

IMPACT OF LIQUIDITY OF COMMERCIAL BANKS ON INTEREST RATES

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Abstract

This scientific article is devoted to the analysis of the impact of interest rate policy on the liquidity at commercial banks. Accurate implementation of the interest rate policy on deposits and loans by commercial banks is aimed at ensuring liquidity of the bank. Moreover, the interest rate policy of the banks also makes an impact on the national economy. In addition, the article analyzes trends of interest rates change of commercial banks. Thus, the article represents regression analysis of the correlation of such indicators of bank loans as "amount of funds attracted", "average interest rate on deposits", "average interest rate on loans". As a result, applying "STUDRASPOBR" function of the variable indicator, "Student" value has been calculated. The results have proven that the tariff policy of banks must be flexible and meet the requirements of customers. In addition, carried out research enables to draw a conclusion that implementing interest rate policy can make an impact on the bank liquidity.

Keywords: Bank liquidity, interest rate policy, interest margin, interest rate, interest-bearing income, interest of credit, interest of deposit

INTRODUCTION

The interest rate policy of commercial banks is considered to be one of the most significant instruments that affect the economy of the country. It should be noted that interest rate policy of commercial banks is developed in compliance with the requirements specified in the Decree of the President of the Republic of Uzbekistan №2344 "On measures for further raising financial stability of commercial banks and developing their resource base" as of May 6, 2015 and the Law of the Republic of Uzbekistan "On protection of rights of joint-stock companies and

shareholders”, as well as the Regulation “On interest accrual at commercial banks” registered by №1306 on January 30, 2004 and the Regulation “On non-increase of interests” registered by №1304 on January 24, 2004, other statutory acts of the Central Bank of the Republic of Uzbekistan and internal regulations of commercial banks as well as alterations and additions made thereto.

Commercial banks always use interest rates to regulate the economy in a macro and micro levels. If we research the economy at a micro level, we can find out that the level of efficiency of the interest rate policy for commercial banks is closely connected with interest rates on loans and deposits.

Commercial banks actively participate in the market of financial services in order to improve the competitiveness of the national economy. They provide various types of services to legal entities and individuals. Within the framework of the state program “The Year of the Dialogue with People and Human Interest” new types of term and savings deposits have been introduced by commercial banks to expand the conveniences for the population. In general, the number of convenient and profitable deposits offered to various layers of the population is increasing. Short-term and long-term loans are extended to legal entities, including small businesses and private entrepreneurships, and the volume of leasing transactions of banks is rising as well.

As far as we know, the growth of commercial banks’ deposits and loans is indivisibly linked to interest rates of commercial banks. The interest rates set by the bank on deposits, as well as interest rates set on loans, make a direct impact on the growth of deposit and lending operations of the bank. On the other hand, the interest rate policy of banks will affect their liquidity. If this interest is related to a loan and if it increases, then the liquidity level of the banks will be higher. If the interest rate is connected with the deposit and the interest rates of the deposits decrease, the liquidity of the banks depends on the term of these deposits. If long-term deposits increase, liquidity will also rise, however, if short-term deposits will increase, liquidity will decline. How do these theoretical rules coincide with the current banking practice of Uzbekistan? This implies a special investigation and justifies the topicality of the article.

The amount of paid and charged interest on the bank’s operations is reflected in separate bank documents. Previously, banks in our country did not have any concept of credit policy, deposit policy, interest rate policy. As a result of the research of international banking practice, the above-mentioned banking policies have been developed and put into practice in the national banking system. Initially, the interest rate policy has been included in the deposit and lending policy, and then a separate interest rate policy was developed and is being applied in banking practice.

LITERATURE REVIEW

According to the opinion of Peter Rose (1997), the risk exposed by commercial banks is high as the interest rate risk is high because sharp changes in interest rates affect the value of banks' assets, liabilities, and equity¹. To prevent interest rate risk, financial transactions are required to be hedged. Hedging of interest rate risks can be implemented through the sale or purchase of financial instruments. It can be protected through interest-bearing options, interest-bearing futures and interest-bearing swaps:

- a borrowing on the interest-bearing option gives the right to pay or receive interest at the rate (not compulsory) set earlier at the agreed period of time;
- an interest-bearing futures provides an obligation to extend a loan or receive a deposit at a fixed interest rate at the certain date in future;
- interest-bearing swaps enable to make payments from a floating interest rate to a fixed interest or vice versa.

In the classical theory Keynes J.M. (1999) expressed the opinion about the interest rate limits that are the interest rate limit is determined as the cost paid for the capital use at the market². The American economist I.Fisher (2001) describes the interest rate as follows: "The interest rate can be determined as a percentage interest because it is reflected in money and paid after the time agreed upon"³. From the point of view of O.I.Lavrushin (2014), the interest-bearing loan indicates the cost of various values which is based on the cost of a particular period of use. In science terms, the interest rate set for lending comes from a part of the borrower's income⁴.

Kulliyev I.Ya. (2010) believes that a number of factors makes an impact on creating a loan value at commercial banks. A loan value of commercial banks can make an impact on the deposits attracted by banks, bank operating expenses on lending operations, credit risk margins, as well as the overall margin of the bank. In this case the loan value is determined through application of the following formula⁵.

$$R = Dr + Do + P + S + A$$

Here,

R – loan value of the bank;

¹ PeterRose. Bankmaangement: Offering financial services. Translated from English.-M: DELO, 1997. -768 p.

² KeynesJ.M. General theory of employment, interest and money: translated from English N.N. Lyubimov. – M.:GeliosAPB, 1999. –352 p.

³ Irving Fisher. Purchasing power of the money. –M.:DELO, 2001. – 320 p.

⁴LavrushinO.I. Bankingsystemsustainabilityanddevelopment of the banking policy: Monograph/-M: Kno-Rus,2014. -280 p.

⁵Kulliyev I.Ya. Loan Value creation and its further improvement. Abstract on the dissertation claiming for the scientific degree of the candidate of economic sciences. –Tashkent, 2010. – 16p.

- Dr – value of funds attracted by the bank;
- Do – operating expenses of the bank;
- P – surcharges on credit risk;
- S – bank margin;
- A – additional payments fixed by the bank.

In compliance with the Regulation “On interest accrual at commercial banks” №1306 registered by the Ministry of Justice of the Republic of Uzbekistan on January 30, 2004 the interest on loans extended is accounted on account 16309 (Regulation, 2004). The interest amount is charged within the deadlines specified in the contract. If the customer does not repay the loan in time, then the interest rate is higher than in case of a term loan. The accounting of the overdue loans is carried out in account 16377 and the penalty in the amount of 0,1% is paid by the customer for each overdue day.

When creating interest rates on active operations in the bank, the following factors are taken into consideration:

- refinancing rate established by the Central Bank;
- market conditions;
- expenses on raising cash;
- degree of project-related risk;
- financial status, reliability, creditworthiness and solvency of the borrower.

The bank creates either a cost or a value of the loan for the period of using this loan which includes an average interest rate and margin of the bank before the beginning of the reporting month. The difference between interest receivable and payable by the bank is called margin.

According to some literary sources, the interest margin is the difference between average interest rates on active and passive operations of the bank. In the opinion of Yo. Abdullayev and T. Koraliev, “interest margin is a difference between the interest of income-bearing assets and interest on expenses by liabilities”⁶. Margin - is the difference between interest rates on loans and net payables. According to international standards, the margin is recommended to constitute 2%.

⁶Yo. Abdullayev, T.Koraliev, Sh. Toshmurodov, S. Abdullayeva// Banking. -T.: *MOLIYA-IQTISOD*, 2009. – 463 p.

Consequently, summing up above-stated opinions it is possible to say that interest margin is the difference between interest income earnings on bank assets and interest expense on bank liabilities. In terms of interest the interest margin can also be called as net income:⁷

$$M = \frac{II - EI}{AI} * 100\%$$

M– amount of interest margin;

II – Interest-bearing income;

EI – Expenses on interest payments;

AI – income bearing assets in form of interest.

Interest margin is the difference between the earnings gained due to the interest and expenses of the bank.

The bank margin is designed to cover the risks associated with bank expenses with the account of inflation.

In international practice, operational margins are used to estimate the income of commercial banks. Operational margins are the income generated from basic transactions of the bank. They can be calculated by the following formula⁸.

$$OM = \frac{I_{bbti}}{A_{iba}}$$

I_{bbti} – income of the bank gained from the basic transactions of the bank;

A_{iba} –interest-bearing assets.

OM–operational margin.

The composition of the income gained by commercial banks from the basic transactions is as follows:

- net interest-bearing-income;
- net income from the foreign exchange operations;
- net income received from the transactions on securities;
- net income from the leasing operations;
- net income gained from operations with precious metals.⁹

It should be noted that it is possible to get an actual margin from the difference between total interest-bearing income and total interest-bearing expense of the bank, or the difference between operations with assets of specific interest rates. For example, it can be the difference between interest rates on loans and interest rates on credit resources.

⁷Yo. Abdullayev, T.Koraliev, Sh. Toshmurodov, S. Abdullayeva// Banking. -T.: *MOLIYA-IQTISOD*, 2009. – 463 p.

⁸The same source.

⁹The same source.

Actual interest margin can be calculated by the following formula:¹⁰

$$M = I_l - I_r$$

M–actual interest-bearing margin;

I_l–monthly interest rate on loans;

I_r–monthly interest rate on resources.

The main factors are the amount of the interest margin, composition of loans, their structure and sources. Placing of loans by their terms, risk hedging, credit goals ensure profitability of the loan. In this case, the amount, types and terms of deposits play a crucial role.

Changes in interest rates may be related to the increase and decrease in interest rates on active operations of banks, the impact of attracted paid resources on liabilities and their share in loans. The terms of the paid borrowed funds and the terms of the loans can make an impact on the margin.

In order to provide efficient conducting of accounts at commercial banks it is required to determine spread. Moreover, net interest margin includes competitiveness of the bank's performance and other aspects. The spread can be determined according to the following formula¹¹.

$$\text{Spread} = \frac{I_i}{A_i} - \frac{I_e}{L_{se}}$$

Here:

I_i – interest-bearing income;

A_i – income-earning assets;

I_e – interest-bearing expenses;

L_{se} – liabilities subject to expenses.

Using the spread indicator of commercial banks, banks demonstrate how well they render intermediary services between depositors and lenders, as well as the competition between banks.

Raising competition among banks typically results in the reduction of the difference between average interest-bearing income and expenses on loans and liabilities subject to expenses. In this case, commercial banks will have to look for other ways to earn money if other factors are considered to be inefficient.

The significance of this indicator is that the interest rates can impact the revenue gained by the bank from its activity and its financial results. This indicator can be used to assess efficiency of

¹⁰ Yo. Abdullayev, T.Koraliyev, Sh. Toshmurodov, S. Abdullayeva// Banking. -T.: *MOLIYA-IQTISOD*, 2009.

¹¹ The same source.

a commercial bank's interest rate policy compared to the same indicator of affiliated banks or non-affiliated banks.

RESEARCH METHODOLOGY

When analyzing the banking system of advanced economies, basing on the statistical data, commercial banks' employees have calculated the profit and losses that could be anticipated by the bank in future.

The correlation-regression analysis of statistical data processing is particularly important in the analysis of performance commercial banks in our country. The problem of identifying the trends in the process of research is solved. Herein there are some factors that influence the interchangeable variables, that is, the change of one factor, and the effect of another one to determine the trend.

We conducted a correlation-regression analysis of the interdependence of average interest rate on funds attracted in credit placements, deposits, as well as the indicator of the average loan interest rate for 120 months.

Based on the actual data, we have analyzed statistical indicators in Microsoft Office Excel. We have carried out correlation-regression analysis and have determined the relationship between funds attracted for bank loans, the average interest rate on bank loans and the average interest rate on deposits. Using the function "Data analysis" → "Regression" we have performed relevant analysis and calculations. We have accepted borrowed funds of the bank, the average interest rate on bank loans and the average interest rate on deposits as an impact factor and bank loans as a resultative factor.

ANALYSIS AND RESULTS

Currently the banking system of Uzbekistan maintains a sustainable economic and legal framework, however, it is considered to be an active participant of the reforms. Meanwhile, the Republic of Uzbekistan is required to become a member of the international financial market, to further liberalize the banking sector, to enhance the competitiveness of the banking services market, and, in turn, to develop and properly maintain interest rate policies.

It should be noted that the monetary policy carried out by the Central Bank ensures that the inflation level is within the predicted targets and has a positive impact on the investment activity of the banks. The Central Bank constantly changes its refinancing rate to meet the economy's demand for cash and macroeconomic growth rates with the account of the inflation level.

When creating interest rates on loans and deposits by commercial banks, interest rates on money and financial markets are taken into account. Interest rates on the money and financial markets are influenced by the monetary policy conducted by the Central Bank and a number of other factors. Thus, the stable macroeconomic situation in the country and the tight monetary policy of the republic are reflected in the dynamics of interest rates on money and financial markets, including interest rates on loans and deposits of commercial banks.

It addition, an obvious impact of the change in the average weighted interest rates of the money market in the Republic of Uzbekistan on the credit placements by the commercial banks should be noted.

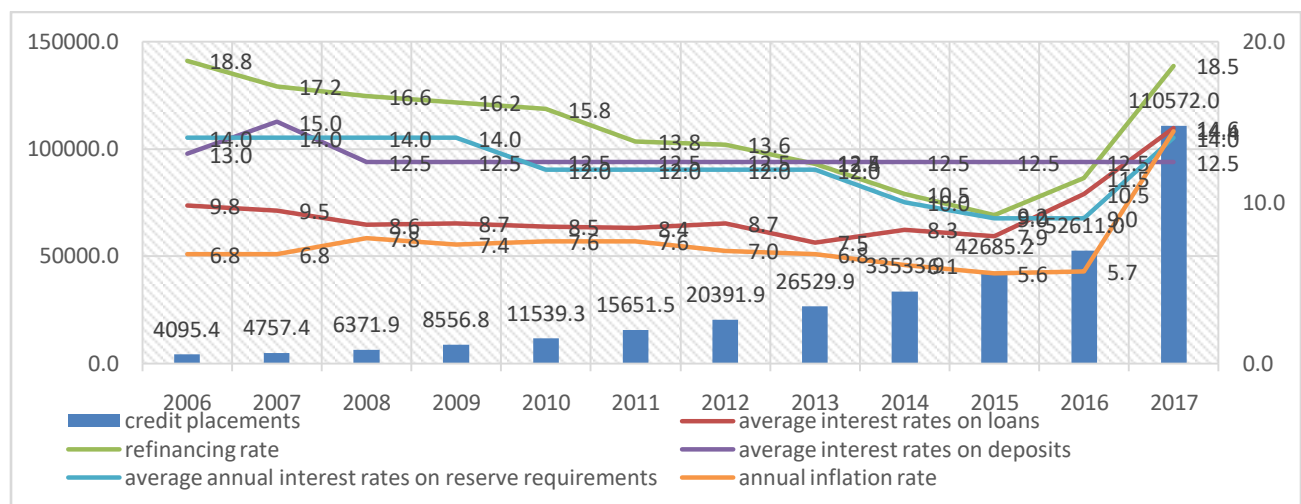


Figure 1. Dynamics of average interest rates on the money markets of the Republic of Uzbekistan, in billion UZS and percent¹².

As we can see from the data presented on Figure 1, while the volume of loans issued by commercial banks is increasing year by year, an average interest rate on loans and deposits placed is decreasing.

In this regard, the reserve requirements of the Central Bank are used as one of the most significant instruments of monetary policy in regulating money supply in the economy by affecting the level of credit resources of commercial banks.

When determining interest rates on loans it is necessary to take into account the cost of resources, expenses forecasted on lending services, intermediary and other administrative costs, as well as probable risks and profit of the bank. It should be noted that the interest rate

¹²Statistical data of the Central Bank of the Republic of Uzbekistan.

policy and tariffs established by the Executive Board of the bank are used when determining charges for lending services.

Each commercial bank receives income from its basic activities as a percentage from lending operations performed. Herewith, interest-bearing income of “Agrobank” JSCB was generated mainly due to interest rates on loans issued by the bank, loans extended to other commercial banks, and interest-bearing income from investments. Its share in the total revenues constituted 62,1% during the analyzed period.

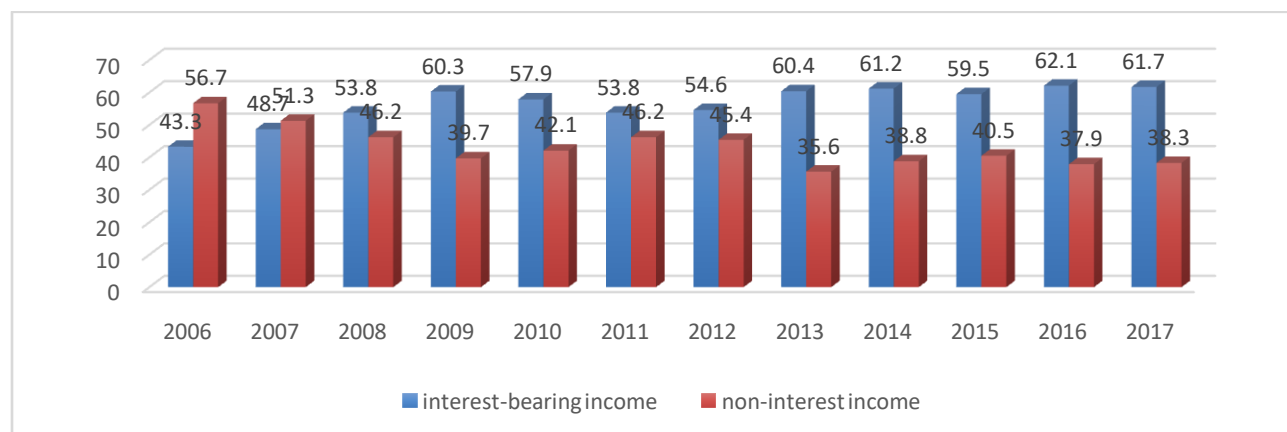


Figure 2. Structure of the income of “Agrobank” JSCB, in %¹³

Interest-free income of the bank represented various banking services rendered to customers, payments made through intermediary operations and proceeds from operations with foreign exchange, and its share in total revenues constituted 37,9% on the average. As we can see from the analysis of the period 2006-2017 illustrated in Figure 2, due to the relatively small volume of the credit operations of the bank, interest-bearing income accounts for 43,3% of the aggregate income, and in 2017 this indicator constitutes 61,7%.

If we look at the source of income of “Agrobank” JSCB for 2006-2017, we can see an upward trend for the share of interest-bearing income. Thus, in 2006 the share of non-interest income constituted 56,7% and in 2017 it fell to 38,3%. Thus, the high percentage of interest-bearing income can be considered as positive. It justifies the fact that not only lending operations of the bank can be considered as the source of the bank’s income.

Below there is the analysis of the dynamics of the average interest rate of loans extended by “Agrobank” JSCB to legal persons and individuals over the period of 2006-2017.

¹³Developed by the author on the basis of the annual reports of “Agrobank” JSCB.

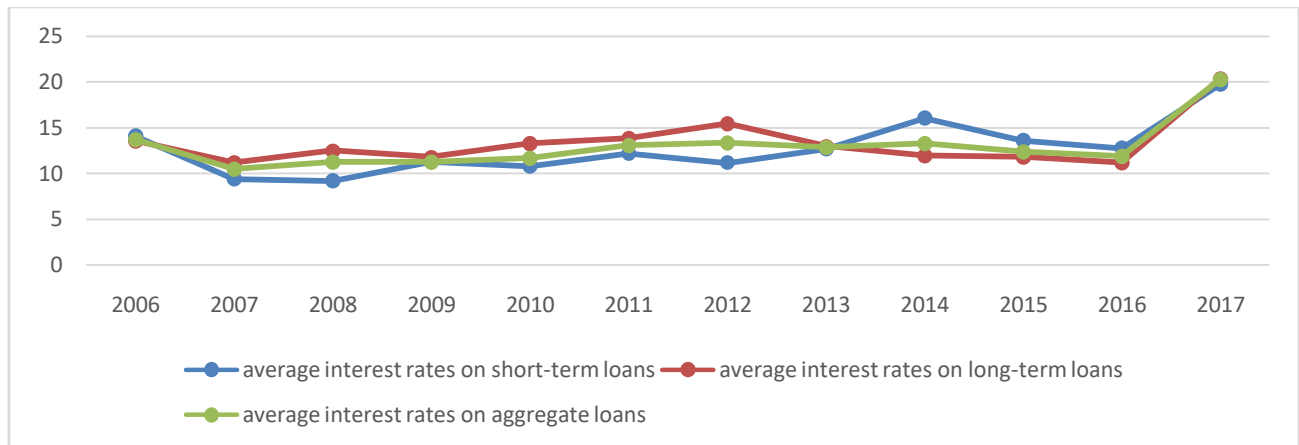


Figure 3. Average interest rate on loans extended by “Agrobank” JSCB¹⁴

Average interest rate on the loans extended by “Agrobank” JSCB in 2006 accounted for 13,7%. In 2007 it reduced to 10,5%, but in 2012 it showed an upward trend reaching an indicator of 13,4%. Interest rates on the loans in 2013-2016 have been decreasing and the average interest rate on loans in 2017 constituted 20,3%.

In determining the interest rates on loans commercial banks conclude loan agreements with their customers taking into account inflationary changes in the economy. This, in turn, will have a positive effect on the change in interest-bearing income obtained from commercial banks. It is desirable for commercial banks to introduce floating interest rates in contracts to avoid inflation risk, to ensure risk protection and efficient asset management.

Fixed and floating interest rates are used in the banking practice of the Republic of Uzbekistan. These interest rates make an impact on the banks’ deposit and credit policies. Commercial banks as a lender are more interested in floating interest rates because in this way the bank protects itself against interest rate fluctuations. However, customers try to use fixed interest rates on loans because getting a loan at fixed interest rates exempts a borrower from the risk of having extra charges as a result of raising the interest rate.

When depositing their funds with the bank and having made a contract therewith, customers are more interested in setting floating interest rates. In this case, as a result of the change in the refinancing rate of the customers and other factors, the increase in the interest rate will lead to the opportunity to get an additional income.

In the banking practice of our republic, floating rates are hardly ever used for deposits and loans, and if available, they are used in very small amounts. As a result, commercial banks are exposed to interest rate risk.

¹⁴Developed by the author on the basis of annual reports of “Agrobank” JSCB.

In cases of due non-repayment of loans, the bank charges the interest from the customers at higher interest rates which are determined by the credit and interest rate policies of the bank.

At the same time, according to the mutual agreement between the customer and the bank, the interest rate on the loan can be increased or decreased due to the value of the loan, conditions of the money market and the inflation rate. These cases, in turn, serve to maintain the bank liquidity at the proper level. On the contrary, if the loans or the liabilities are borrowed at a fixed interest rate, they will have a negative impact on the bank's liquidity.

- 1) As the results of the research illustrate, *correlation coefficient of the sample* equals to **R=0,98**. According to the Cheddock scale it demonstrates "very high" interconnection. Therefore there is a high correlation between the values (quantities) being analyzed.
- 2) Now we are examining the significance of the determined correlation coefficient. According to the table the criterion for the significance value accounts for **t_r=1332,3**. According to the Fisher Distribution Act calculated using the FRASPOBR function, the table value is **t_r=2,68**. Here it is obvious that **t_r>t_r**, thus the correlation coefficient is considered to be significant and complies with random regularity.
- 3) In the next stage we are determining the linear regression **y=β₀+β₁x₁+β₂x₂+β₃x₃+u**. Free indicator is **β₀=194**, variable indicator is **β₁=0,77**, **β₂=1034** and **β₃=-630**. Now we are writing the equation according to the economic essence:

$$Y=194+0.77X_1+1034X_2-630X_3$$

Here:

Y – Bank loans (BL);

X₁–Attracted funds (AF);

X₂– Average interest rate on deposits, in percentage (DI);

X₃– Average interest rate on loans, in percentage (LI).

Thus the proper equation look like as it follows:

$$BL=194+0.77AF + 1034DI -LI$$

Now we are examining if parameters **β₀**, **β₁**, **β₂** and **β₃** appear to be significant or not. It is obvious that **tβ₀=3,12**, **tβ₁=59,84**, **tβ₂=2,34** and **tβ₃=-2,83**, and using the STUDRASPOBR function, we calculate the Student table value, which is **t_s=1,98**. From calculations above we can see that **tβ₀>t_s**, that is **β₀** parameter equals to "3,12"; **tβ₁>t_s**, that is **β₁** parameter equals to "59,84"; **tβ₂>t_s** that is **β₂** parameter equals to "2,34"; **tβ₃<t_s** that is **β₃** parameter constitutes "-2,83" and is not significant.

- 4) It should be noted that determination coefficient accounts for $R^2=0,97.97\%$ of the change of the credit placements at commercial banks can be justified through this model.

Economic interpretation of the results

Model parameters can be interpreted both in a general and a particular context.

In particular, we can get the derivative relation with account of variable AF of our model:

$$\frac{d\widehat{BL}}{dAF} = \frac{\Delta\widehat{BL}}{\Delta AF} = 0,77$$

$$\Delta\widehat{BL} = 0,77 * \Delta AF$$

In addition, if the average interest rates on bank loans and deposits are unchanged (*ceteris paribus*), if the funds attracted increase by over 1 billion USD, on the average, the bank loan will increase by (\approx) 770,0 million UZS.

In particular, we can get the derivative relation with account of variable DI of our model:

$$\frac{d\widehat{BL}}{dDI} = \frac{\Delta\widehat{BL}}{\Delta DI} = 1034$$

$$\Delta\widehat{BL} = 1034 * \Delta DI$$

In other words, if bank loans and attracted funds remain unchanged (*ceteris paribus*), the increase of average interest rate on deposits by 1 unit will result in the growth of additional bank loans by (\approx)1034 million UZS.

Exactly the same, the following derivative relation is represented with the account of variable LI:

$$\frac{d\widehat{BL}}{dLI} = \frac{\Delta\widehat{BL}}{\Delta LI} = -630$$

$$\Delta\widehat{BL} = -630 * \Delta LI$$

In other words, if bank loans and attracted funds remain unchanged (*ceteris paribus*) the increase of average interest rate on deposits by 1 unit will result in the decrease of additional bank loans (\approx) – 630 million UZS.

Summing up all variables of the model the final derivative relation provides the following result:

$$\Delta\widehat{BL} = 0,77 * \Delta AF + 1034\Delta DI - 630 * \Delta LI$$

In the research the concept of bank loans have been explained by such notions as “determinants of funds”, “average interest rates on deposits” and “average interest rate on loans”.

Having conducted regression analysis of the relation of the above-stated indicators of the bank loan, the following model has been developed:

Table 1. Regression analysis of the sample (using Microsoft Office Excel software)

Range R	0,985797229							
R ²	0,971796176							
Standardized R ²	0,971066766							
Standard deviation	83,34910821							
No. of observations	120							
Dispersion analysis					Fisher value			
					2,682809407			
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significant F</i>			
Regression	3	27766880,4	9255626,802	1332,305805	0,000000			
Residual	116	805860,5654	6947,07384					
Total	119	28572740,97						
	Coefficients	Standard deviation	t-statistics	<i>P-Value</i>	<i>Low 95%</i>	<i>High 95%</i>	<i>Low 95%</i>	<i>High 95%</i>
Y- loan extended (million UZS)	193,7910579	62,12637582	3,119304086	0,002287117	70,74194	316,8402	70,74194	316,8402
Attracted funds (million UZS)	0,775337152	0,012956876	59,83982306	0,000038174	0,749674	0,801	0,749674	0,801
Average interest rate on deposits (in percentage)	1034,979699	441,146923	2,346111114	0,020667698	161,2326	1908,727	161,2326	1908,727
Average interest rate on loans (in percentage)	-630,5065835	222,3911976	-2,835123829	0,005405763	-1070,98	-190,033	-1070,98	-190,033

Student's value 1,980626002

$$\widehat{\Delta BL} = 194 + 0,77 * \Delta AF + 1034DI - 630 * \Delta LI$$

When calculating determination coefficient of the model, the result of $R^2 = 0,97$ has been obtained. This model represents 97 percent of the actual function of the loan.

Herewith, the reliability of this model has been proven with checking the hypothesis of distributions t and F. In this case the presence of the positive correlation of AF and DI and the negative correlation of LI has been determined.

It should be noted that the increase in the number of bank loans has a positive correlation with the average interest rate on the funds, whereas the average interest rate on the loan is negatively related to the above equation. In the process of interest rate policy

implementation, the increase of the interest rates on loans causes reduction of the credit placements.

CONCLUSIONS AND RECOMMENDATIONS

1. With the aim of meeting the economy's demand for money by the Central Bank and ensuring a sustainable macroeconomic growth, as well as with the account of the inflation rate, changes in the refinancing rate based on the inflationary expectations of the market made an impact on the resource base and liquidity of commercial banks.
2. It is obvious that the share of long-term loans in the dynamics of short and long-term loans of commercial banks of the republic is relatively high. Long-term loans require a solid resource base and this in turn causes the risk of liquidity.
3. It is necessary to raise the share of fixed-term and savings deposits in the aggregate deposits. This, in turn, will make a positive impact on possibility of extending large and long-term loans, receiving high yield, as well as on raising liquidity of commercial banks.
4. Commercial banks should pay a particular attention to their business plan and tariff policy and develop client-oriented tariff policy which will comply with all modern requirements. This is reflected in the interest rate policy by the banking services. As a result, inaccurately selected plan or interest rate will cause a decrease in the liquidity of the banks and, consequently, inflict the loss.
5. It is necessary to maintain an interest rate policy of the bank which can rapidly adapt to the changes in the economy and the needs of the customers. In addition, it is necessary to develop a specific client-oriented tariff policy. In this case, banks will be able to carry out a preliminary assessment of their liquidity.

REFERENCES

- Agrobank, <http://www.agrobank.uz>– official web-site of Joint-stock commercial bank “Agrobank”.
- Central Bank of the Republic of Uzbekistan, <http://www.cbu.uz>– official web-site of the Central Bank of the Republic of Uzbekistan.
- Irving Fisher. Purchasing power of the money. –M.: DELO, 2001. – 320 p.
- Keynes J.M. General theory of employment, interest and money: translated from English N.N. Lyubimov. –M.: Gelios APB, 1999. –352 p.
- Kulliyev I.Ya. Loan Value creation and its further improvement. Abstract on the dissertation claiming for the scientific degree of the candidate of economic sciences. –Tashkent, 2010. – 62 p.
- Lavrushin O.I. Banking system sustainability and development of the banking policy: Monograph/-M: Kno-Rus, 2014. - 280 p.
- Peter Rose. Bank management: Offering financial services. Translated from English.-M: DELO, 1997. -768 p.
- Regulation “On interest accrual at commercial banks” registered by №1306 by the Ministry of Justice of the Republic of Uzbekistan on January 30, 2004 and approved by the Order №25/8of the Central Bank of the Republic of Uzbekistan on October 11, 2003.

Regulation “On non-increase of interests” registered by №1304 by the Ministry of Justice of the Republic of Uzbekistan on January 24, 2004 and approved by the Order №25/7 of the Central Bank of the Republic of Uzbekistan on October 11, 2003.

Regulation “On the mechanism of creating interest rates on deposits attracted by commercial banks” registered by №2692 by the Ministry of Justice of the Republic of Uzbekistan on July 3, 2015.

Situation in the monetary sphere in 2015 the main directions forecasted for 2016 //Market, Money and Credit. – Tashkent, 2016. – №1. – 3-18p.

Yo. Abdullayev, T.Koraliev, Sh. Toshmurodov, S. Abdullayeva// Banking. -T.: MOLIYA-IQTISOD, 2009. – 463 p.