

Uzbekistan Republic to Improve Agricultural Financing

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Abstract: The development of a system of financing the activities of agricultural producers in the world economy is a necessary condition for ensuring the sustainability of their activities. In this system of financing, the financing system is important in terms of meeting the needs of agricultural producers in credit and leasing services. Therefore, international financial institutions and commercial banks pay special attention to lending to agricultural producers. In particular, the volume of loans issued by the Asian Development Bank to agricultural producers in 2017 increased by 14.1% compared to 2016. However, the weakness of cash flow for a significant part of agricultural producers, their weak competitive position, limited opportunities for technical and technological renewal of their activities are among the current problems in financing them.

Keywords: finance, agrarian, leasing, credit, agriculture, banking, interest, analysis, result, money, central bank.

Introduction. He has extensive experience in financing agricultural producers in developed countries and a number of developing countries. It is important to study this experience and assess its feasibility in the practice of the Republic of Uzbekistan. The following types of financial services are provided to agricultural producers in the United States:

- microcredit;
- leasing;
- sales financing

In the U.S., long-term bonds issued by banks that provide financial services to agriculture are recognized by the Federal Reserve as highly liquid assets. As a result, the investment attractiveness of these bonds for commercial banks has increased. This is because investments in these bonds are recognized as liquid assets in determining the current liquidity of commercial banks. Loans from commercial banks and the state budget play an important role in providing microfinance resources for agricultural producers. In Germany, the bulk of farm loans are provided by Raiffeisenbank, and in France by Credit Agricole. In Germany and France, the difference between the interest rate on soft loans provided to farms by commercial banks and the interest rate on loans is bonified, ie subsidized, from the state budget. In this case, the amount of the subsidy is transferred directly to the correspondent account of the commercial bank "Nostro".

The practice of bonifying the interest rates on bank loans to agricultural producers at the expense of public funds has the following advantages:

- Reduced costs of agricultural producers associated with the repayment of loans from commercial banks;
- The level of credit risk of commercial banks in the process of lending to agriculture will be reduced.

In the Republic of Uzbekistan, there is no practice of bonification of bank loans to farms. In other words, the state provides full credit resources to farms growing agricultural products on the state order. This credit resource will be provided to farms through JSCB "Agrobank".

In developed countries, government procurement prices and support for agricultural exports play an important role in increasing the volume of microfinance services. This is because, first of all, the use of government purchase prices will ensure the stability of cash flow of farms, preventing its profits from becoming dependent on changes in the situation. Second, the cost of transporting and cleaning agricultural products exported to the European Union is financed by a special fund. This will play an important role in ensuring the competitiveness of exported agricultural products. This is due to the fact that at the current stage of development of world trade, the main factor determining the competitiveness of exported goods is their price. Established to support the export of agricultural products, the fund consists of contributions from EU monetary funds and a compensation fee when the price of a particular product is higher than the world market price.

Materials and methods. It has been scientifically researched by economists as a system of financing agricultural producers and has been formulated with appropriate scientific, theoretical and practical conclusions.

According to O. Yastrebova and A. Subbotinlap, the unstable financial situation of agricultural enterprises and the low level of solvency prevent them from increasing the level of access to financial services of credit institutions, including microfinance.

In our opinion, the above conclusion is of great practical importance for the practice of Uzbekistan. The instability of the financial situation of agricultural enterprises and farms in the country and the low level of solvency prevent them from increasing the level of access to financial services and microfinance services of banks.

According to Figovskaya, the process of microfinance of agricultural producers should be financially supported by the state. At the same time, the main focus should be on the allocation and bonification of resources from the state budget.

In our opinion, the opinion of N. Figurovskaya is important. This is because the limited access of microfinance services to agricultural producers makes it necessary for the state to intervene in this process.

The growing disparity between the prices of agricultural products and the supply of material and technical resources and services to the industry, the low profitability of public procurement, the profitability of production in the agricultural sector and incomes of producers are significantly higher than in other sectors of the economy. lags behind.

According to McNaughton, lending to farmers, including microloans, through leases and mortgages will play an important role in their development. However, the mechanism of lending on the basis of the right of lease does not exist in the practice of the republic. Because the procedure of deprivation of land to a farmer who is unable to repay the loan has not found a legal solution.

According to I. Petrenko and P. Chuzhinov, due to a number of specific features of agriculture (natural climatic conditions, the duration of the production cycle), the agricultural market can not function continuously. This, in turn, raises the issue of state control over the sector. Undoubtedly, agriculture requires active financial support from the state in the form of direct subsidies and soft loans. However, it should be noted that government lending to agriculture often does not yield the expected results. In particular, the rate of repayment of such loans remains low, and financial institutions remain observers in these processes. It is well known that limited public funding for agriculture does not meet the needs of the agricultural sector for credit.

The results of the analysis conducted by K. Peoples show that the process of issuing long-term investment loans to banks by farms, their interest rates should be regulated by the state.

Results. JSCB "Agrobank" is the main bank for agricultural lending in the country. JSCB "Agrobank" provides loans from the state for the cultivation of cotton and grain. Since April 2009, JSCB "Agrobank" has been responsible for providing financial services to agriculture.

Lending to farms growing cotton and grain at the stage of modern development of the economy of the Republic of Uzbekistan From March 1, 2018, guaranteed state prices for raw cotton and grain will be set for varieties and classes that will increase the profitability of producers and encourage the production of high quality products; Debts of raw cotton and grain farms to service organizations as of January 1, 2018, including debt to the domestic sector and debts to the budget and state trust funds penalties and fines with a deductible period were extended for a period of 3 years, excluding deductions; Within a week, the Ministry of Finance of the Republic of Uzbekistan has received a loan of 150 billion soums from Agrobank at a rate of 5% per annum to provide loans to grain-growing farms in excess of the planned amount of public procurement. UZS.

Using the data in the table below, we assess the level of interest rates on microloans issued by JSCB "Agrobank" to private businesses operating in agriculture.

Table 1
Average annual interest rate on micro-loans issued by JSCB "Agrobank" to agricultural producers, refinancing rate of the Central Bank of the Republic of Uzbekistan and annual inflation rate (in percent)

Indicators	2013	2014	2015	2016	2017
Average annual interest rate on microcredits issued to agricultural producers	14	13	13	12	12
Central bank refinancing rate	12	10	9	9	14
Annual rate of inflation	6,8	6,1	5,6	5,7	14,4

Table 1 shows that microloans issued by JSCB "Agrobank" to private businesses operating in agriculture are issued at a relatively low rate. For example, in 2017, the average annual interest rate on these microloans was 2 percentage points lower than the Central Bank's refinancing rate. However, in 2017, the interest rate on microloans was negative, which is lower than the inflation rate. This has a negative impact on the microcrediting practice of JSCB "Agrobank".

Commercial bank loans should always be positive, that is, above inflation. Therefore, the real interest rate is applied in the banking practice of developed countries. The real interest rate is the rate at which the loan takes into account the growing share of inflation at the nominal interest rate.

Table 2

Structure of microcredits provided by JSCB "Agrobank" to agricultural producers (in percent)

Indicators	2013	2014	2015	2016	2017
Real estate	8,1	6,7	6,6	7,4	8,7
Equipment	2,5	3,1	4,3	3,4	3,1
Insurance policy	30,4	34,7	40,1	33,2	30,6
Warranties	48,5	50,4	48,5	53,2	56,1
Other types of supplies	10,5	5,1	0,5	2,8	1,5
Supplies - total	100,0	100,0	100,0	100,0	100,0

According to Table 2, guarantees and insurance policies play a key role in the provision of microloans provided by JSCB "Agrobank" to farmers. More than 90% of these insurance policies are insurance policies of Uzagrosugurta JSC, a state insurance company. This is due to the fact that loans provided by JSCB "Agrobank", including soft loans for cotton and grain grown for state needs, are insured by JSC "Uzagrosugurta".

Table 2 shows that equipment and real estate make up a small part of the microcredits provided by Agrobank to farmers. This is explained by the small amount of soft loans.

Discussion. We will conduct an econometric analysis of the relevant factors affecting microcredits issued to agriculture by JSCB "Agrobank". Data for econometric analysis are provided by JSCB "Agrobank". The analysis period covers the period from 2008 to 2017, and the statistics are presented by region, ie panel data. As you can see from the image statistics below, the statistics are an unbalanced panel.

**Table 3
Image statistics**

Variable	Definition	Tracking	Average	Std.Dev.	Min.	Max.
$dkre_{i,t}$	Microcredit growth	121	0.11	0.37	-1.53	2.25
$muammoli_{i,t}$	The volume of problem loans on microcredit	140	200.50	475.70	0.00	2677.88
$foiz_{i,t}$	Average interest rate on microloans	140	0.12	0.02	0.00	0.16

Table 3 shows that during the analysis period, the average growth of microcredits allocated to agriculture by JSCB "Agrobank" was 11.5%. From the minimum and maximum values of growth during the analysis period, it can be seen that the fluctuations of these loans were not uniform and there were significant differences in growth rates between years and regions. Proof of this can be seen in the fact that the standard deviation of this indicator is 37.6%. The following diagram shows this figure by years and regions.

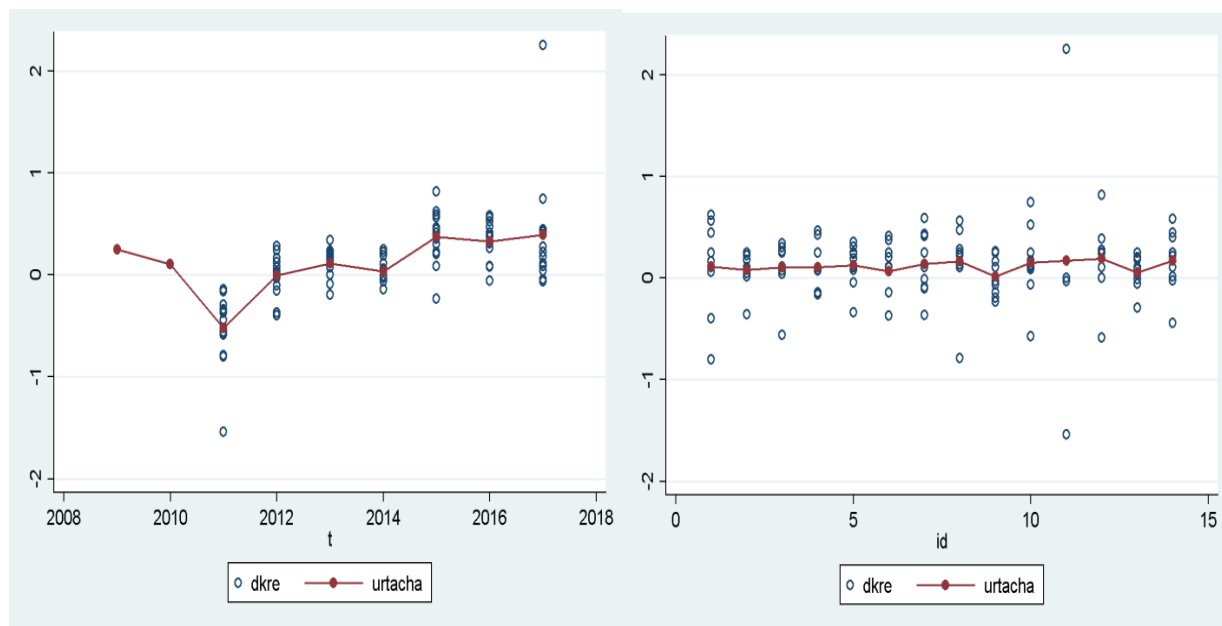


Figure 1. Average growth of microcredits allocated by JSCB "Agrobank" to agriculture (by years and regions).

The analysis of the problematic kpeditlap from the mikpokpeditlap supplied to agriculture by Agpobank JSC shows that the difference between the average and maximum maximum is 13 bapobap, and the minimum value can be multiplied by zero. The main reason for the minimum value of zero is the fact that the city of Tashkent has not issued microcredits for years. As a result, the standard deviation of this indicator is much larger than average. The following diagram shows this figure by years and regions.

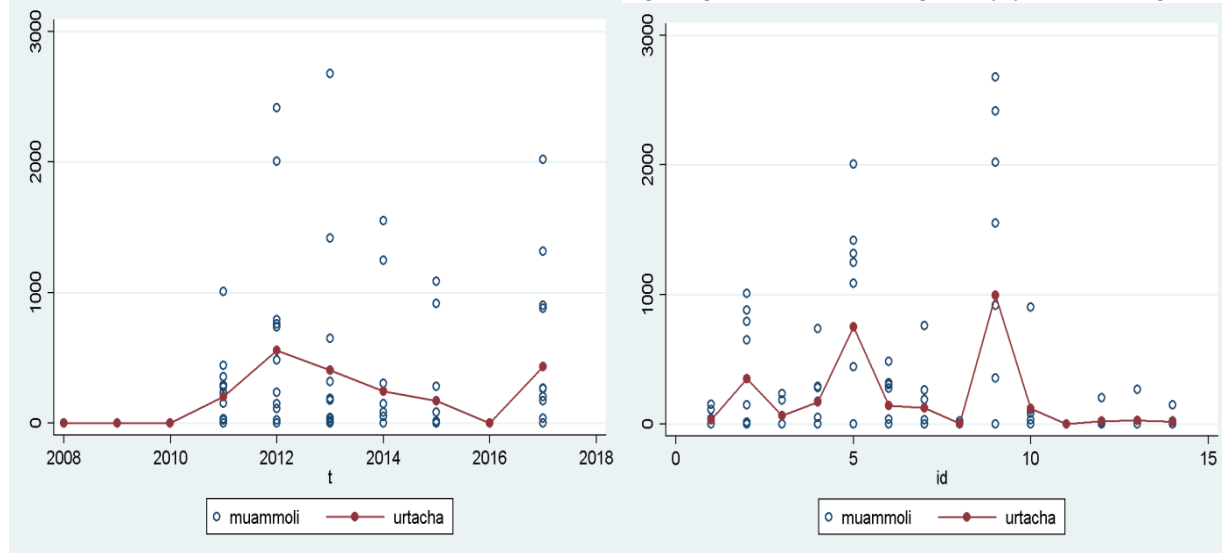


Figure 2. Problem loans arising from microcredits allocated to agriculture by JSCB "Agrobank" (by years and regions)

According to the analysis of interest rates on microcredits issued by JSCB "Agrobank", it can be seen that the average interest rate during the analysis period was 12% and the maximum value was 16.6%. Also, since the difference between the interest rates is not large, it can be seen that its standard deviation is 2.8%. The following figure shows a graph of this indicator by years and regions.

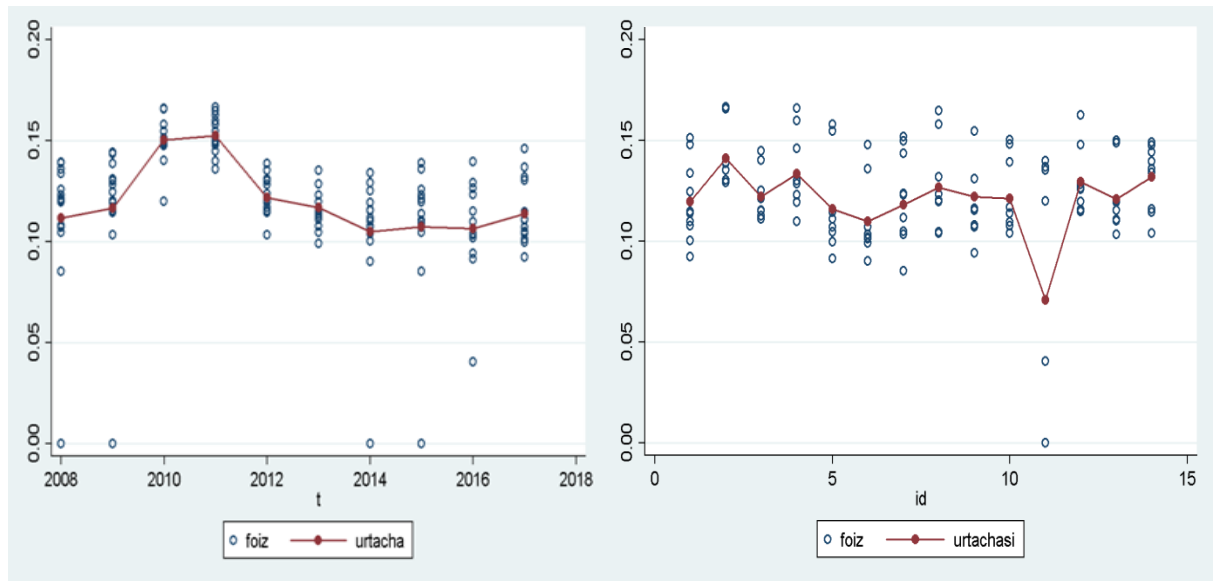


Figure 3. Average interest rate on microcredits allocated by JSCB "Agrobank" for agriculture (by years and regions)

The correlation matrix of the variables is presented in the following table, and its analysis shows that there is a weak but inverse relationship between problem loans and microcredit growth rates arising from microloans allocated by the bank. It can also be seen that there is an inverse relationship between interest rates on microloans and microcredit growth rates. In addition, the analysis of the correlation matrix shows that the regression does not have the problem of multicollinearity.

**Table 4
Correlation matrix**

	<i>dkre_{i,t}</i>	<i>muammoli_{i,t}</i>	<i>foiz_{i,t}</i>
<i>dkre_{i,t}</i>	1.000		
<i>muammoli_{i,t}</i>	-0.114	1.000	
<i>foiz_{i,t}</i>	-0.306	-0.124	1.000

The length of the number of cycles in panel observations requires a unit root test. The following table shows the results of the panel unit root test.

**Table 5
Results of the panel unit root test of variables**

Variables	Test statistical results	P – Value
<i>dkre_{i,t}</i>	49.88	0.0067
<i>muammoli_{i,t}</i>	-7.68	0.0025
<i>foiz_{i,t}</i>	-8.02	0.0000

In this test, according to the basic hypothesis, the variables have a single root, and according to the alternative hypothesis, the eca variables do not have a single root test. The test results show that all variables are stationary, which increases the reliability of our regression results.

The empirical model is written as follows:

$$kre_{i,t} - kre_{i,t-1} = \alpha * kre_{i,t-1} + \beta^j * X^j_{i,t} + \mu_i + \varepsilon_{i,t}$$

$$i = \{1, 2, \dots, 14\}; j = \{1, 2, 3, 4, 5\}; t = \{2008, 2008, \dots, 2016\}$$

there,

$kre_{i,t}$ – in the region by JSCB "Agrobank" t logarithm of microcredit allocated for agriculture in the period;

$X_{i,t}$ – vector of variables affecting the volume of microcredits;

μ_i – an unobservable effect on the region,

$\varepsilon_{i,t}$ – is an error.

Regression results

The coefficients of the variables in the above equation model are econometrically evaluated using the methods of random and fixed effects. In addition, the model assembly is econometrically evaluated using the smallest squares method. Although the results of the summation squares method produce incorrect coefficient values when evaluating our panel data, they can be used to verify the consistency of the results.

A Hausman test is performed to select which of the fixed and random effects methods. In this case, the gaps between the coefficients fixed by the main hypothesis and evaluated by the method of random effects are considered to be unsystematic, while in the alternative hypothesis, the gaps are considered to be systematic.

As we have seen in the graphs and pictorial statistics above, there are several marginal observations in statistical observation, which in turn implies that there is a problem of heteroskedasticity in standard deviation of residues and the use of robust standard error in regression.

In the case of nonlinear regression, the regression model is the basis for constructing the smallest square method. However, in this case, in the search for the value of the parameters (relative to the parameters), a system of nonlinear equations is constructed, and various integration methods are used to solve it.

To check the strength of the correlation and regression analysis, the Fisher criterion - z , the Student criterion - t (t-test) and the Criterion F (F-test) are used.

Table 6
Regression results

	POLS	RE	FE
$kre_{i,t-1}$	0.07 [0.06]	0.07*** [0.02]	0.27* [0.13]
$muammoli_{i,t}$	-0.15*** [0.04]	-0.15*** [0.03]	-0.16*** [0.04]
$foiz_{i,t}$	-6.53*** [1.58]	-6.53*** [1.32]	-8.64*** [1.53]
Kuzatuvlar soni	121	121	121
Regionlar soni	14	14	14
R – squared	0.15	0.21	0.26

All standard errors were calculated robustly to heteroskedasticity.

*** 1% statistically significant

** 5% statistically significant

* 10% statistically significant

From the above regression results, it can be seen that the regression results calculated by the method of summation squares (POLS) and random effects (RE) are almost the same. In all model specifications, standard errors are calculated robustly to heteroskedasticity, which in turn increases the statistical reliability of the results. As a result of the regression, the direction of influence of the variables is the same in all model specifications, and it can be seen that almost all of them are statistically significant. The volume of problem loans arising from agricultural microcredits and the direction of the impact of the average interest rates on these microloans on allocated microloans are negative and are of high statistical significance in all model specifications. Observations show that microcredits allocated to agriculture included in the model to solve the existing auto-correlation problem have a high statistical significance in the regression calculated only by random effects. The regression coefficients calculated by the fixed effects have a higher resolution, and a Hausman test was performed to determine which of the model specifications calculated by random and fixed effects should be selected. The value of the test is 19.14, which in turn leads to the conclusion that the regression results calculated by the fixed effects are the most acceptable for the available statistics. Based on the fixed model, it can be said that the increase in problem loans on microcredits allocated to agriculture by JSCB "Agrobank" by 1,000 soums will lead to an increase in microcredits allocated by the bank in this area to 0.16 units. Also, an increase in the average interest rate on microcredits by one unit will lead to a decrease in the growth rate of microcredits by 8.64 units. The results show that an increase in the volume of problem loans on microcredits will lead to a reduction in the supply of microcredits allocated by the bank to agriculture, and an increase in average interest rates will lead to a decrease in demand for microloans by bank customers.

Conclusions. The results of the econometric analysis of the factors affecting microcredits issued to agriculture by JSCB "Agrobank" showed the following:

* Data for econometric analysis are provided by JSCB "Agrobank", the analysis period covers the period from 2008 to 2017, and statistics are presented by region;

* The average growth of microcredits allocated to agriculture by JSCB "Agrobank" was 11.5%. and there were significant differences in growth rates between regions;

* The difference between the average and maximum on problem loans arising from microcredits issued by JSCB "Agrobank" to agriculture is more than 13 times, and the minimum value is zero. The main reason for the minimum value of zero is the fact that in some years the city of Tashkent has not been allocated microcredits;

* test results show that all variables are stationary, which increases the reliability of our regression results;

* Increase of problem loans on agricultural microcredits in JSCB "Agrobank" by 1000 soums will lead to an increase in microcredits allocated by the bank in this area by 0.16 units; an increase in the average interest rate on microcredits by one unit will lead to a decrease in the growth rate of microcredits by 8.64 units.

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