



Bank-Specific Determinants of Profitability of State-Owned Banks in Uzbekistan

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Introduction

At the beginning of 2022, 10 state-owned commercial banks (out of 33 commercial banks in total) represented 81.46% of total banking assets and owned 81.36% of total banking capital in Uzbekistan (Central Bank of Uzbekistan, 2022). Despite the privatization of banks observed in many countries, state-owned commercial banks still common in numerous countries around the world. In Uzbekistan, state-owned commercial banks still dominant and operate in retail commercial banking sector. This type of bank collects deposits and uses them to give credit to firms and individuals, hence acting as first-tier (e.g. they interact directly with final borrower) banks on both the asset and liability sides (Gonzalez-Garcia and Grigoli, 2013). Therefore, it is essential to investigate the profitability of state-owned commercial banks because of their importance to the financial sector development and stability.

Problem statement

While state-owned commercial banks in Uzbekistan generally have development objectives, they also fulfill the same type of operations as private commercial banks. As state-owned commercial banks are dominant in the financial sector of Uzbekistan, profitability is the essential element for development of the financial sector of the country as a whole. Therefore, it is essential to evaluate which bank-specific determinants have more impact on profit of as in the case of state-owned commercial banks.

Research objectives

This study attempts to identify the bank-specific determinants of profitability in case of state-owned commercial banks. Selected determinants for the study are bank size, loan quality, deposits, capital adequacy and liquidity and investigate their impact on profitability in terms of return on assets and net interest margin.

Literature Review

Previous empirical studies have found positive and significant relationship between bank size and profitability (San and Heng, 2013; Athanasoglou et al., 2008; Kosmidou et al., 2005). The main implication is that larger banks tend to have better profitability due to economies of scale. Similarly, Khediri and Khediri (2010) and Alpera and Anbar (2011) studies showed that asset size of the bank positively impact on profitability. However, some studies found no significant relationship between bank size and profitability (Dawood, 2014; Mbekomize and Mapharing, 2017; Alshatti, 2016).

Loan quality is important for bank profitability. Empirical evidences showed that the more banks offer loans the more they will be exposed to risks to non-performing loans. In this case, this may decrease the loan quality and impact negatively on banks' profitability (Rasiah, 2010: p.90). Davydenko (2010: p.24) found out significant and strong negative effects of non-performing loans on profitability in the case of developing countries because it increases the exposure to credit risk and thus, lowers banks' earnings. Ameer and Mhiri (2013: p.145) have found that credit risk in terms of non-performing loans had a negative relationship with bank profitability. Because higher loans-to-assets increase the banks' exposure to lowering the quality of loan, it negatively impacts on lowering profit margins.

Deposits are the primary sources of funds which can be invested to generate income (Rasiah, 2010: p.75). Therefore, it can be expected that the relationship between deposits and banks' profitability is positive. As evidenced by Tariq et al. (2014: p.16) empirical studies, there is a positive relationship between bank's profitability and its total deposits. The premise is that as total deposits represent the size of the bank, large banks perform well compared with small banks. Empirical results of Husni (2011: p.41) showed that customer deposits influence banking performance positively if there is a sufficient demand for loans in the market. Banks with high deposit levels and using those to strengthen the equity are better performing and developing banks (Naceur and Goaid, 2001: p.317).

Capital adequacy is the indicator of bank's own funds available to support a bank business and bank's ability to withstand losses (Munyambonera, 2007: p.18). A substantial level of capital adequacy can be seen as a bank is passing up profitable investments while a declining ratio may signal capital adequacy problems. Munyambonera (2007: p.22) found out that capital adequacy has a positive and significant impact on bank's profitability in case of Sub-Saharan African countries while Bentum (2012: p.42) found out that capital adequacy has a strong positive impact on profitability of commercial banks in Ghana. The relationship between bank's capitalization and profitability is positive because a high level of capital increased banks' profitability (Karkrah and Ameyaw, 2010: p.48). Investigating bank-specific factors, latest research conducted by Swamy (2015: p.27) found out that capital adequacy influences profitability positively.

Liquidity refers to the ability of the commercial bank to meet the short-term deposit obligations with its liquid assets. The premise is that the low levels of liquidity of banks indicate the ground reality of failure of banks which obviously impact on profitability as a whole (Tariq et al., 2014: p.6). Samad's (2015: p.173) study showed that liquidity is a significant factor for determining the profitability of commercial banks in Bangladesh. Duraj and Moci (2015) also conducted analysis to see the impact of liquidity on the banks in terms of profitability and found positive and significant relationship. Later, Rizwan and Mutahhar (2016: p.6) also found out that liquidity has positive relationship and considerable impact on profitability. Bordeleau and Graham (2010: p.4) study showed that banks' profitability is improved if they hold some liquid assets. Nevertheless, there is a point beyond which holding more liquidity adversely impacts on profitability.

Methodology

In order to determine the impact of selected variables on bank's profitability, 10 state-owned commercial banks in Uzbekistan is selected. Data is collected from financial reports of each 10 state-owned commercial banks, Central Bank of Uzbekistan, Unified Corporate Information Portal of the Ministry of Economy and Finance (openinfo.uz) for the period 2010-2022 (Table 1). The researcher used balanced panel data for the study.

Table 1. Selected banks for the study (Data source: Author's own findings from annual report of each state-owned bank)

No.	Name of state-owned commercial bank	State ownership (%)
1	National Bank of Uzbekistan (NBU)	100%
2	UzSanoatQirilishBank (SQB)	95.15%
3	Asaka Bank (AsB)	98.97%
4	Agro Bank (AgB)	97.78%
5	Ipoteka Bank (IB)	93.70%
6	Xalq Banki (XB)	100%
7	Qishloq Qurilish Bank (QQB)	98.34%
8	Mikrokredit Bank (MK)	98.40%
9	Turon Bank (TB)	98.77%
10	Aloqa Bank (AIB)	89.55%

Dependent variables selected for the study include ROA (Return on Assets) and NIM (net interest margin) while independent variables include bank size, loan quality, deposits, capital adequacy and liquidity ratios (Table 2).

Table 2. Selected variables for the study

Variables	Measurement
<i>Dependent variables</i>	
ROA (Return on assets)	Net profit/Total Assets
NIM (Net interest margin)	(Total interest income-Total interest expense)/Total Assets
<i>Independent variables</i>	
Bank Size (LOG_SIZE)	Log of Total Assets
Loan quality (QUAL)	Non-performing loans/Total Loans
Deposits (DEPO)	Total deposits/Total Assets
Capital Adequacy (CAR)	Capital/Risk-weighted assets
Liquidity (LIQ)	Current Assets/Current Liabilities (assets or realizable within 30 days/liabilities repayable within 30 days)

This study uses fixed-effect model to analyze paneled data by examining the impact of determinants on bank's profitability. Selected model for the study is as follows:

$$Y_{it} = a_0 + a_1x_1 + a_2x_2 + a_3x_3 + a_4x_4 + a_5x_5 + \varepsilon_{it} \quad (\text{Model 1})$$

$$Y_{it} = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + \varepsilon_{it} \quad (\text{Model 2})$$

Where Y_{it} is profitability measures (ROA or NIM) for the bank i at time t , x_1 denotes size of the bank i at time t , x_2 denotes loan quality of the bank i at time t , x_3 denotes deposit of the bank i at time t , x_4 denotes capital adequacy of the bank i at time t , x_5 denotes liquidity of the bank i at time t , b_0 is a constant, b_1 to b_5 are coefficients, and ε_{jt} is an error term. Based on the model, the following two equations are examined:

$$ROA_{it} = a_0 + a_1 LOG_SIZE + a_2 QUAL + a_3 DEPO + a_4 CAR + a_5 LIQ + \varepsilon_{jt} \quad (Model 1)$$

$$NIM_{it} = b_0 + b_1 LOG_SIZE + b_2 QUAL + b_3 DEPO + b_4 CAR + b_5 LIQ + \varepsilon_{jt} \quad (Model 2)$$

Results

Descriptive statistics

Table 3 presents the descriptive statistics bank-specific determinants and state-owned commercial bank's profitability (ROA and NIM) for the period 2010-2022. On average, ROA for the state-owned commercial banks was 0.01 (1.02%), NIM was 0.039 (3.9%), non-performing loans was 0.026 (2.6%), liquidity was 0.728 (72.8%), capital adequacy ratio was 0.171 (17.1%), deposit level was 0.455 (45.5%) and bank size which is measured by logarithm of total assets was 12.773.

Table 3. Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
ROA	130	.010	.012	-.078	.036
NIM	130	.039	.014	.01	.085
QUAL	130	.026	.033	0	.197
LIQ	130	.728	.304	.105	1.934
CAR	130	.171	.059	.083	.437
DEPO	130	.455	.209	.137	1.179
LOG_SIZE	130	12.773	.629	11.53	14.084

In order to test for the multicollinearity between independent variables both correlation and variance inflation factor is conducted. Table 4 showed that correlation output is between -0.7 to 0.5 and Table 5 shows VIF analysis produced values less than 5. Analysis showed the absence of multicollinearity between independent variables.

Table 4. Correlation table

Variables	(1)	(2)	(3)	(4)	(5)
(1) QUAL	1.000				
(2) LIQ	0.182	1.000			
(3) CAR	0.045	0.125	1.000		
(4) DEPO	-0.102	-0.404	-0.216	1.000	
(5) LOG_SIZE	0.136	0.478	0.021	-0.652	1.000

Table 5. Multicollinearity test

	VIF	1/VIF
LOG_SIZE	1.996	.501
DEPO	1.894	.528
LIQ	1.358	.737
CAR	1.089	.919
QUAL	1.038	.963
Mean VIF	1.475	.

Regression analysis

The study conducted robust variance estimator which is assumed that robust to heteroscedasticity is likely to be present. Table 5 illustrates the regression results with robust estimator.

Table 5. ROA and NIM regression results for fixed effects

VARIABLES	ROA	NIM
QUAL	-0.147*** (0.0293)	0.0653* (0.0332)
LIQ	0.000818 (0.00361)	0.00525 (0.00409)
CAR	-0.00100 (0.0174)	0.0136 (0.0197)
DEPO	0.0208** (0.00861)	0.0123 (0.00975)
LOG_SIZE	0.00440 (0.00287)	0.00552* (0.00325)
Constant	-0.0521 (0.0394)	-0.0451 (0.0447)
Observations	130	130
R-squared	0.213	0.106
Number of n	10	10
b		

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

First model (ROA) presented that loan quality in terms of non-performing loans has negative impact on state-banks profitability. The relationship between two variables is statistically significant (p<0.01). Deposit level is positive and significant (p<0.05) determinant of state-banks' profitability in terms of ROA. Other determinants such as liquidity (LIQ), capital adequacy (CAR) and bank size (LOG_SIZE) do not have influence on state-owned commercial banks' profitability.

Second model (NIM) presented that loan quality in terms of non-performing loans and bank's size has positive impact on state-owned commercial banks' profitability. However, relationship between these variables is not statistically significant (p<0.1) because minimum threshold for statistical significance is p<0.05. Other determinants such as liquidity (LIQ), capital adequacy (CAR) and deposit level (DEPO) do not have influence on state-owned commercial banks' profitability.

Discussions

Research sought to identify the determinants of state-owned commercial banks' profitability in Uzbekistan during 2010-2022. It examined the effect of five variables on state-owned commercial banks' profitability using ROA and NIM measures.

Based on the research results, it is discovered that non-performing loans has negative impact on state-owned commercial banks' profitability. Deterioration in loan quality leads to the quality problems in assets and therefore, it negatively impacts on state-owned commercial banks profitability in terms of ROA. This finding is in line with previous studies found by Davydenko (2010) and Ameer and Mhiri (2013) who found out that credit risk in terms of non-performing loans had a negative relationship with bank's profitability.

Moreover, it is discovered that deposit level has positive impact on state-owned commercial banks' profitability. Study showed that increase in deposit level in state-owned commercial banks positively impacted on ROA. This finding is in line with previous studies such as (Rasiah, 2010), Tariq et al. (2014), Husni (2011) and Naceur and Goaied (2001) which found out that deposits are the primary sources of funds which can be invested to generate income and customer deposits influence banking performance positively because there is a sufficient demand for loans in Uzbek market.

Study found out no impact of liquidity, capital adequacy and bank size on profitability of state-owned commercial banks. This may be because state-owned commercial banks which performed bad and heavily reliant on external funding regularly received funds from state to increased their capitalization and liquidity buffers. Therefore, results of the study no evidence of impact of these variables in case of state-owned commercial banks in Uzbekistan. This is because state-owned commercial banks maintained high current liquidity ratio and above the minimum capital adequacy requirements set by Central Bank of Uzbekistan. Moreover, state-owned commercial banks have large asset size that study results showed no evidence on banks' profitability.

Conclusion

Based on the findings of the study, study can conclude increase in non-performing loans decreased the ROA of the state-owned commercial banks. Starting from 2016, state-owned commercial banks in Uzbekistan are undergoing business transformation aiming to shift from state-directed lending to commercial business. It is expected that transformation process in state-owned commercial banks leads to more loan diversification and increase in non-

performing loans levels. Moreover, Covid-19 largely influence on loan quality due to providing debtors loan repayment holidays. Therefore, it is necessary that state-owned commercial banks should reduce their credit risk with proper non-performing loan management practices.

In addition, study concluded deposit levels have positive impact on state-owned commercial banks. As state-owned commercial banks are reliant on external funding from government, the upcoming transformation process in these banks need to consider attracting more deposits from population, corporate and individuals. State-owned commercial banks use these funds to reinvest to generate income and they need to monitor closely their deposit levels to maintain sufficient liquidity position.

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