

INNOVATION SCIENCE AND TECHNOLOGY



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ISSUE 4

 Acceptance of papers **April, 2026**



**Acceptance of
papers**

Published monthly



Topics

economics,
technology, social
sciences

ISSN 3060-5229



Digital
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THE SCIENTIFIC-POPULAR ELECTRONIC
JOURNAL **"INNOVATION SCIENCE AND
TECHNOLOGY"** HAS BEEN REGISTERED
UNDER THE NUMBER **C-5669633** BY THE
AGENCY FOR INFORMATION AND MASS
COMMUNICATIONS (AOKA) OF THE
REPUBLIC OF UZBEKISTAN, EFFECTIVE
FROM OCTOBER 9, 2024.

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The scientific electronic journal "Innovation Science and Technology" has been included in the list of scientific publications recommended for the publication of main scientific results of dissertations for the award of PhD and DSc degrees in economics and technical sciences, in accordance with the Resolution No. 370 of the Presidium of the Higher Attestation Commission of the Republic of Uzbekistan, dated May 8, 2025.

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FEATURES OF AUDIT IN DEVELOPING INVESTMENT LENDING PRACTICES IN COMMERCIAL BANKS

Jamshid Mirzakhmedov

2nd-year Master's Student in International Economics

Tashkent State University of Economics

Email: J.Mirzaxmedov@tsue.uz

ORCID: 0009-0007-9840-0692

Abstract: This article investigates the distinctive features of audit as a strategic instrument for developing investment lending practices in commercial banks, with a focus on the transformation of Uzbekistan's banking sector since 2017. As commercial bank investment portfolios expanded from UZS 22 trillion to over UZS 320 trillion between 2017 and 2024, the quality of audit has emerged as a key determinant of financial system stability. Drawing on Basel III/IV, IFRS 9, International Standards on Auditing (ISA 540 Revised), and the IMF's 2025 Financial Sector Assessment Program for Uzbekistan, the article identifies six principal audit features specific to investment lending: forward-looking expected credit loss (ECL) estimation; collateral valuation integrity; credit risk classification compliance; model risk auditing; internal controls over financial reporting; and three-lines-of-defence governance. The study documents a significant audit expectation gap in Uzbekistan, where official NPL ratios of 3.5% coexist with restructured loans constituting approximately 15% of total portfolios.

Key words: investment lending, credit audit, IFRS 9, expected credit loss, Basel III, non-performing loans, Uzbekistan, internal audit, audit quality.

INTRODUCTION

Investment lending—the provision of medium- and long-term credit to finance capital formation, infrastructure, and enterprise development—constitutes one of the most economically significant and risk-sensitive segments of any commercial bank's portfolio. Unlike short-term consumer credit, investment loans are characterized by extended maturities (typically 5–20 years), large individual exposures, complex collateral structures, and cash flows contingent on project performance. These characteristics render the audit of investment lending qualitatively distinct: it requires specialized methodologies, forward-looking risk assessment, and a regulatory infrastructure capable of ensuring accountability for judgments made years before their consequences materialize.

The strategic importance of rigorous investment lending audit has increased significantly in Uzbekistan following President Shavkat Mirziyoyev's 2017 economic reform program. Under the National Investment Programme 2023–2025, encompassing 768 projects valued at USD 55.4 billion, commercial banks channel long-term capital toward productive investment. Total bank loan portfolios expanded approximately fourteen-fold in nominal terms between 2017 and 2024, reaching UZS 320 trillion (approximately USD 25 billion). At the same time, the quality of loan portfolios has required closer attention: the official NPL ratio peaked at 5.7% in 2021, while the IMF's 2025 Financial Sector Assessment Program (FSAP) noted that broader asset quality indicators, including restructured loans, represented approximately 15% of total portfolios.

The object of this research is the system of audit relationships in the investment lending operations of commercial banks. The subject is the methodological features and institutional mechanisms of audit that determine the quality and developmental impact of investment credit practices. Three research objectives are pursued: (1) establishing a theoretically grounded conceptual framework; (2) analyzing the principal methodological features under contemporary international standards; and (3) identifying specific challenges and reform priorities for Uzbekistan's banking sector.

LITERATURE REVIEW

The literature on audit quality, credit risk, and investment lending audit spans decades of scholarship. The following review analyzes the principal contributions of foreign and local scholars and situates the present study's distinctive position relative to each.

Kanagaretnam, Lim, and Lobo (2010) examined auditor industry specialization and its effect on earnings management through loan loss provisions across 29 countries. Their core finding is that "Big 4 auditors and industry-specialist auditors are associated with lower abnormal loan loss provisions, suggesting that higher-quality audits constrain earnings management in banking." While this study provides a robust cross-country foundation, it does not examine investment lending specifically. The present article extends this logic to the long-term, project-based credit context, where earnings management incentives through provisioning may be even stronger.

The Basel Committee's publication *The Internal Audit Function in Banks* (BCBS 223, 2012) establishes twenty principles governing bank internal audit. The Committee states that "the internal audit function should be independent of the audited activities ... it should have no operational responsibilities." This principle of independence is a prerequisite for meaningful investment lending audit. However, BCBS 223 does not address the ECL modeling complexity introduced by IFRS 9—a gap the present study fills by integrating the Basel governance framework with forward-looking provisioning requirements.

Hansen, Charifzadeh, and Herberger (2024) analyzed 51 banks across 12 Eurozone countries to assess whether IFRS 9 reduced procyclicality in loan loss provisions. Their conclusion: "IFRS 9 has not eliminated procyclicality in loan loss provisions under normal economic conditions; its stabilizing effects became apparent only during the COVID-19 stress period." This is directly relevant to Uzbekistan, where IFRS 9 became mandatory only from 2021 and auditors face ECL models with limited historical default data. The present article builds on Hansen et al. by analyzing these issues in the specific context of transitional economies.

Novotny-Farkas, Oberson, and Renner (2024) investigated discretionary provisioning behavior under IFRS 9, finding that "management overlays are routinely used for income smoothing rather than solely for capturing genuine unmodeled risks." This highlights a critical audit risk addressed in the present study, specifically in the context of Uzbekistan's state-dominated banking sector, where management overlay incentives may be strengthened by pressures to support directed lending programs.

Jin, Kanagaretnam, and Lobo (2011) demonstrated that audit quality variables are statistically significant predictors of bank failure, concluding that "higher-quality audits reduce the probability of bank failure, suggesting that auditors play a meaningful role in disciplining bank risk-taking." The present article extends this systemic stability argument to the specific case of Uzbekistan's investment credit expansion.

Bermei, Kalyvas, and Nguyen (2018) studied institutional quality and bank regulation effectiveness across 117 countries, concluding that "the beneficial effects of bank regulations on stability are significantly stronger in countries with higher institutional quality." This has direct policy relevance for Uzbekistan: the effectiveness of audit reform is conditioned by the broader institutional environment. The present study explicitly incorporates this conditioning relationship into its policy recommendations.

Prisco, Santonastaso, and Fiondella (2025)—the most current international contribution—found that "the shift to forward-looking ECL estimation has materially increased the inherent risk of material misstatement in bank financial statements, creating demands on auditor competency and judgment that existing ISA frameworks do not fully address." The authors agree with this diagnosis and propose additional solutions specific to the Uzbek institutional context, constituting the original contribution of the present article.

Local (Uzbek and Central Asian) Scholars:

Isakov (2024) provides one of the most recent empirical contributions on credit risk management in Uzbekistan, finding that "foreign-owned banks in Uzbekistan report NPL ratios on average 0.12 percentage points lower than domestically owned banks, suggesting internationally connected institutions bring advanced credit risk management practices." While valuable as a baseline, Isakov does not examine the audit mechanisms through which this credit quality advantage is achieved. The present article fills this gap by linking ownership structure to the specific audit features that support stronger credit quality outcomes.

The German Economic Team's analysis of Uzbekistan's banking sector (2023) documents that "state-owned banks controlling 65% of total assets continue to face structural governance challenges that may constrain the independence of internal audit functions." This supports the present study's central institutional argument. The authors go further by specifying the precise mechanisms through which governance conditions affect investment lending audit quality.

The World Bank's Accounting and Auditing ROSC for Uzbekistan identifies a fundamental audit independence concern: the practice whereby banks prepare financial statements under national CBU rules that are then "converted" to IFRS by auditors who subsequently audit those same statements. The ROSC states this "creates a structural conflict of interest that may affect audit independence and the reliability of bank financial statements as signals of true credit quality." The present article supports this diagnosis and translates it into a specific policy recommendation—the first study to link this structural issue directly to investment lending audit quality.

The Central Bank of Uzbekistan's Financial Stability Report (2024) documents NPL variation from 0.5% (Orient Finans Bank) to 24% (Madadinvest Bank), noting that "differences in reported NPL ratios across banks reflect not only genuine differences in portfolio quality but also differences in loan classification rigor and audit effectiveness." This official acknowledgement of classification inconsistency directly supports the present article's central argument that investment lending audit quality is a systemic determinant of financial sector resilience.

Synthesizing the contributions above, the present study advances three original claims. First, while foreign scholars have established the principles and challenges of investment lending audit in advanced economies, no prior study has systematically applied these frameworks to Uzbekistan's specific institutional context. Second, while local scholars document the symptoms of audit weakness, few provide a comprehensive methodology-level framework organizing investment lending audit into its six distinctive features. Third, this article is among the first to integrate the 2025 IMF FSAP findings with the academic literature to generate specific, evidence-based policy recommendations.

RESEARCH METHODOLOGY

The article employs a multi-method analytical approach combining three sequential stages.

First, a systematic review of international regulatory standards was conducted: Basel III/IV (minimum capital, IRB approach, 72.5% output floor), IFRS 9 (ECL three-stage framework), ISA 540 Revised (auditing accounting estimates), ISA 315 Revised (understanding the entity), ISA 610 Revised (using internal auditors' work), and the EBA Guidelines on Loan Origination and Monitoring (EBA/GL/2020/06). These were analyzed specifically for their implications for investment lending as distinct from general commercial credit.

Second, comparative institutional analysis was applied across three reference economy groups: advanced economies (EU, UK, US), where IFRS 9 is mature and PCAOB/PRA oversight is established; peer transition economies (Poland, Czech Republic, Kazakhstan, Georgia); and Uzbekistan specifically, using the IMF FSAP 2025, the World Bank ROSC, the CBU's 2024 Financial Stability Report, and CEIC Data NPL series as primary empirical sources. The comparison method identified convergences and divergences between international best practices and Uzbekistan's current situation.

Third, descriptive statistical analysis of Uzbekistan's banking sector data—NPL ratios (2017–2024), loan portfolio growth, capital adequacy, and FDI inflows—was used to establish the quantitative context. Statistical sources include the Central Bank of Uzbekistan, IMF International Financial Statistics, World Bank World Development Indicators, and CEIC Data.

ANALYSIS AND RESULTS

Six Distinctive Features of Investment Lending Audit

– Feature 1 – ECL Estimation Audit Under IFRS 9

The audit of expected credit loss (ECL) estimation is one of the most complex and judgment-intensive areas of bank financial statement auditing since the adoption of IFRS 9. The ECL formula:

$$ECL = PD \times LGD \times EAD$$

discounted at the effective interest rate, requires forward-looking macroeconomic scenario modeling, probabilistic assessment of Significant Increases in Credit Risk (SICR), and management overlays for risks not fully captured by models.

Figure 1 below illustrates the three-stage framework and its specific audit focus areas. Key audit considerations include: PD model discrimination power ($AUC \geq 0.70$ benchmark), LGD accuracy against realized recoveries, SICR threshold calibration, management overlay justification, and IFRS 7 disclosure completeness (Figure 1).

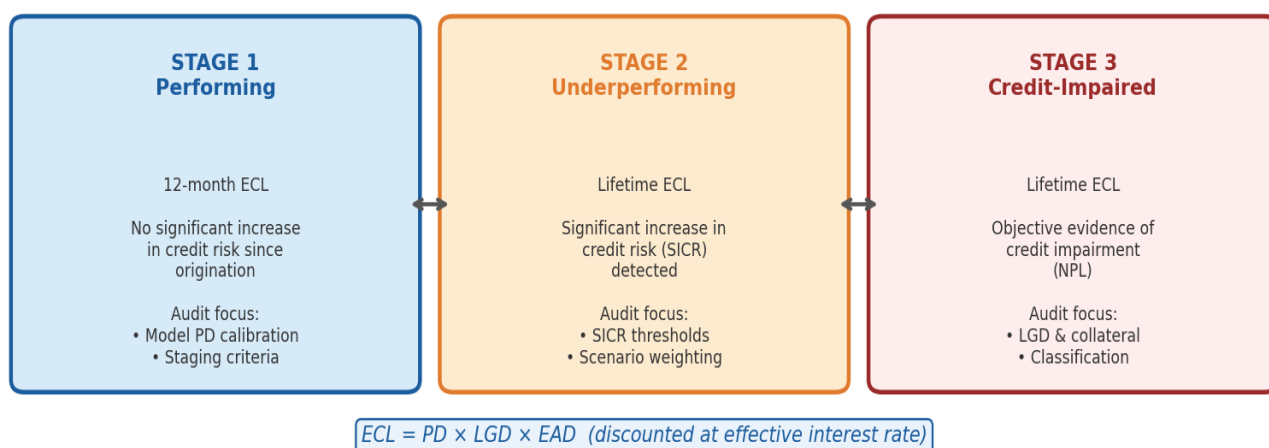


Figure 1. IFRS 9 Expected Credit Loss Three-Stage Framework and Audit Focus Areas¹

- Feature 2 – Collateral Valuation Integrity

Investment loans in Uzbekistan are predominantly collateralized by real estate and equipment. Collateral overvaluation directly understates LGD, understates ECL, and overstates capital adequacy. The EBA mandates a minimum five-year historical observation period for collateral data and requires stress testing under adverse scenarios. Basel III’s credit risk mitigation framework specifies eligibility criteria that auditors must verify. The World Bank ROSC identified restricted collateral eligibility lists and inconsistent valuation methodologies as specific areas for improvement in Uzbekistan.

Key audit procedures include: verification of legal title and insurance; confirmation of annual independent revaluation; LGD sensitivity testing under property market stress; and loan-to-value ratio monitoring throughout the loan lifecycle.

- Feature 3 – Credit Risk Classification Compliance

Accurate loan classification—the assignment of performing, watch, substandard, doubtful, and loss categories—is the foundation of credit portfolio audit. Table 1 below shows that Central Asian economies apply differing NPL classification standards, creating cross-border comparability challenges and enabling banks in more flexible regimes to present comparatively lower NPL ratios.

The classification audit requires individual loan file reviews for material exposures, payment history tracing, restructuring term assessment for economic substance, and compliance verification with CBU regulatory classification rules (Table 1).

Table 1. Comparative Dynamics of Non-Performing Loan Ratios in Uzbekistan and Selected Countries (2017–2024, %)²

Country	2017	2018	2019	2020	2021	2022	2023	2024
Uzbekistan	1.3	1.8	2.1	3.5	5.7*	4.8	3.4	3.5
Kazakhstan	9.0	8.0	6.5	5.0	4.2	3.4	3.0	3.5
Kyrgyzstan	8.5	8.0	9.0	10.2	11.5	12.5	11.0	10.0
Tajikistan	25.0	22.0	19.0	17.0	15.0	13.0	12.0	11.5
Georgia	3.0	2.8	2.5	2.3	2.0	1.5	1.6	1.7
Global Avg.	-	-	-	-	-	5.8	~5.5	~5.3

* NPL peak. IMF FSAP (2025) indicates true NPLs substantially higher when restructured loans (~15%) included. Sources: CEIC Data (2024); IMF FSAPs; CBU (2024).

1 Source: IASB IFRS 9 (2014); BIS FSI Summary No. 3 (2017); author’s elaboration.

2 author’s development

Figure 1. Non-Performing Loan Ratios in Central Asia and Georgia, 2017-2024
Source: CEIC Data (2024); IMF FSAPs (2024-2025); CBU (2024); author's compilation.

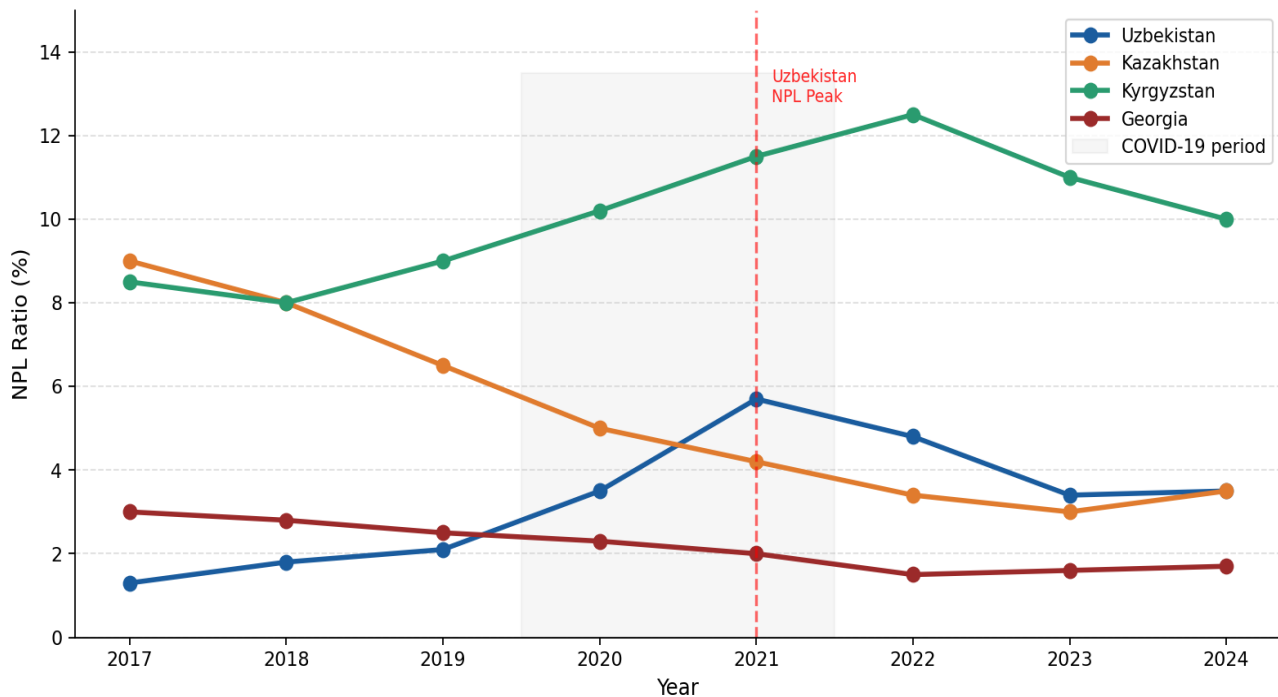


Figure 2. NPL Ratios in Central Asia and Georgia, 2017-2024³

- Feature 4 – Model Risk Auditing

Model risk—the risk of adverse consequences arising from inaccurate or misused quantitative models—is one of the defining emerging challenges in investment lending audit for banks adopting IRB and ECL approaches. The US Federal Reserve's SR 11-7 (2011) framework rests on three pillars: (1) conceptual soundness of model development; (2) appropriate scope of model use; and (3) effective governance through independent validation.

Internal audit must independently evaluate whether model risk management is functioning effectively and rigorously, rather than validating individual models itself. For Uzbekistan, the IMF FSAP 2025 noted that the CBU's risk-based supervision framework is continuing to develop, requiring internal and external audit to play an enhanced supporting role in ECL model governance.

- Feature 5 – Internal Controls over Financial Reporting (ICFR)

ICFR for investment lending encompasses the end-to-end control system governing credit origination, approval, monitoring, classification, provisioning, and disclosure.

Key control categories include: segregation of duties between origination, credit analysis, approval, and monitoring; dual-authorization requirements for large exposures; automated triggers for loan review upon delinquency or covenant breach; and controls over ECL model inputs and management overlays.

ISA 315 Revised (2019) requires external auditors to understand and test ICFR design and operating effectiveness as part of risk assessment. The Bank of England PRA's 2024 thematic review found that 53% of ICFR findings in UK banks were moderate-to-significant weaknesses, confirming the importance of continuous ICFR auditing as a safeguard for portfolio quality.

- Feature 6 – Three Lines of Defence Governance Architecture

The Three Lines Model (IIA, 2020) provides the governance architecture within which all preceding features operate.

- First line (loan officers): owns and manages investment credit risk.

- Second line (risk management and compliance): monitors portfolios, validates ECL models, and ensures regulatory compliance.

- Third line (internal audit): provides independent assurance on the entire governance and risk management framework, reporting directly to the audit committee.

Basel Committee guidance (BCBS 223) requires a permanent, independent internal audit function for every bank. Figure 3 below illustrates this architecture as applied to investment lending audit.

³ Source: CEIC Data (2024); IMF FSAPs (2025, 2024); CBU Financial Stability Report (2024).

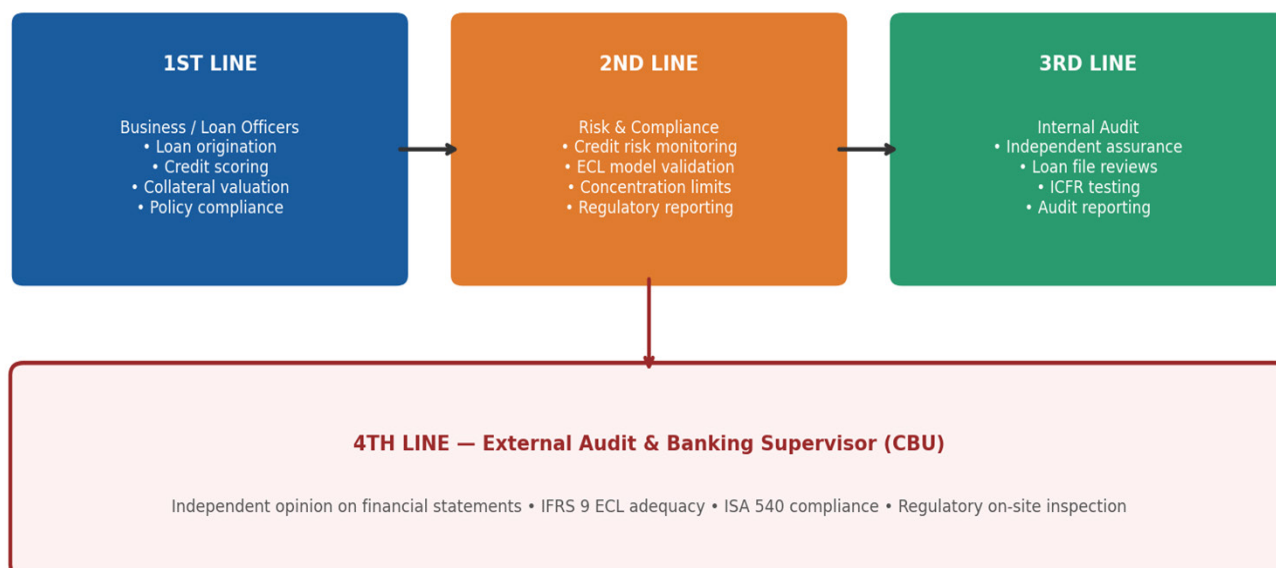


Figure 3. Three lines of defence model applied to investment lending audit⁴

Investment Lending Audit in Uzbekistan: Current State and Gaps

Uzbekistan’s banking sector comprises 36 commercial banks (December 2024) with total assets of approximately UZS 769 trillion (around 53% of GDP). Nine state-owned banks account for approximately 65% of total banking assets.

The capital adequacy ratio stands at 17.3% against a 13% regulatory minimum, indicating a generally solid capital position. At the same time, the IMF FSAP 2025 noted that this figure may be influenced by provisioning practices and could benefit from continued enhancement in risk measurement and reserve adequacy (Table 2).

Table 2. Comparative Characteristics of Banking Audit Systems in Advanced Economies, CEE/Vietnam, and Uzbekistan (2024)⁵

Audit Dimension	Advanced Economies (EU/US)	CEE/Vietnam (Comparators)	Uzbekistan (2024)
IFRS 9 / ECL	Fully operational; sophisticated models	Operational; ongoing calibration	Post-2021 mandatory; capacity gaps
Credit Classification	Aligned with 90-day int’l standard	Largely aligned	Under-reporting; restricted collateral
Internal Audit Maturity	Risk-based; board-level reporting	Developing rapidly	Compliance-focused; governance limits
Supervisor-Auditor Dialogue	Structured bilateral meetings	Improving under FSAP programs	Informal; late-stage
Collateral Valuation	EBA/Basel standards; stress-tested	Improving; professional appraisers	Restricted list; valuer shortage
Model Risk Governance	SR 11-7; annual validation	Partial adoption	Nascent; vendor systems
Audit Technology	AI/ML; continuous monitoring	Basic analytics tools	Largely manual

Source: IMF FSAP (2025); World Bank ROSC; BCBS 223/280; author’s assessment.

4 Source: bcbs 223 (2012); iia three lines model (2020); author’s elaboration.
 5 author’s development

Figure 4. Uzbekistan Banking Sector: Investment Lending and Audit Quality Indicators
Source: CBU (2024); IMF FSAP (2025); World Bank ROSC; author's assessment.

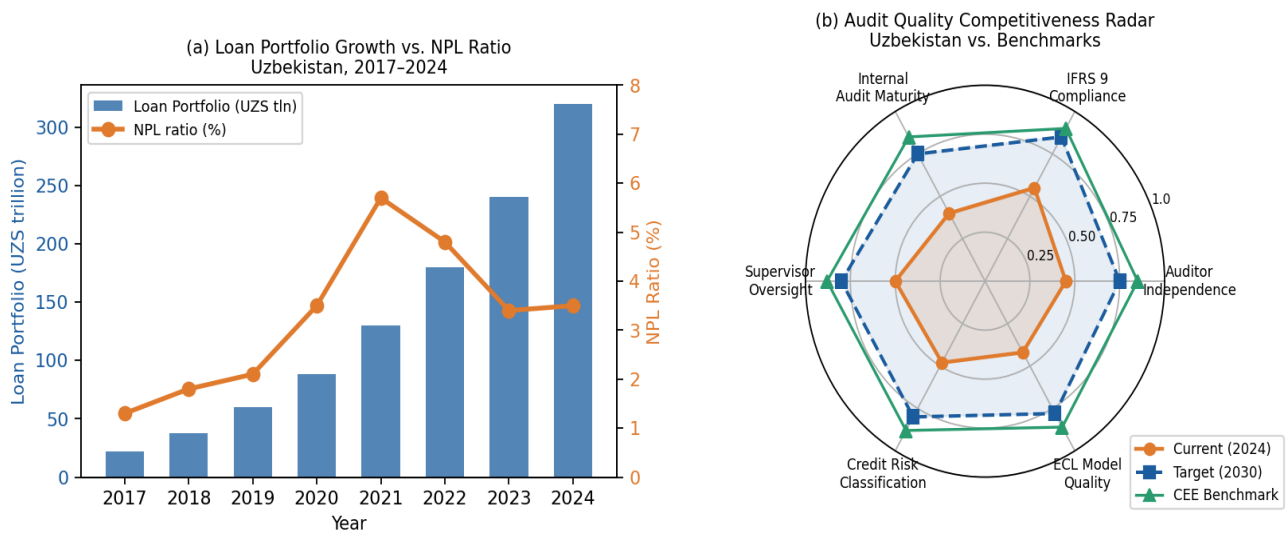


Figure 4. Uzbekistan Banking Sector: Loan Portfolio Growth vs. NPL (left) and Audit Quality Radar vs. Benchmarks (right)⁶

Three structural features create acute investment lending audit challenges in Uzbekistan. First, state bank dominance: government-directed programmes create inherent tensions with audit independence and objectivity requirements. Second, rapid credit expansion without proportionate risk management development—the compound annual growth rate of loan portfolios exceeded 40% during 2017–2021, far outpacing audit infrastructure development. Third, the dual accounting framework: the CBU's 17 separate accounting regulations and mandatory IFRS reporting from 2021 create unresolved ambiguities that complicate audit and may enable selective compliance.

CONCLUSIONS AND RECOMMENDATIONS

This article has established that investment lending audit in commercial banks is characterised by six distinctive features—ECL estimation audit, collateral valuation integrity, credit risk classification compliance, model risk auditing, ICFR effectiveness assessment, and three-lines-of-defence governance—that together constitute a qualitatively distinct and demanding audit discipline. For Uzbekistan, the comparative analysis documents a significant audit expectation gap. The IMF FSAP 2025 finding that official NPLs of 3.5% mask restructured loans of ~15% of portfolios is the most direct empirical indicator: audit processes that function well should detect and report this discrepancy before systemic risk accumulates.

1. Auditor Qualification Standards. The Central Bank of Uzbekistan should establish mandatory minimum qualification requirements for bank auditors covering IFRS 9 ECL modelling, credit risk classification, and collateral valuation, supplementing the current 200-hour certification with sector-specific banking modules.

2. Structured Supervisor-Auditor Dialogue. The CBU should establish a structured bilateral communication protocol with external auditors of all Domestically Systemically Important Banks, including pre-fieldwork planning meetings and post-audit meetings before opinion finalisation.

3. Resolution of the Dual Accounting Framework. The CBU should resolve the gap between its 17 accounting regulations and mandatory IFRS reporting, eliminating the practice of banks' statements being "converted" to IFRS by the same auditors who subsequently audit them.

4. Investment in Audit Technology Infrastructure. Targeted investment in data analytics, automated portfolio monitoring, and ECL model backtesting systems is required at both individual bank and CBU supervisory levels, with international development partner support actively sought.

As Uzbekistan's investment programmes continue to drive rapid credit expansion, the quality of investment lending audit is not merely a technical accounting matter but a first-order determinant of financial sector stability. The present study provides the first comprehensive, standards-grounded, and evidence-calibrated framework for understanding and improving investment lending audit in Uzbekistan's banking sector.

⁶ Source: CBU (2024); IMF FSAP (2025); World Bank ROSC; author's calculations.

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Proofreader: Zokir ALIBEKOV

Layout and Designer: Oloviddin Sobir ugli

2026. № 4

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