

Trends and Patterns of Accumulation of Non-Performing Loans in the Banking Sector of Uzbekistan

Abstract

This article provides a comprehensive overview of the banking sector in Uzbekistan, with a particular focus on the trend and patterns of non-performing loans (NPLs) accumulation. The data in the article offer insights into the share of NPLs in total loans across banks over several periods, underscoring the importance of assessing asset quality and risk management practices of banks in order to support policy decisions and investment strategies. The analysis reveals that banks generally exhibit a slightly higher ratio of NPLs to total loans compared to the pre-pandemic period, highlighting the fluctuation of NPL ratios over time, particularly during the pandemic. Furthermore, it provides a breakdown of NPL accumulation by sector, indicating the industrial sector as the largest contributor to NPLs, followed by the agricultural sector. Especially, the mean of quarterly NPL ratios for Uzbek banks from 2017 to 2023 is discussed, revealing an increase in the NPL ratios in 2021 as compared to the previous year. The data in the article describe the relationship between quarterly outstanding loans and NPLs for banks over the same period. The analysis particularly focuses on NPL accumulation trends and sector-specific contributions, which are of significant concern. The study's findings are of paramount importance for stakeholders, policymakers, and investors, as they offer crucial insights into the credit risk, asset quality, and performance of banks in Uzbekistan.

Özbekistan Bankacılık Sektöründe Takipteki Kredilerin Birikim Eğilimleri ve Modelleri

Özet

Bu makale, özellikle takipteki kredi birikiminin meyil ve şekillerine odaklanarak, Özbekistan'daki bankacılık sektörüne kapsamlı bir genel bakış sunmaktadır. Makaledeki veriler, çeşitli dönemlerde bankalar arasında takipteki kredilerin, toplam krediler içindeki payına ilişkin içgörüler sunarak politika kararlarını ve yatırım stratejilerini desteklemek için bankaların varlık kalitesini ve risk yönetimi uygulamalarını değerlendirmenin önemini altını çizmektedir. Analiz, bankalarda genel olarak pandemi öncesi döneme kıyasla takipteki kredilerin toplam kredilere oranının biraz daha yüksek olduğunu ortaya koymakta, ve özellikle pandemi sırasında takipteki kredi oranlarının zaman içindeki dalgalanmasına dikkat çekmektedir. Ayrıca makalede, takipteki kredi birikiminin sektörlere göre bir dağılımı sunulmakta, ve sanayi sektörünün takipteki kredilere en büyük katkıyı sağlayan sektör olduğu, bunu tarım sektörünün izlediği gösterilmektedir. Çalışmada özellikle, Özbek bankaları için 2017'den 2023'e kadar olan üç aylık takipteki kredi oranlarının ortalaması tartışılmakta, ve 2021'de bir önceki yıla göre takipteki kredi oranlarında bir artış olduğunu ortaya konmaktadır. Makaledeki veriler, aynı dönemde bankalar için üç aylık ödenmemiş krediler ile takipteki krediler arasındaki ilişkiyi açıklamaktadır. Analiz özellikle takipteki kredilerin birikme eğilimlerine ve sektöre özgü katkılara odaklanmaktadır. Çalışmanın bulgularının Özbekistan'daki bankaların kredi riski, varlık kalitesi ve performansı hakkında önemli bilgiler sunması dolayısıyla bu makale paydaşlar, politika yapıcılar ve yatırımcılar için büyük önem taşımaktadır.

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1 Introduction

The accumulation of non-performing loans (NPLs) in Uzbekistan has become a topic of increasing concern in recent years, as it has the potential to significantly impact the stability and growth of the country's financial sector as well as economic growth. As the banking sector is tightly connected with the impact of NPLs, it is crucial to examine the root causes, implications, and potential solutions to address this issue. It is important to develop a comprehensive analysis of the NPL accumulation in Uzbekistan, stressing the factors contributing to this accumulation and offering insights into the necessary steps to mitigate its adverse effects.

The study of non-performing loans (NPLs) is of importance in both academic research and practical policymaking within finance and economics. NPLs represent loans that have ceased to generate income for lenders due to default or delinquency in repayment by borrowers. Understanding the particulars surrounding NPLs is essential for several compelling reasons, each underscored by its implications for financial institutions, regulatory frameworks, and overall economic stability.

First and foremost, the analysis of NPLs provides invaluable insights into the health of financial institutions and the resilience of banking systems. As NPLs accumulate within a bank's portfolio, they erode profitability, weaken capital adequacy ratios, and strain liquidity positions. Moreover, NPLs serve as a crucial indicator of credit risk within economies. In addition, understanding the determinants and resolution mechanisms of NPLs is essential for designing effective policy responses to address distressed loan portfolios.

Overall, the study of non-performing loans is essential for comprehensively assessing financial stability, evaluating credit risk, understanding the macroeconomic implications of financial distress, and designing effective policy responses to mitigate systemic risks and promote economic resilience.

2 Literature Review

Empirical literature on the evidence of the effectiveness of NPL analysis and its reduction programs is still scarce, especially in Asia. Most of the researchers stress the NPL accumulation determinants in their research. Relying on existing literature, the broad categories that determine NPL accumulation are macroeconomic factors and micro-level bank-specific performance indicators. When many scholars like Marcucci and Quagliariello (2009), Mohaddes et al., (2017) studied only one category of determinants as macroeconomic factors or Berger and De Young 1997-bank specific factors, others Meeker and Gray (1987), Keeton and Morris (1987), Demirguc-Kunt (1989), Whalen (1991), Sinkey and Greenwalt (1991), Berg et al., (1992), Hughes, and Mester, (1993), Barr and Siems (1994), Resti (1995), DeYoung (1997), Berger and DeYoung (1997), Kwan and Eisenbeis (1997), Keeton (1999) tried to analyze both of them.

The earliest studies focused on the impact of NPL on bank performance. The studies of Demirguc-Kunt (1989), Whalen (1991), and Barr and Siems (1994) found a negative correlation between a high proportion of NPLs and bank efficiency in line with the findings of Kwan and Eisenbeis (1994) and Resti (1995). Furthermore, other scholars, Berg et al. (1992) and Hughes and Mester (1993), analyzed nonperforming loans, bank expenses, and efficiency using a parametric estimations approach.

In addition, Meeker and Gray (1987) concluded that banks performance as asset quality could be examined by the share of NPL, using weighted classification of risky loans. According to sector-specific analysis, Keeton and Morris (1987) found out that in the sectors of agriculture and energy, the accumulation of NPLs is higher than in other sectors. They also stated that the local economic environment, diversification of banks, the performance of borrowers, and the quality of credit management are also influential factors in NPL accumulation.

Sinkey and Greenwalt (1991) studied a number of NPL determinants, such as bank size, local economic conditions, and managerial decisions. Their results show that the larger the size of the bank, the lower the risk of loan default, and there is a positive correlation between strong economic conditions, managerial decisions, and a low NPL rate.

Furthermore, Berger and DeYoung (1997) studied the relationship between NPL and cost efficiency and found out the interrelation among bank interest rate, credit risk-taking, and operating efficiency similarly with the study by Kwan and Eisenbeis applying the Granger-causality method and a simultaneous equation framework technique correspondingly.

Since the 21st century, Salas and Saurina (2002) studied both macroeconomic and bank-specific indicators of NPL accumulation, using the generalized method of moments (GMM) to estimate the relationship of macroeconomic variables and bank-level indicators on the NPLs of commercial and savings banks in Spain from 1988 to 1997. They concluded that NPLs in commercial banks are more the result of the economic environment, whereas in savings banks, more NPLs accumulated due to bank-specific factors, as they have a historical diversity in their customer categories.

Also, Louzis et al. (2012) incorporated GMM in dynamic panel data in Greece's nine largest banks for the period 2003-2009 and derived leverage, management effectiveness (return on equity), and operating inefficiency as significant bank-specific factors, while domestic product (GDP) growth, unemployment, and real lending rates are the most explanatory external factors.

In addition, Klein (2013) added the research applying dynamic panel with difference GMM and system GMM in 135 banks in Central, Eastern, and Southeastern Europe during the period of 1998 to 2011. Their findings reveal that increasing leverage on bank-level NPLs leads to the loan growth rate.

Similarly, to previous studies, Ari et al. (2019) showed a positive correlation between a strong economy, good management, and better NPL management, using ordinary least squares (OLS) in combination with the selection method “post rigorous least absolute shrinkage and selection operator.”

To ensure the validity of GMM and OLS methods in studies, the robustness check should be performed, as this gives to release feasible results and make proper decisions. To check robustness for OLS, the following tests such as linearity, homoscedasticity, normality, and error independence using tests such as the Breusch-Pagan test for heteroscedasticity, the Durbin-Watson statistic for autocorrelation, and Q-Q plots for normality. Additionally, Variance Inflation Factors (VIF) have to be performed to check for multicollinearity. As for feasibility of GMM model, the Hansen J-test or Sargan test must be used to demonstrate that instruments are uncorrelated with the error term and appropriately predictive of endogenous variables.

Similarly, Bending et al. (2014) studied country-level data from 18 Economic and Monetary Union members, using a fixed-effects estimation with consideration of six insolvency variables, and concluded that the cost of insolvency and recovery of insolvency have a positive and negative relationship with the change in NPL, respectively.

Latest literature stressed the impact of Covid-19 on NPL accumulation. Ari et al. (2021) studied a new dataset on non-performing loans (NPLs) during banking crises since 1990, showing similarities in NPL buildup but significant variation in the pace of NPL resolution, with high and unresolved NPLs exacerbating post-crisis recessions, and a machine learning approach is used to identify pre-crisis predictors of NPL problems, which include weak macroeconomic, institutional, corporate, and banking sector conditions that illuminate post-COVID-19 NPL vulnerabilities.

Kryzanowski et al. (2022) investigated the impact of the COVID-19 pandemic on Chinese banks, finding that despite a decrease in total bank lending growth, non-performing loan (NPL) ratios significantly increased during the crisis, with banks possessing high-quality capital being more successful in controlling their NPL ratios, and the Big Five banks, state-owned banks, and domestic banks having lower NPL ratios compared to other banks.

The most recent studies examining non-performing loans elimination are seen in the studies of Candida Ferreira (2023) and Popova (2024). Candida Ferreira (2023) stated that bank profitability, efficiency and liquidity of bank are very essential to avoid bank crises and decrease high risk. Furthermore, setting proper regulations and having favorable market conditions ensures low the probability of high NPLs ratio. Countries which have not good economic conditions such as non-stationary real per capita GDP growth are more likely to face banking and financial problem related to NPLs. As for work of Papova (2024), who analyzed the link between COVID-19 and corporate loan portfolio quality among Russian banks, during the COVID-19 epidemic, Russian banks modified their credit policies so that they restricted to give high loans Her research results stated that in contrast to the reduced tax rate under the simplified taxation system for legal entities and individual entrepreneurs, as well as the exemption or significant reduction of the amount of property, transport, or land tax, the deferral of rent payments and the provision of grants, subsidies, and direct financial assistance for medium-sized enterprises had a greater positive impact on corporate loans issued.

3 Method

In our analysis, the trends in NPL ratios and across different sectors of the economy within the banking system of Uzbekistan over the time of the period 2017-2023 have been applied. Moreover, disaggregated analysis of NPLs in outstanding loans, NPLs share in total loans, and provisions for NPLs offers an understanding of the underlying drivers of loan defaults and formulates possible remedies

4 Results and Discussion

During the period of 2017-2023, examining the overall outstanding loans and NPL, it has been observed that there are quite similar trends at both the state-owned and commercial banks. Until the severe global shock of late 2019-COVID-19, the numbers for outstanding loans and NPL accumulation showed a steady increase of 162,086 and 4,504.5 billion soms and reached 221,933 and 5,021.2 billion soms in the 1st quarter of 2020. As Covid-19 impacted almost all economic activities negatively, especially the borrowing and repaying power of borrowers, NPL accumulation experienced a higher growth rate, reaching its ever peak compared to the growth in outstanding loans (peaking at 181,253 billion soms in the 3rd quarter of 2021). Finally, after a year, the NPL accumulation had started to recover and stabilized at around 15977 billion soms, while outstanding loans have been experiencing stable growth and reaching 471405 billion soms in the 4th quarter of 2023 (see Figure 1).

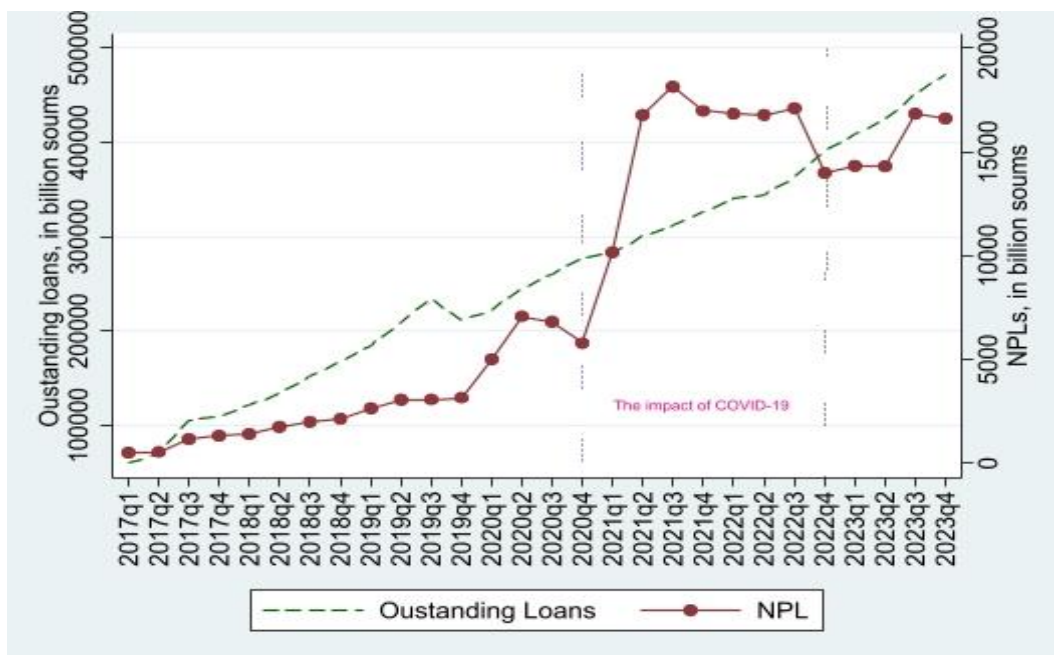


Figure 1. The amount of outstanding loans and NPL in the banking sector of Uzbekistan (in billion soums)

The numbers for NPL share in total outstanding loans have experienced the same trend. Before the consequences of the pandemic, the share of NPL was twice lower at around 1.2 and 2.1 percent, whereas in 2021, it peaked at 5.2 percent. Then, due to expansionary monetary and fiscal policies, this number started to recover and showed almost the same stable lower rate at 3.5 percent in recent years (see Figure 2).

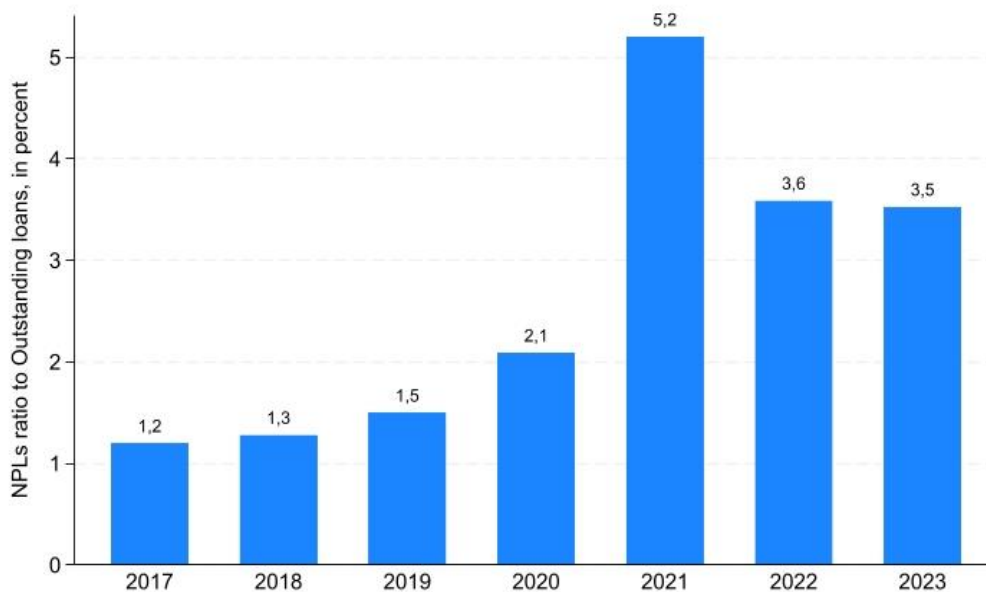


Figure 2. The share of NPL in total outstanding loans in the banking sector of Uzbekistan (in percentage)

Examining the share of NPL in risk-weighted assets, the trend is also the same. It has experienced a low rate until 2021 at around 1.5 percent (before the result of the pandemic shock). Eventually, the share of NPL in risk-weighted assets at all banks has stabilized at about twice the higher rates (2.9 percent) in the last 2 years before hitting its peak at 4.2 percent in 2021 (see Figure 3).

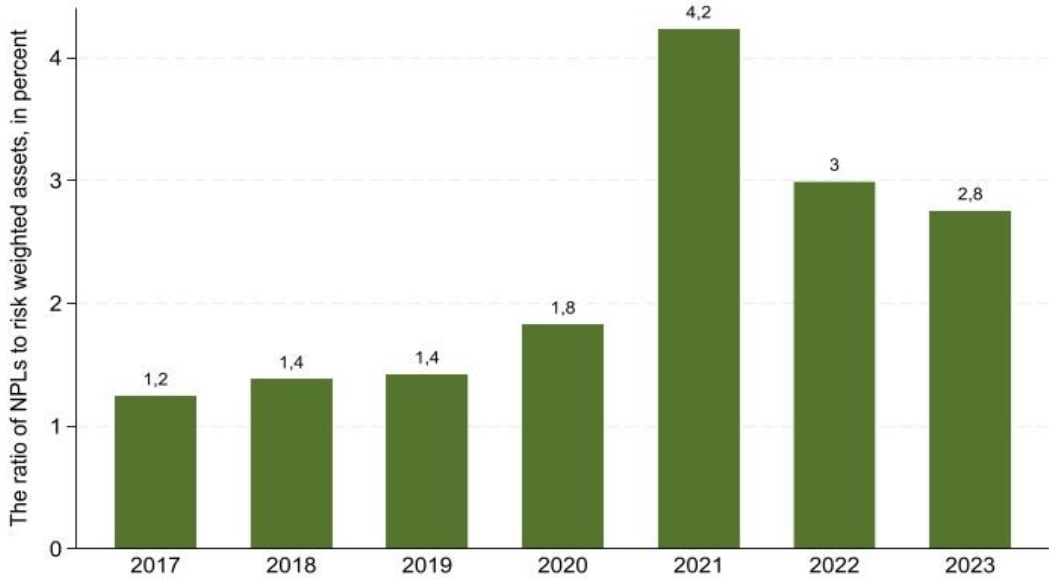


Figure 3. The share of NPL in risk weighted assets in the banking sector of Uzbekistan (in percentage)

To deal with the loss of loan defaults, specific provisions have to be developed. In Uzbekistan, the ratio of specific provisions to NPLs constitutes almost half of accumulated NPLs. Since the significant impact of Covid-19, during the last 3 consecutive years, the ratio had experienced a lower rate at around 40 percent (see Figure 4).

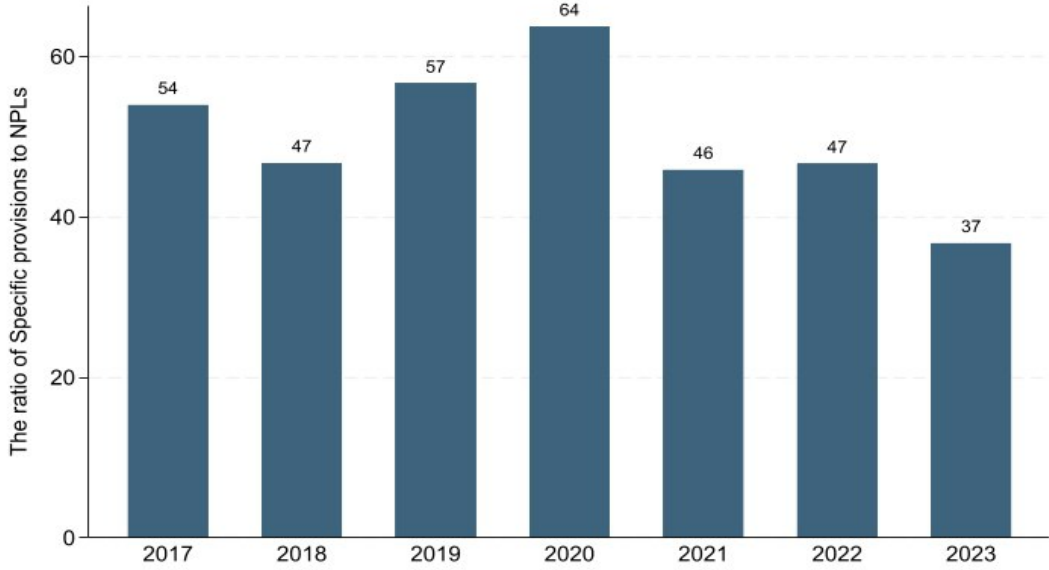


Figure 4. The share of specific provisions to NPLs in the banking sector of Uzbekistan (in percentage)

Throughout the preceding six-year period spanning from 2017 to 2023, the industrial sector emerged as the primary source of non-performing loan (NPL) accumulation in the banking sector of Uzbekistan. Following closely behind, the agricultural sector also made a notable contribution to NPLs. However, beginning in the first quarter of 2020, coinciding with the onset of the pandemic, there was an apparent uptick in the NPLs originating from various other sectors, including loans extended to individuals for trade and food-related activities, as well as construction. Notably, throughout the entire duration under examination, the transport and communication sector consistently exhibited the lowest proportion of NPL contributions.

5 Conclusion

It is important to take appropriate remedies to deal with non-performing loans because they can have a significant negative impact on the economy. Non-performing loans can lead to a decrease in the availability of credit, which can hinder economic growth and investment. Additionally, they can weaken the stability of financial institutions and the overall financial system. By addressing non-performing loans through appropriate remedies, such as

restructuring or liquidation, the negative effects on the economy can be minimized. This is particularly important for countries with small or medium-sized economies, as the cost of taking retaliatory actions against other countries' trade measures can be very high.

In the case of Uzbekistan, which is experiencing the restructuring of almost all spheres of the economy, it is very crucial to develop an NPL-minimizing set of programs and policies. As for recommendation to build NPL reduction programs at banking sector of Uzbekistan, number of complex remedies have to be implemented. To ensure the financial stability of the banking system, it is crucial to improve the quality of loan portfolios, effectively manage problem loans, and maintain moderate lending growth while leveraging technological solutions for risk assessment and attracting internationally experienced managers. Commercial banks must undergo a comprehensive transformation by adopting modern banking standards and advanced technologies to enhance the recovery of non-performing loans. Targeted actions, such as strengthening judicial and legal efforts, monitoring borrowers' financial health throughout the loan lifecycle, and strengthening the capacity of credit monitoring units, are essential to addressing problem loans. Engaging international consultants to manage the reduction of non-performing loans and train banking staff on global best practices will further support these efforts. Additionally, collaborating with international financial institutions and foreign investors to negotiate and finalize agreements is vital for lowering the share of non-performing loans and fostering long-term growth in the banking sector.

Finally, this is the study of analyzing the current state of NPLs' in the banking sector of Uzbekistan, their trend, and their nature; however, further study implementing econometric analysis of determining the elasticities of NPLs' determinants is in great need in order to propose more feasible policies and recommendations to lessen the burden of the NPLs accumulation. Our current research is working on these aspects and will be released to publish soon.

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