

# **BANK ENVIRONMENT, BANK RISK TAKING AND RISK MANAGEMENT IN UZBEKISTAN: CASE OF SELECTED BANKS**

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## **Abstract**

*Banking environment is a relatively tricky term and often confused with overall financial environment of a country. However, it has a wider understanding except fiscal and financial market relations, which is specific to banks and other financial institutions. Distinguishing attributes are seen in the risk taking, management and cyclicity of banking system. This study examines the bank risk and banking environment in a transition economy by selecting four different commercial banks in different size, market share and position. Empirical analysis of risk profile of selected banks showed that appetite for credit and exchange rate risks are high in Uzbek banks, although their risk resistance ability is strengthened by the positive effect of profitability, efficiency and stability indicators.*

*Keywords: Commercial banks, Bank risk, risk-taking, bank environment, Uzbekistan*

## **INTRODUCTION**

Banking system safety is a central aspect of smooth financial development in most developing economies. In the past three decades banking environment in developing countries underwent serious challenges in ensuring stability, efficiency and safety. Advances in international financial relations, progressive economic integration, wider financial linkages and interdependency in global economy posed risks and diverse dangers to the operability of banks. Increasingly complicated and more capital-centered financial architecture fuelled the emergence of loopholes in global banking environment which called for a cross-border safety. High level of interconnectedness among national banking system environments led to the transmission of risk which roots from those loopholes. Structural weaknesses and systemic faults in banking system

created even more dangerous condition in banking environment in which banks may suffer from loophole effect even economy operates stable. There are many historical examples of bank risk taking originated from deteriorating banking environment when economy was in normal phase of stability. Consequently, a gap between economic stability and banking system safety expanded and new theories of bank risk and economic growth relations appeared in literatures.

Banking system stability is often reached through a secure financial environment and sound macroeconomic condition. Safe and efficient functioning of banks takes its roots from risk-free environment with a proper risk mitigation and impact minimization policies. Change in banks' behavior in the context of risky operational area and stress they may face reflect the harshness of risk horizon and bank's ability to response potential dangers. Measures banks took to cope with risks and overall risky condition possibly show their weaknesses and strength. Theoretically, banks do response using their risk management strategies which can be described as a portfolio of actions common for all banks in particular banking system. In individual case, financial condition and some important indicators of banks change on daily basis, as they operate and offer banking services in different levels of financial services markets. And theory-based safety of a bank seems impossible, as banks in a country may have diverse risk positions and safety lines. At the development level groups of economies, bank risk and banking environment terms take an absolutely diverse face in terms of type, origin, impact and scale. Obviously, financial architecture in developing and transition economies is less complex and relatively less integrated. However, it does not reflect the view that banks in developing and transition economies are safer and more risk-free. Banks in these development groups of economies operate in a banking environment which are tend to be influenced by external shocks and impact channels that transmit the risks and often shows negative impact in case of economic slowdown in developed economies and the whole global financial system. Mainly in transition economies, capital is circulated, accumulated and distributed by banks but not financial markets as in developed economies and emerging markets, and cross-country capital flow is attracted by trade and investment in real sector. Therefore, banking system has the largest burden of ensuring financial stability in the economy. Any kind of potential risk in systemically important banks may have serious implications for not only banking system but also for economy at a whole.

Uzbekistan is a member in the community of both developing and transition economies. Due to transitional character, banking system plays an important role in socio-economic stability and rapid economic growth. Therefore, smooth functioning of banks is vital for keeping the upward economic development trend and favorable financial environment. As many transition and developing countries have experienced (some of them are still undergoing) Uzbek banks

are enjoying operational opportunities opened through development-oriented reforms. Strengthening linkages with international financial community and growing capacity of banking system creating a larger room for bank expansion. Hence, historical and theoretical evidences prove that banking system development has a double edged effect in terms of profit and risk. Growing bank size and operational level lead to riskier environment due to larger number of risks and their more hazardous potential impact. Moreover, landscape changed after global financial crisis offers tighter ground for banks in developing and transition economies, as banks in developed economies are still in recovery stage. It can be seen with a naked eye that risk horizon and risk position of banks in transition economies, including Uzbek banks are not in safe zone due to abovementioned risk sources. This paper studies the banking environment and risk taking in selected four banks in different size, level and ownership forms in post-crisis period.

### **Problem Statement**

Banking system environment and its risk taking characteristics in developed economies have been discussed and scientifically studied by researchers and policymakers regularly, as banks in developed countries lead the echelon of global financial system. For a long time, despite the rapid growth of financial system in developing and transition economies, bank risk and general risk conditions have been overlooked or studied insufficiently. In-depth studies have been limited by analytical reports and research papers of international organizations. Most of bank risk theories and risk assessment methods are tailored for risk management in developing ones. Admittedly, these methods and theories may fit to banking system of some developing and emerging economies. However, in transition economies banks may face other risks originated during structural reform processes which can be beyond the evaluation capabilities of these models. Therefore, this paper is intended to have a glance at origins, factors, types and mitigation methods of risks in condition of transition economies in case of Uzbek banks.

### **RESEARCH METHODOLOGY**

Any business cannot avoid the risk but they can minimize their impact through different risk management measures. Risk management and risk diversification opportunities are also available too and it depends on country level, sector level and firm level economic environment and the industry they operate. In our study, we examine the bank risk and banking environment in a transition economy by selecting four different commercial banks in different size, market share and position. In building the regression equation we take bank-specific indicators and macroeconomic indicators to achieve a fair and correct regression results. Our regression equation was built under the principles of KVM or Expected Default Frequency (EDF) model of

credit rating agencies. In our model, we set a new risk assessment model by applying the key features and principles of EDF model. In 2009, Leonardo Gambacorta studied monetary policy and bank risk-taking using EDF model. We followed his modified model and reset variables and adapted it to banking system characteristics of transition economies. We augmented the composition of EDF and Gambacorta's modified model by adding macroeconomic indicators to observe the behavior of bank risks and general banking environment in condition of rapid macroeconomic growth.

$$\begin{aligned} \left(\frac{RWA}{TI}\right)_{kit} = & \alpha + \beta_1 \left(\frac{II}{TA}\right)_{kit} + \beta_2 \left(\frac{OOI}{TA}\right)_{kit} + \beta_3 \left(\frac{LA}{TD}\right)_{kit} + \beta_4 \left(\frac{TC}{TI}\right)_{kit} + \beta_5 \left(\frac{NIE}{TL}\right)_{kit} + \\ & + \beta_6 \left(\frac{TE}{TA}\right)_{kit} + \beta_7 \left(\frac{MV}{TA}\right)_{kit} + \beta_8 \left(\frac{LLP}{II}\right)_{kit} + \beta_9 \Delta GDP_{it} + \beta_{10} INF_{it} + \beta_{11} \Delta EXR_{it} + \epsilon_{it} \end{aligned}$$

II – interest income, OOI – other operational income, TI – total income, TC – total expenditure, NIE – non-interest expenditure, TD – total deposits, TA – total assets, TL – total liabilities, LA – liquid assets, RWA – risk waited assets, TE – total equity, MV – market value of a bank, LLP – loan-loss provision,  $\Delta GDP$  – annual GDP growth rate, INF – inflation rate,  $\Delta EXR$  – annual exchange rate change.

Macroeconomic variables comprise key determinants of economic condition and financial system stability in an economy such as economic growth, exchange rate volatility and inflation.

In our model bank-specific variables are set from ratios of indicators in bank balance sheet and financial statements. These ratios determine stability, efficiency, profitability and safety of selected individual banks in different sizes. Interest income to total assets, other operational income to total assets, total cost to total income and non-interest expenditure to total liabilities shows profitability and efficiency of a bank, total equity to total assets, market value to total assets indicate how a bank stable in the market and operation. Liquid assets to total deposits and loan-loss provision to interest income determine the safety level of bank.

## ANALYSIS AND RESULTS

Our regression analysis showed that bank risk taking in selected commercial banks in Uzbekistan at different levels but with common factors in similar impact positions (Table 1). Key common risk factors in all four banks were financial market or capital structure risk (market value to total assets), safety risk (loan-loss provision to interest income). Aloqabank, Savdogar bank and Uz sanoatqurilish bank were affected more from market risk more, while Bank IpakYuli had less risky market performance. Risk from banks' operational safety (loan-loss provision to

interest income) was nearly at the same level. However, profitability indicators showed differentiating impact on banks in consistent with cost-capital structure. Bank IpakYuli, Aloqa bank and Savdogar bank suffered from negatively influenced net interest expenditure to total liabilities.

Table 1. Regression Output

Variables	Uzsanoatqurilishbank		BankIpakYuli		Savdogarbank		Aloqabank	
	Coefficient	Std.Error	Coefficient	Std.Error	Coefficient	Std.Error	Coefficient	Std.Error
$\left(\frac{II}{TA}\right)_{kit}$	0.467***	0.089	0.620***	0.156	1.212***	0.263	0.0346***	0.024
$\left(\frac{OOI}{TA}\right)_{kit}$	-0.018***	0.001	0.039***	0.004	0.042***	0.003	0.021***	0.002
$\left(\frac{LA}{TD}\right)_{kit}$	0.162***	0.007	0.149***	0.012	-0.017***	0.009	0.324***	0.013
$\left(\frac{TC}{TI}\right)_{kit}$	0.008***	0.001	0.022**	0.003	0.019***	0.003	0.014	0.002
$\left(\frac{NIE}{TL}\right)_{kit}$	0.011***	0.003	-0.006***	0.001	-0.005***	0.001	-0.009***	0.001
$\left(\frac{TE}{TA}\right)_{kit}$	0.007***	0.002	0.006***	0.001	0.005***	0.000	0.007***	0.001
$\left(\frac{MV}{TA}\right)_{kit}$	-0.251***	0.121	-0.051**	0.09	-0.279***	0.168	-0.452***	0.109
$\left(\frac{LLP}{II}\right)_{kit}$	-0.113***	0.003	-0.099***	0.002	-0.106***	0.003	-0.118***	0.002
$\Delta GDP_{it}$	0.487***	0.081	0.608***	0.154	1.359***	0.214	0.864***	0.119
$INF_{it}$	-0.053***	0.001	-0.028	0.005	-0.034	0.004	-0.122***	0.001
$\Delta EXR_{it}$	-0.716***	0.045	-0.598***	0.190	-0.072***	0.201	-0.818***	0.136
Constant	0.034**	0.002	0.003***	0.004	0.014***	0.003	0.018	0.003
Sample period	2010-2015		2010-2015		2010-2015		2010-2015	
Sargan test	0.385		0.151		0.133		0.206	

Note: \*, \*\*, and \*\*\* indicate significance levels of 10 per cent, 5 per cent, and 1 per cent consistently.

Regression proved the impact of macroeconomic factors in risk-taking of selected banks. GDP growth supported banks' safety from risk, while annual inflation rate and devaluating exchange rate impacted negatively on riskiness of banks' activity. Annual inflation averaged in 6-7 percent and devaluating exchange rate of Uzbek soum around 9-11 per cent in the given period led to a risk of income evasion and tighter operation environment as shown in results. Uzsanoatqurilishbank and Bank IpakYuli experienced more risk than other two banks from macroeconomic condition.

## CONCLUSION

As our analysis suggested, Uzbek banks are being more risk resistant as economy moving towards market economy principles. Banking system is opening to wider financial activity and offering access to growing number of clients, which enables them to get progressively important part of economy. Despite the unavoidable negative effects of economic transition and particular crucial economic development programs, banking system has been taking risks but has not been failing in operating. The method we used in our study revealed strength and weaknesses of banking industry in Uzbekistan in the sample of four commercial banks in different sizes. Profitability of banks which are achieved through growing inclusion and access is helping banks to withstand risk, while lending and inflation creates more risk for large, medium and small banks. Banks in all countries, no matter they are developed, developing or transition, credit risk in primary hazard to banking system stability. Inflation depreciates the income made by banks from their activity. As we stressed, panel regression is the method of estimating interconnectedness and response to change between two or more variables. It shows the numerical linkages only and for the very reason, regression results may fail in showing a clear case in selected scenario.

Limitation of this study can be seen in estimating the impact of exchange rate change in banking system stability and behavior of banking environment. Fixed or managed exchange rate is still in use in many transition economies, including Uzbekistan. Uzbekistan gradually depreciates its currency versus foreign ones to support foreign trade and foreign direct investment attraction. Although exchange rate movements influenced negatively on bank stability, it stimulated economic growth in other impact channels.

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