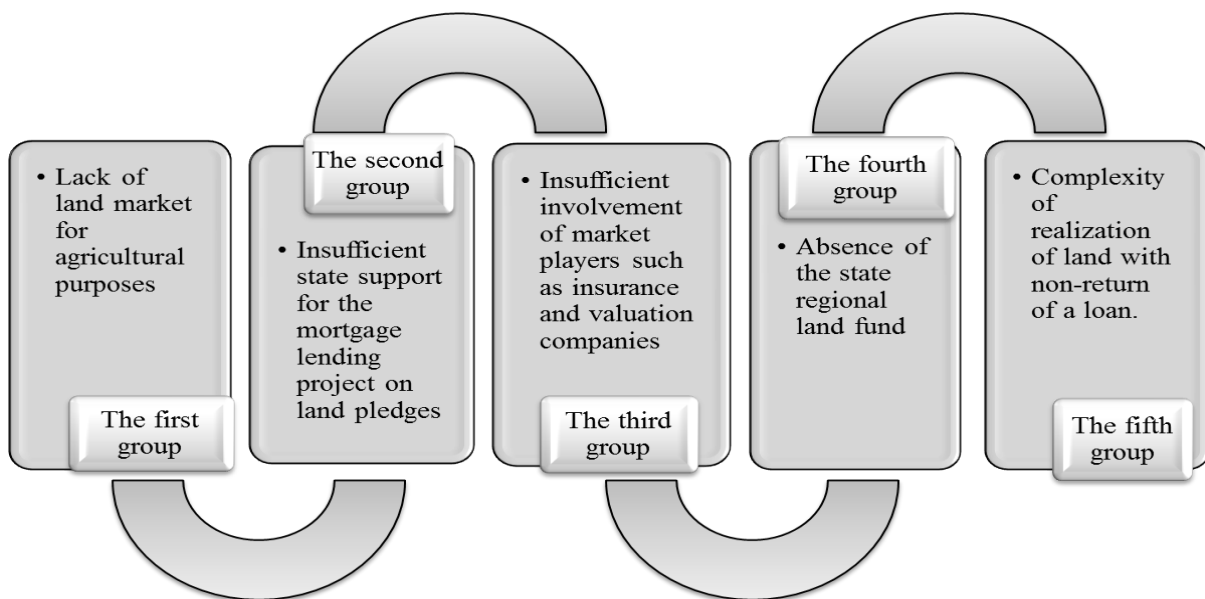


Fig. 4. Risk groups in land mortgage lending\*

\* Source : developed by authors on the basis of [8, p. 255].

The third group of risks indicates that insurance and valuation companies do not play an active role as market players, but are only authorized intermediaries in providing mortgage loans secured by agricultural land. Therefore, it is necessary to include these entities as one of the main in agrarian lending.

In the fourth group of risks, the land fund should include land plots that have lost ownership and dispose of them in accordance with the land management plan. The implementation of the land mortgage system and the formation of a pricing policy in the land market should be ensured by the land fund.

The risk of the fifth group is related to the impossibility to implement a mortgaged plot of land for which loans were provided, that it has not yet been harvested, therefore, it is still necessary to form mortgage funds that would have the land stock in their possession.

The system of mortgage lending combines the real estate market and the financial market, therefore, it is characterized by the risks of these markets: market, credit and operational risks, as well as liquidity and refinancing risks. In order to minimize the effects of their impact, it is expedient to develop a set of measures and methods for their minimization in terms of their species.

Given the existing risk management methods, it is advisable to select the following alternatives:

- diversification – the formation of a loan portfolio from a variety of conditions, terms, purpose of loans;
- insurance – the transfer of risk to third parties, subject to the waiver of a certain share of profits (insurance market instruments, hedging);

- limitation – limitation of the level of permissible risk of individual credit operations;
- underwriting – conducting all types of valuation procedures for each lending operation [9, p. 757].

The main stages of the development of mortgage lending in the agrarian sector of the economy should contribute to the integrated development of mortgage lending agrosphere, first of all it is necessary to consider the components of the formation of the program of mortgage lending, the definition of conditions for the provision of mortgage loans, the formation of criteria for assessing lending, tax incentives for mortgages in the agrarian sector, mortgage risk insurance, and, at the final stage, evaluate the efficiency of mortgage lending to the agrarian sector of the economy. In the agrarian sector it is expedient to use the main types of mortgage loans, such as mortgages for construction; mortgage loans for the purchase of finished real estate or all types of land (in the case of land market development).

**Conclusions.** Commercial banks must take into account the interests of agrarian enterprises in providing loans, that is, to reduce the cost of financial and credit resources and provide long-term loans that will help to implement innovative projects, thereby increasing the share of lending in the structure of agrarian enterprises in the structure of bank loans. Access to mortgage lending to agricultural enterprises is hampered by a number of reasons: low profitability of production activity, legislative issues of land ownership, inadequate management among creditors, depreciation of real estate objects.

After the completion of the land reform, the land mortgage in agriculture will be an important tool for ensuring the growth of the efficiency of agricultural production. It is worth giving more rights to individual commercial banks to conduct mortgage transactions, taking into account the competence of existing institutions.

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© Содома Р. І., Агрес О. Г.,  
Гаврилюк О. О., Мельник К. П.

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