

1/2023,
yanvar-
fevral
(№ 00063)



IMPACT OF LOAN TO DEPOSIT RATIO ON THE PERFORMANCE OF COMMERCIAL BANKS IN UZBEKISTAN

Isakov Olmas Kuchkarovich

Position: Lecturer and independent researcher at Westminster International University in Tashkent. o.isakov@wiut.uz

ORCID ID: 0000-0001-5504-5124

DOI: https://doi.org/10.55439/EIT/vol11_iss1/a5

Abstract

The health of financial system has important role in the country as its failure can disrupt economic development of the country. Recent transformations and reforms in the economic policies of the Republic of Uzbekistan have led to significant changes in the banking sector. Studying the key factors which contribute to the profitability of commercial banks in Uzbekistan is becoming increasingly important. This research paper examines the main determinants of banking profitability in the Republic of Uzbekistan. Panel data for the period between 2017 to 2021 have been employed on 32 commercial banks of Uzbekistan. Empirical conclusions have shown that the profit of the bank is largely determined by specific factors affecting its activities. The regression results have shown that government ownership and operating costs have negative and statistically significant relationship with the profitability of a bank. Loan to deposit ratio (LDR) has significant positive impact on return on equity (ROE).

Keywords: banking, loan to deposit ratio, profitability in banking.

O'ZBEKISTONDA TIJORAT BANKLARI FAOLIYATIGA KREDITLARNING DEPOZITLARNING KO'RSATISHIGA TA'SIRI

Isakov Olmas Kuchkarovich

Toshkentdagi Xalqaro Vestminster Universiteti o'qituvchisi va mustaqil tadqiqotchisi. o.isakov@wiut.uz

Annotatsiya

Mamlakatda moliya tizimining sog'lig'i muhim rol o'ynaydi, chunki uning muvaffaqiyatsizligi mamlakatning iqtisodiy rivojlanishiga to'sqinlik qilishi mumkin. O'zbekiston Respublikasining iqtisodiy siyosatidagi so'nggi o'zgarishlar va islohotlar bank sohasida sezilarli o'zgarishlarga olib keldi. O'zbekistonda tijorat banklarining rentabelligini ta'minlovchi asosiy omillarni o'rganish tobora muhim ahamiyat kasb etmoqda. Ushbu tadqiqot ishida O'zbekiston Respublikasida bank rentabelligining asosiy omillari ko'rib chiqilgan. 2017 yildan 2021 yilgacha bo'lgan davr uchun panel ma'lumotlar O'zbekistonning 32 ta tijorat banklarida qo'llanilgan. Empirik xulosalar shuni ko'rsatdiki, bank foydasi ko'p jihatdan uning faoliyatiga ta'sir qiluvchi aniq omillar bilan belgilanadi. Regressiya natijalariga ko'ra, davlat mulki va operatsion xarajatlari bank rentabelligi bilan salbiy va statistik jihatdan muhim bog'liqdir. Kreditning depozitga nisbati (LDR) kapitalning rentabelligiga (ROE) sezilarli ijobiy ta'sir ko'rsatadi.

Kalit soʻzlar: bank ishi, kreditning omonatga nisbati, banklarda rentabellik.

ВЛИЯНИЕ СООТНОШЕНИЯ ДЕПОЗИТ НА ДЕЯТЕЛЬНОСТЬ КОММЕРЧЕСКИХ БАНКОВ В УЗБЕКИСТАНЕ

Исаков Олмас Кучкарович

Преподаватель и независимый исследователь Вестминстерского международного университета в Ташкенте. o.isakov@wiut.uz

Аннотация

Здоровье финансовой системы играет важную роль в стране, поскольку ее сбой может подорвать экономическое развитие страны. Недавние преобразования и реформы в экономической политике Республики Узбекистан привели к значительным изменениям в банковской сфере. Изучение ключевых факторов, влияющих на прибыльность коммерческих банков Узбекистана, приобретает все большее значение. В данной исследовательской работе рассматриваются основные факторы, определяющие прибыльность банковской деятельности в Республике Узбекистан. Панельные данные за период с 2017 по 2021 годы использовались по 32 коммерческим банкам Узбекистана. Эмпирические выводы показали, что прибыль банка во многом определяется конкретными факторами, влияющими на его деятельность. Результаты регрессии показали, что государственная собственность и операционные расходы имеют отрицательную и статистически значимую связь с прибыльностью банка. Отношение кредита к депозиту (LDR) оказывает значительное положительное влияние на рентабельность собственного капитала (ROE).

Ключевые слова: банковское дело, соотношение кредита к депозиту, доходность в банковской сфере.

Introduction

The health of financial system has important role in the country as its failure can disrupt economic development of the country. The financial institutions' pursuit to increase profitability comes at the cost of higher risks. There are various types of risks that banks face on day to day operations, such as interest rate risk, foreign exchange rate risk, political risk, credit risk, market risk, liquidity risk, etc. The banks can operate successfully and improve their performances by mitigating these risks through prudent decision making. One of such risks which play important role on the bank's performance is credit risk.

Credit risk is considered to be the biggest risk for commercial banks because the main stream of income for commercial banks are generated through lending and these institutions might face significant financial hurdles if the borrowers fail to pay back their obligated amounts. The collapse of a single bank or market can be directly transmitted to other markets or institutions because of the spillover effect and result in a financial crisis in a country or in a region as a whole.

According to Machado and Karray (2022), outstanding credit for business in Canada, the USA and the UK, were, respectively \$2,262 billion, \$15,243 billion and 18,582 million pounds (Bank of Canada, 2020; USA Federal Reserve, 2020; Bank of England, 2020). As of January 1st, 2022, the total outstanding loans in commercial banks of Uzbekistan amounted to 30.17 billion USD which comprises approximately 44% of the GDP of Uzbekistan (See Figure 1). Between

2017 and 2021, the rate of growth of loan portfolio in the balance sheet of commercial banks have exceeded the rate of growth of deposits as the gap between these two lines have widened in this period.

The rapid growth of credit amount might expose the economy of a country to a substantial credit risk. It has been observed in both developed and developing countries that such rapid expansion of credit amount might increase the chance of loosening the income criteria for lending to the bank borrowers. Therefore, it is important that the financial institutions of Uzbekistan must adopt the latest international standards introduced by developed countries such as principles put forward by Basel committee on management of credit risk and implement advanced statistical methods in mitigating them.

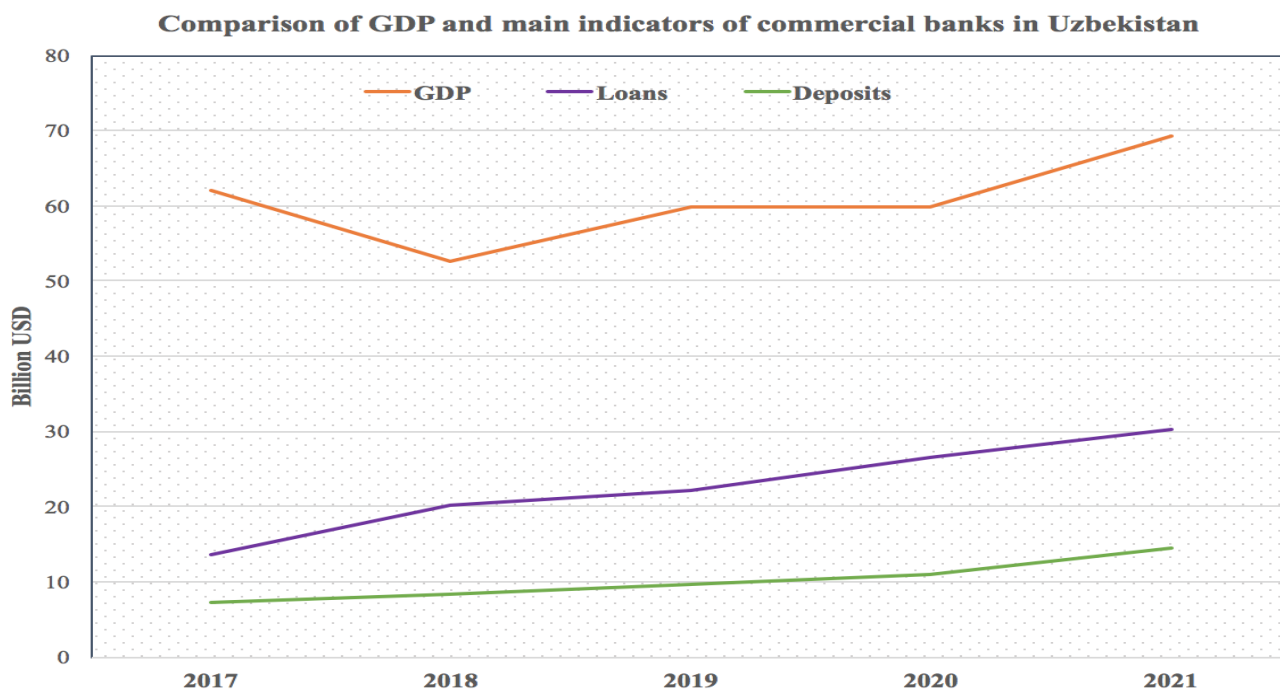


Figure 1. Comparison of GDP and main indicators of commercial banks in Uzbekistan.

Source: World Bank and Central Bank of Uzbekistan (CBU).

The data on total loans and deposits in commercial banks were converted from UZS to USD using the corresponding year-end exchange rate of Central Bank of Uzbekistan.

One of the indicators to determine the reliability and strength of the banking system is liquidity which can be measured using loan to deposit ratio (LDR). The impact of LDR on the profitability of commercial banks is highly debatable. If this ratio is high (usually more than 1) this indicates that the bank is loaning out at higher rate than it is attracting deposits. In return, the bank can generate greater revenue through collecting the interest income from the loan advancements. On the other hand, it also indicates a greater risk, i.e. the non-return of credit funds provided or the occurrence of bad loans. Thus, it might have a negative impact on the profitability. Given the absence of empirical study on the impact of LDR on the profitability of Uzbek banks, it is expected that this research will fill the gap and provide an understanding of the determinants of profitability of commercial banks in Uzbekistan. The main research scope

of this paper is to investigate the strength and direction of relationship between LDR and profitability indices of commercial banks in Uzbekistan.

For this the following objectives were identified:

1. To evaluate the profitability performance of commercial banks in Uzbekistan.
2. To analyze how loan to deposit ratio (LDR) affects the return on equity (ROE) and return on assets (ROA) of commercial banks in Uzbekistan.

Literature review

Many studies have been conducted to investigate the relationship between loan to deposit ratio (LDR) and financial performance. The results of previous studies yield mixed conclusions. Rajindra et al (2021) examined the effects of operating costs and LDR on return on assets (ROA) of Indonesian banks for the period 2015 – 2018. This study’s results indicate that simultaneously operational costs, operational income and loan to deposit ratio affect the ROA, but there was no evidence that LDR alone had any significant impact on profitability. Anggari and Dana (2020) have studied 44 commercial banks in Indonesia between 2016 and 2018. This study has found positive but insignificant effect on the profitability of banks in the Indonesia Stock Exchange during the 2016–2018 period. Mohammed (2012) used secondary data obtained from the financial reports of nine (9) banks for a period of ten (10) years (2001-2010) in Nigeria. The study shows that poor asset quality (defined as the ratio of non-performing loan to credit) and loan deposit ratios negatively affect financial performance and vice versa. According to Sukmadewi (2020) there was significant positive impact of LDR on ROA for Indonesian banks from 2016 to 2018. Sunaryo (2020) has analyzed the impact of LDR on ROA using financial indicators of banks from Southeast Asian countries for the period 2012 - 2018. According to the findings, LDR had a negative and significant relationship with ROA. Muradova (2018) has studied the asset profitability in commercial banks in Uzbekistan and proposed to increase the profitability of loans by increasing the quality of these loans, diversification of loan portfolio and banks investments in securities.

Data and Methodology

In order to assess the impact of loan to deposit ratio (LDR) on the financial performance of commercial banks in Uzbekistan, the following variables have been employed as financial performance indicators (dependent variables):

- Return on Assets (ROA). It refers to a financial ratio that indicates how profitable a company is in relation to its total assets. The higher ratio indicates the higher efficiency in utilizing the company’s assets.
- Return on Equity (ROE). It is measured as a ratio of a company's net income to its shareholders' equity. The higher the ROE, the better is the company at converting the capital into profits.

The following variables are also included in the panel regression models as independent variables:

- Capital to Asset ratio (CAR). National regulators track a bank's CAR to ensure that it can absorb a reasonable amount of loss and complies with statutory Capital requirements.
- Operating expenses (Opex). This is an expense a business incurs through its normal business operations.

- Liquidity ratio (Liquid). This is the ratio of current assets to current liabilities. This ratio measures the bank's ability to pay off current liabilities (payable within one year) with its current assets. The higher ratio (usually greater than 1) indicates the better position of the company.

- Loan to Deposit ratio (LDR). The higher ratio means that the bank is providing more loans compared to the amount of deposits attracted from the clients. Having high ratio might increase the credit risk, resulting in increased number of non-performing loans. On the other hand, providing more loans might generate extra interest revenue for the bank.

- Dummy variable for government ownership for the bank (Gownership). It takes value of 1 for state-owned banks and 0 otherwise.

The data about variables were collected from official website of the Central Bank of Uzbekistan for the period of 2017 to 2021. Since some of the commercial banks have started their operations later than 2017, this study employs unbalanced panel data for all commercial banks in Uzbekistan. Because of the existence of both cross-sectional and time properties of the collected data, the desired model would be one of the fixed-effects or random effects regression methods.

Model Specification

To empirically evaluate the indicators that most affect the profitability of banks, the following econometric model was used, and it takes the following general formula:

$$Y_{it} = \beta_0 + \sum_{i=1}^k \beta_i X_{it} + \varepsilon_i$$

Here, commercial banks are presented by index i , t is the time variant. Y_{it} - shows observation of dependent variable, β_0 - intercept, β_i is a coefficient of independent variable, X_{it} stands for Independent variable and ε_i presents the error term.

After converting the model above to the specified variables, the following linear regression equations were performed to assess the relationship between the independent variables and the bank's returns:

Model (1):

$$ROA_{it} = \beta_0 + \beta_1 * CAR_{it} + \beta_2 * Opex_{it} + \beta_3 * Liquid_{it} + \beta_4 * LDR_{it} + \beta_5 * Gownership_{it} + \varepsilon$$

Model (2):

$$ROE_{it} = \beta_0 + \beta_1 * CAR_{it} + \beta_2 * Opex_{it} + \beta_3 * Liquid_{it} + \beta_4 * LDR_{it} + \beta_5 * Gownership_{it} + \varepsilon$$

Results and Discussions

According to the results of the Hausman test, the p-values for the tests are greater than 0.05 (p-value = 0.32 for Model 1 and p-value = 0.66 for Model 2), indicating that fixed effect specifications are not appropriate, and random effects models are preferred for this study.

When checked for the assumptions of no multicollinearity, all variance inflation factors (VIFs) produced values less than 5 indicating that there is no problem of multicollinearity among the independent variables (Table 2).

According to the findings of regression analysis (Table 2), operating expenses of commercial banks have negative relationship with ROA and government ownership has significantly negative impact on both ROA and ROE of banking sector. The impact of government ownership is in line the expectations and findings of Tadesse (2016) and Gupta and Mahakud (2020), and Anvarova and Isakov (2022). Cornett et. al (2010) also have compared the

financial performance of state-owned banks against privately owned banks at international level. By employing the data from 1989 to 2004, they reported that state-owned banks operated less profitably, held less core capital, and had greater credit risk than privately-owned banks prior to 2001. However, the difference in financial performance was not significant between 2001 and 2004.

Table 1.

Descriptive Statistics of numerical variables.

Variable	Average	Std dev	Obs
ROE	16.21%	30.56%	144
ROA	1.89%	3.67%	144
LDR	201%	240%	122
Opex	28.50%	15.80%	143
Liquid	2.99%	5.28%	144
CAR	17%	6.54%	120

Table 2.

Variance inflation factor (VIF) for random effects regression models.

	VIF	
	ROA	ROE
CAR	1.02	1.02
Opex	1.06	1.09
Liquid	1.02	1.04
LDR	2.28	2.51
Gownership	2.32	2.60

According to our results, government owned banks had, on average, 2.09 percentage points lower ROA and 31 percentage points lower ROE compared to private banks while all else being equal. It can be noted that privatization practice of the commercial banks in Uzbekistan leads to an increase in the efficiency of Uzbek commercial banks.

On the other hand, liquidity and loan to deposit ratio indicators had positive relationship with ROE. The empirical results of the study support the findings of Pasiuras and Kosmidou (2007), as well as Sufian and Habibullah (2009), whose work is cited in Al-Jafari and Alchami (2014) and Eze (2014), where all studies have examined positive impact of liquidity on the bank's profitability indicators. However, Golubeva et. al (2019) have found insignificant effect of Basel III liquidity measures on all profitability proxies.

Table 3.

ROA and ROE model Regression Results for Random Effects.

Variables	(1) ROA	(2) ROE
CAR	4.611 (4.199)	-103.257** (62.456)

Opex	-0.171*** (0.078)	-1.475 (1.359)
Liquid	0.066 (0.117)	3.238** -1.925
LDR	0.190 (0.376)	8.707* (5.323)
Gownership	-2.094*** (0.833)	-31.003*** (11.425)
R Squared	0.196	0.167
Obs	95	95

Standard errors in parentheses: *** p-value < 0.05, ** p-value < 0.10, * p-value < 0.15

Conclusions and Recommendations

Based on the findings provided above, the following conclusions can be made.

- The commercial banks operate more profitably if they are run by the private sector. In order to improve the financial performance of the banks and build a competitive market in this sector, the privatization process should be expedited. This process has been started based on the Presidential Decree No. PP-168 “On additional measures to further reduce state participation in the economy and accelerate privatization” which was adopted on March 18, 2022. According to this degree several banks will be listed in initial public offering (IPO) until July 2023.

- Banks need to monitor loan to deposit ratio (LDR) very closely, since it shows the share of the loan book that is covered by deposits, presumed to be a stable funding source. Very high ratio might result in liquidity problems as well as high exposure to non-performing loans. Currently, majority of the banks have this ratio above 1 meaning they are attracting less deposits than they are loaning out. Keeping the ratio under 1 (or 100%) will ensure that the banks will maintain the liquidity and risk profiles under control.

Reference List

1. Al-Jafari, M., & Alchami, M. (2014). Determinants of bank profitability: Evidence from Syria. *Journal of Applied Finance and Banking*.
2. Anggari, N. L., & Dana, I. M. (2020). The Effect of Capital Adequacy Ratio, Third Party Funds, Loan to Deposit Ratio, Bank Size on Profitability in Banking Companies on IDX. *American Journal of Humanities and Social Sciences Research*. Vol 4, Issue 12, pp. 334-338

3. Anvarova, M., & Isakov, O. (2022). Impact of government ownership on banks' profitability: Empirical evidence from commercial banks in Uzbekistan. *Journal of Economics and Financial Analysis*, vol. 6, issue 1, pp. 37-53.
4. Cornett, Marcia & Guo, Lin & Khaksari, Shahriar & Tehranian, Hassan. (2010). The Impact of State Ownership on Performance Differences in Privately-Owned Versus State-Owned Banks: An International Comparison. *Journal of Financial Intermediation*. 19. 74-94. 10.2139/ssrn.1268989.
5. Golubeva, O., Duljic, M., & Keminen, R. (2019). The Impact of Liquidity Risk On Bank Profitability: Some Empirical Evidence from The European Banks Following the Introduction of Basel III Regulations. *Journal of Accounting and Management Information Systems*. vol. 18, issue 4, pp. 455-485
6. Gupta, N., & Mahakud, J. (2020). Ownership, bank size, capitalization and bank performance: Evidence from India. *Cogent Economics and Finance*.
7. Machado, M. R., & Karray, S. (2022). Assessing credit risk of commercial customers using hybrid machine learning algorithms. *Expert Systems with Applications*.
8. Maftuhah, L. (2015). An analysis of the Effects of CAR, LDR, NIM, and NPL on Stock Returns. University of Sebelas Maret. Retrieved from <https://eprints.uns.ac.id/id/eprint/34748>
9. Mohammed, F. (2012). Impact of corporate governance on banks performance in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*. Vol 3, No 3.
10. Muradova, L. F. (2018). Enhancement of Assets profitability in commercial banks of Uzbekistan. *International Journal of Economics, Commerce and Management*. Vol 6, Issue 5.
11. Rajindra, R. et. al. (2021). Costs and Operational Revenue, Loan to Deposit Ratio Against Return on Assets: A Case Study in Indonesia. *The Journal of Asian Finance, Economics and Business*.
12. Sukmadewi, S. (2020). The Effect of Capital Adequacy Ratio, Loan to Deposit Ratio, Operating-Income Ratio, Non Performing Loans, Net Interest Margin on Banking Financial Performance. *eCo-Buss*. Retrieved from <https://doi.org/10.32877/eb.v2i2.130>.
13. Sunaryo, D. (2020). The Effect of Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Non-Performing Loan (NPL), and Loan to Deposit Ratio (LDR) Against Return On Asset (ROA) in General Banks in Southeast Asia 2012-2018. *Ilomata International Journal of Management*, 1(4), 149-158.
14. Tadesse G., (2016). The impact of exchange rate on the profitability of commercial banks in Ethiopia. Addis Ababa University Repository. Available from <http://213.55.95.56/handle/123456789/5243>.