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FACTORS AFFECTING REMOTE SERVICES OF BANKING



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Abstract: This article examines the theoretical basis of improving remote banking services in commercial banks, the analysis of its modern state, problems related to improving remote banking services in commercial banks. In addition, this article examines the experiences of a number of foreign countries in improving remote banking services in commercial banks. On the basis of the analytical results of the experiences of foreign countries, suggestions and recommendations have been developed regarding the prospects of further improvement of the economic mechanisms related to the improvement of remote banking services in commercial banks.

Key words: banking service, banking product, internet banking, bank-client, retail banking services, electronic banking, mobile banking.

INTRODUCTION

This article examines the theoretical basis of improving remote banking services in A number of financial institutions, such as the Central Banks of the developed countries of the world, the International Monetary Fund, the Basel Committee, have conducted research on the development of off-balance sheet operations of commercial banks. These studies are scientifically based on the integrated use of documented forms and types of letters of credit, the expansion of commercial bank guarantee operations, foreign exchange options and futures, the role of off-balance sheet operations in risk management of commercial banks. However, in these studies, the issues related to the lack of opportunities for the development of off-balance sheet operations in the context of high levels of financial risk in the activities of commercial banks, low level of diversification of foreign exchange reserves of banks remain relevant.

The ultimate goal of radical reforms in the banking system of Uzbekistan is to increase the financial stability of banks, strengthen the competitive environment of commercial banks in the digital economy and, as a result, provide modern banking financial services to customers. Although off-balance sheet operations are an important factor in ensuring the financial stability of banks, there is almost no scientific and theoretical research in this area in the country. In particular, in the practice of commercial banks, there are no foreign exchange options and futures, and more than 90% of the documented letters of credit opened by banks are covered by secured letters of credit. "Taking measures to improve foreign exchange policy and foreign trade, attract foreign investment into the economy, increase export potential, sustainable development of modern, export-oriented industries, small businesses and private entrepreneurship" [1] is one of the priorities. Ensuring the fulfillment of these tasks remains one of the most pressing issues today. A Subsection SamplePlease note that the first paragraph of a section or subsection is not indented. The first paragraphs that follows a table, figure, equation etc. does not have an indent, either. Subsequent paragraphs, however, are indented.

REVIEW OF LITERATURE ON THE SUBJECT

A number of economists have expressed their views on the off-balance sheet operations of commercial banks. A. Малых has formed his conclusions on letters of credit, which are one of the most widely used forms of accounting in off-balance sheet banking operations. According to him, "A documented letter of credit has the following advantages for the buyer:

A documented letter of credit allows the buyer to receive the payment in full after the shipment of the goods; A documented letter of credit guarantees the buyer the necessary transport and commercial documents; The documented letter of credit allows the buyer to receive additional financing from the issuing bank" [14]. Another economist, J. Zinki, concluded that if a commercial bank, for some reason, "fails to hedge, it can use off-balance sheet methods for hedging, such as futures, forwards, options, and swaps" [15].

In our opinion, the main factors influencing the off-balance sheet operations carried out with documented letters of credit of commercial banks in the Republic are:

The level of solvency of customers who have the status of a legal entity using the services of a letter of credit of commercial banks. Due to the high risk level of uncovered letters of credit, commercial banks only issue uncovered letters of credit to customers with a high level of solvency. Therefore, the level of solvency of customers plays an important role in increasing the volume of documented letters of credit opened by commercial banks on the payment obligations of customers.

Commercial banks' opportunity to repay documented letters of credit at the expense of their loans. In developed countries, if there are no funds available in the payer's current account at the time of receipt by the letter of credit, then the amount of the letter of credit is paid from the term or overdraft loan of the letter of credit [2].

In order for a commercial bank to repay documented letters of credit on time from their loans, they must not have an unbalanced liquidity problem. The results of scientific research by a number of Uzbek economists have shown that there is a problem of unbalanced liquidity in commercial banks of the country [3].

One of the main factors influencing the bank guarantee operations of commercial banks is the solvency of customers guaranteed by the bank. This is because if the guaranteed customer is unable to pay due to payment obligations, the bank will be forced to make the payment at its own expense. Moreover, the ability of the bank-guaranteed customer to fulfill its obligations in a timely manner is one of the main factors influencing the bank guarantee operations of commercial banks.

One of the main reasons for the mass bankruptcy of U.S. banks during the Great Recession was that commercial banks provided large amounts of guarantees on customers' payment obligations and payments were made by banks as a result of their insolvency [4].

In our opinion, one of the main factors influencing the development of forward operations of commercial banks of the Republic of Uzbekistan is the large difference between the interest rate on loans in the transaction currency and the interest rate on deposits in the appraisal currency.

RESEARCH METHODOLOGY

Several factors simultaneously affect the off-balance sheet operations of commercial banks. However, while the factors that affect each type of off-balance sheet transaction have specific characteristics, some factors can affect all off-balance sheet transactions. Below we assess the impact of these factors on the off-balance sheet operations of commercial banks.

ANALYSIS AND RESULTS

It is known that in our Republic, the national currency is the soum, and all foreign currencies are transaction currencies for us. Banks in Uzbekistan currently use market interest rates, mainly the London Inter-Bank Offered Rate (LIBOR), as the interest rate for transaction currencies. The IZIBID rate is used as the market rate for UZS deposits. There are no currency options or futures in the banking practice of the Republic of Uzbekistan. Therefore, it is not possible to analyze the factors affecting them. The main component of off-balance sheet operations of commercial banks in foreign currencies is currency swap operations. In our opinion, the factors influencing the currency swap operations of commercial banks in the Republic are as follows:

The degree of volatility of the spot rate of the national currency. Since currency swap transactions are a combination of spot and forward transactions, the volatility of the national currency spot rate is one of the main factors influencing these operations. The high level of volatility in the national currency spot rate can be attributed to the following factors:

A high inflation rate (in 2020, the annual inflation rate in the country was 11.1% [5]);

A high growth rate of money supply;

Execution of the state budget with a deficit;

The country's foreign trade balance having a large negative balance (in 2020, the foreign trade balance showed a deficit of 6 billion US dollars [6]).

Figure 1 shows that from 2010–2020, the volatility of the spot exchange rate against the US dollar was high. This negatively impacts the development of currency swap transactions.

The large deficit in the foreign trade balance of the Republic of Uzbekistan. A significant foreign trade balance deficit creates substantial pressure on the spot rate of the national currency.

High inflation rate. In 2020, the inflation rate in the country was 11.1% [8]. It should be noted that a direct and strong link exists between inflation and the state budget, as is scientifically substantiated. In particular, reducing the state budget deficit by 1 percentage point of GDP has been shown to decrease inflation by 8.75 percentage points [9]. Additionally, a strong correlation between inflation and fiscal policy parameters in short-term cycles has been established [10].

The practical significance of currency swap operations for commercial banks is reflected in the following:

Selling foreign currency under a swap operation allows the bank to reduce the long currency position in that currency.

Purchasing foreign currency under a swap operation helps reduce the short currency position in that foreign currency.

For example, the placement of foreign currency funds in "Nostro" correspondent accounts in foreign currencies of commercial banks, such as placing funds in "Nostro" correspondent accounts in US dollars via swap, is carried out as follows:

Funds available in the bank's dollar account "Nostro" are sold at the spot rate in one of the leading currencies, such as the Swiss franc.

Proceeds received in francs are placed as a deposit in one of the Swiss banks for a specific period, such as 3 months.

The bank enters into a 3-month forward contract to purchase the same amount of dollars as the commercial bank sold on the spot.

At the end of the 3-month period, the commercial bank repays the deposit in Swiss francs, including the interest accrued on it, and buys US dollars for this amount under the forward contract.

Swap operations allow diversification of foreign exchange reserves of a commercial bank and its customers (table 1).

Table 1. Documentary letters of credit opened by JSC "Aloqabank" and the factors influencing them [12].

№	Indicators	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1.	The amount of letters of credit opened by the bank (in bln. soums)	7,6	9,1	15,5	9,6	21,5	6,6	12,3	39,4	73,8	87,1
2.	The amount of tokens until the bank receives the request (in bln. soums)	118	134	177	223	271	339	405	1314	1036	1067
3.	Inflation rate,(%)	7,3	7,6	7,0	6,8	6,1	5,6	5,7	14,4	14,3	15,2
4.	Depreciation rate of the national currency against the US dollar, (%)	8,5	9,5	10,5	11,0	10,0	16,0	15,0	92,4	2,7	14,0
5.	Average annual interest rate on loans in national currency, (%)	13,4	12,5	13,5	13,0	12,5	11,4	11,5	18,5	20,5	24,2
7.	Import, (in bln. dollars)	8,8	10,5	12,0	13,8	13,9	12,4	12,1	14,0	19,4	24,3

The bulk of foreign exchange reserves (more than 90%) is held in US dollars [11]. The implementation of currency swap operations can reduce the share of the US dollar in the foreign exchange reserves of commercial banks and increase the share of other currencies, thereby enhancing the diversification of foreign exchange reserves. Increasing the level of diversification in foreign exchange reserves, in turn, plays a crucial role in reducing the level of currency risk.

In the context of econometric analysis, β_1 represents the coefficient of the independent variable.

We conducted an econometric analysis to examine the extent to which the volume of off-balance sheet transactions of commercial banks is impacted by various factors (table 2).

Table 2. Correlation table.

	Y	X1	X2	X3	X4	X5
Y	1,000	0,823	0,903	0,091	0,966	0,938
X1	0,823	1,000	0,920	0,602	0,847	0,718
X2	0,903	0,920	1,000	0,425	0,960	0,762
X3	0,091	0,602	0,425	1,000	0,231	-0,019
X4	0,966	0,847	0,960	0,231	1,000	0,880
X5	0,938	0,718	0,762	-0,019	0,880	1,000

This econometric analysis was based on a multi-factor regression and correlation method using data from 2010–2019. The dependent variable selected for analysis was the amount of letters of credit opened by JSC “Aloqabank,” while the independent variables included:

Deposits of commercial banks in the country,
Annual inflation rate,
Annual devaluation of the soum against the US dollar,
Average interest rate on loans in the national currency, and
Imports.

The following observations were made in the correlation analysis to study these dependencies:

Dependent variable (Y): The amount of letters of credit issued by JSC “Aloqabank” (in billion soums), denoted as AS.

Independent variables:

X₁ - DS: Amount of deposits, in billion soums.

X₂ - IF: Annual rate of inflation, %.

X₃ – DV - Annual devaluation rate of the soum against the US dollar, %; X₄- KF- Average annual interest rate on loans in national currency, %; X₅- IM – Volume of import, in bln. soums as can be seen from the table above, almost all factors affect the change in the size of the letter of credit (except for the change in the exchange rate of the soum against the US dollar). In particular, the correlation between the average interest rate of the loan and the volume of the letter of credit is very high, i.e. the correlation coefficient is 0.966. In the econometric analysis of these factors, a correlation matrix test of the variables was performed to form a selective multifactor econometric model with a high effect of the selected outcome variables so that the effect of the free variable on the inverse variable does not lead to loss. The mathematical function view of this model is represented as follows. $AS = F(DS, IF,$

$DV, KF, IM)$ (1- formula) In this case: AS-AT - the amount of the letter of credit of “Aloqabank”, bln. sum; DS - the amount of deposits in billions of soums; IF- annual inflation rate, in percent; DV - annual devaluation rate of soum against US dollar, in percent; KF - average annual interest rate on loans in national currency, in percent; IM - import volume, bln.doll Based on the above mathematical formula, we have formulated our econometric model in our study. In the development of a multifactor regression model, the amount of the letter of credit of a commercial bank and the factors influencing it were taken as follows: A multifactor regression model was constructed with DS - the amount of deposits; IF - annual inflation rate; DV- annual devaluation rate of soum against US dollar; KF - average annual interest rate on loans in national currency; IM-import volume (Table 3).

Table 3. Results of the multivariate regression and correlation analysis based on the Eviews program [13].

Dependent variable : Ln AS				
Method: The smallest squares				
Variable	Coefficient	Default error	t-statistics	Probability (Pvalue)
Ln DS (x1)	0,030	0,017	1,786	0,149
Ln IF (x2)	0,340	3,233	0,105	0,921
Ln DV (x3)	-0,345	0,131	- 2,623	0,059
Ln KF (x4)	3,076	2,909	1,058	0,350
Ln IM (x5)	1,066	1,375	0,775	0,482
C	- 44,914	11,806	- 3,804	0,019

Determination coefficient	0,988643	The corrected coefficient of determination	0,974446
	0,974446	Standard regression error	4,686292
The value of the maximum similarity function	-25,05435	F-statistics	69,63895

Based on the above calculations, the following multifactor regression model was formed. $\ln AS = -44.914 + 0.030 \ln DS + 0.340 \ln IF - 0.345 \ln DV + 3.076 \ln KF + 1.066 \ln IM + \epsilon$ The corrected coefficient of correction in the formed model shows that 97% of letters of credit of commercial bank (AS) are depends on the factors formed in the model: DS- the amount of demand deposits of bank, IF-annual inflation rate, DV-soum annual devaluation rate against US dollar, KF-loans in national currency, IM - imports. The remaining 3 percent is due to other factors, which are not taken into account.

CONCLUSION AND SUGGESTIONS

The development of remote banking services has become a critical aspect of enhancing the efficiency and accessibility of financial services in the modern era. This study identified several key factors influencing the provision and improvement of remote banking services, including technological advancements, customer preferences, regulatory frameworks, and cybersecurity challenges.

It was found that the successful adoption of remote banking services depends significantly on the quality of internet infrastructure, the digital literacy of customers, and the ability of banks to provide secure and user-friendly platforms. Furthermore, the analysis of international practices revealed that investing in innovative technologies such as artificial intelligence, blockchain, and mobile applications can considerably enhance customer satisfaction and operational efficiency.

Despite the promising prospects, challenges such as data privacy concerns, high implementation costs, and resistance to change among traditional banking customers remain obstacles that need to be addressed. To overcome these issues, it is recommended that banks prioritize customer-centric approaches, ensure compliance with data protection regulations, and invest in continuous training for their staff to support digital transformation.

In conclusion, remote banking services hold immense potential for transforming the banking industry by providing greater convenience and efficiency to customers. By addressing the identified factors and leveraging global best practices, banks can successfully meet the evolving demands of the digital economy and achieve sustainable growth.

List of used literature

1. Decree of the President of the Republic of Uzbekistan No. PF-5177 of September 2, 2017 "On the state of priority measures of liberal management of foreign exchange legislation". <https://lex.uz/docs/3326421>
2. Lavrushina, O.I. Bankovskoe delo. Textbook. KNORUS, 2016. – 800p. http://www.library.ugatu.ac.ru/pdf/teach/Bank_delo_Lavrushin_10_2013.pdf
3. Absalomov, A.T., Khudoyorov, O.O., Kholdorov, S.U. "Important aspects related to foreign exchange operations of commercial banks." <https://dl.acm.org/doi/fullHtml/10.1145/3508072.3508208>
4. Khudoyorov, O., Ernazarov, N. "Operating banks operations with foreign options and futures of foreign banks: Foreign experiences and their features." Journal of Critical Reviews, 2020. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083318310&doi=10.31838%2fjcr.07.05.93&partnerID=40&md5=f8599690de04b8394a6594c24a44dd5b>
5. Mamadiyarov, Z., Sulaymanov, A., Askarov, A. "Impact of COVID-19 pandemic on accelerating the digitization and transformation of banks." ACM International Conference Proceeding Series, 2021. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85128682847&doi=10.1145%2f3508072.3508211&partnerID=40&md5=0d60cabff182174152804bad218a4942>
6. Khudayarova, Kh.A. "The market of retail banking services in Uzbekistan and its prospects." International Journal of Scientific and Technology Research, 2019. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85077322871&partnerID=40&md5=47b4d8cc11f917c76c9147456def2b88>
7. Official website of the Central Bank of the Republic of Uzbekistan. <https://www.cbu.uz>
8. Mamadiyarov, Z. "Risk management in the remote provision of banking services in the conditions of digital transformation of banks." ACM International Conference Proceeding Series, 2021. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85128648746&doi=10.1145%2f3508072.3508119&partnerID=40&md5=aa0e06dab52fee9b34a83ed5830783ed>
9. Khudoyorov, O., Ernazarov, N. "Operating banks operations with foreign options and futures of foreign banks: Foreign experiences and their features." Journal of Critical Reviews, 2020. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85083318310&doi=10.31838%2fjcr.07.05.93&partnerID=40&md5=f8599690de04b8394a6594c24a44dd5b>

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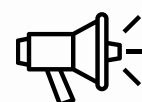
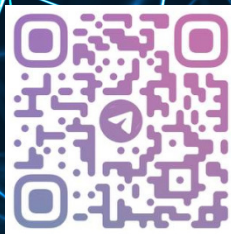
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