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ABSTRACT

Of the dissertation for the degree of Doctor of Philosophy

DIRECTIONS FOR IMPROVING THE ACCOUNTING AND AUDIT OF SECURITIES OPERATIONS

Specialization: 5303.01 – Accounting

Science: Economics

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GENERAL CHARACTERISTICS OF THE DISSERTATION

Relevance and Level of Development of the Topic. The relevance and degree of elaboration of the topic stem from the fact that the securities market is a set of economic relations concerning the issuance and circulation of securities as a tool for financing and economic development. The securities market constitutes an essential component of a country's financial system, integrating money and capital markets and effectively solving tasks related to liquidity provision and its transformation into investment. According to official statistics, the volume of transactions with securities amounted to 11.6% of the country's GDP in 2022, and 57.5% in 2024.

As in any market, the securities market consists of multiple participants performing various functions. Among these participants, special attention is given to banks, which act as issuers, investors, and professional participants.

The formation of a market-based banking system in the country, the application of international standards in accounting and auditing, and the impact of digital technologies on this environment have significantly changed the role and function of accounting and auditing in bank management. Accordingly, in the current stage, accounting and auditing in banks must align with the analytical and informational needs of both the capital market and investors, as well as the bank managers.

The rapidly increasing role and scope of banks in the securities market necessitate the use of modern technologies for the reflection of objective information about the valuation of assets, financial condition, performance results, and identification of sustainable development prospects in financial statements and audits. Disclosure of information on the existence of various financial instruments (shares, bills, certificates, etc.) in a bank's assets and liabilities enhances the bank's investment attractiveness, provides a basis for effective asset and liability management, and minimizes financial risks. Therefore, the accounting of financial instruments, the application of a new model for fair value measurement, modern

approaches to auditing, and the analysis of international experience in this field determine the topicality of this dissertation research.

Accounting and auditing of securities operations are highly complex and characterized by a number of features due to factors such as the diversity of transactions in the capital market, the variety of securities, the status of issuers, and the purposes of acquisition. In recent decades, the accounting and auditing of securities in commercial banks and the broader issues of financial instruments accounting have generated significant scholarly interest, which is reflected in the works of many local and foreign researchers.

Issues related to the nature, role, and functions of financial instruments, their accounting and auditing, as well as banking accounting and auditing of securities, have been studied by national scholars such as V.T. Novruzov, I.M. Abbasov, S.M. Sabzaliev, Q.Ə. Abbasov, Z.Ə. Samedzade, A.H. Abbasov, and B.X. Atashov, and by foreign scholars such as Y.M. Mirkin, V.D. Andreev, I.P. Vorobyova, T.Y. Devyatova, V.V. Bashkatov, S.H. Grishkina, V.V. Bespalova, D.F. Deflize among others.

While the contributions of these prominent scholars are highly valued, it should be noted that existing theoretical and practical approaches to the accounting and auditing of financial instruments do not fully meet the demands of the modern era. These factors justify the need for continued research into the theoretical and practical issues of accounting and auditing financial instruments in banks, thereby underpinning the selection of the topic and the formulation of the objectives and tasks of this dissertation.

Object and Subject of the Research. The object of the research is the activities of banks conducting operations with securities. The study is directly based on data from “Rabitabank” OJSC. The subject of the research includes theoretical, organizational, and methodological issues related to the accounting and audit of securities operations in commercial banks.

Purpose and Objectives of the Research. The purpose of the research is to improve the methodology of accounting and auditing of securities operations in banks in the context of digitalization.

In accordance with the purpose of the research, the following

objectives have been fulfilled:

- To analyze the concept of financial instruments, their classification features, and the regulatory and legal framework; to clarify accounting objects for the identification of financial instruments and their components;
- To determine the directions for eliminating difficulties and shortcomings in the accounting and auditing of securities transactions, based on the analysis of international practices in the accounting and auditing of securities;
- To analyze the major changes in the classification, measurement, and accounting models of financial instruments and to define new requirements for their recognition, presentation in accounting, and disclosure;
- To identify indicators of impairment of financial instruments, investigate the organization of their accounting and valuation, including testing procedures, and reveal the problematic aspects of their accounting;
- To examine the transformation stages of financial instruments auditing, to define the requirements of international standards in this field, to identify the complex and problematic aspects of securities auditing, and to explore modern information technologies widely used in audit practices under conditions of global digitalization;
- To study the characteristics and contemporary challenges of securities transactions as tools for managing bank resource bases, profitability, risk, and liquidity diversification; to identify factors affecting their development and substantiate the prospects of bank activities in the securities market.

Research Methods. The theoretical and methodological basis of the research consists of scientific works of local and foreign scholars in the fields of accounting, banking accounting and auditing, accounting and auditing of securities operations in banks, materials from scientific-practical conferences, legal and regulatory documents of the Republic of Azerbaijan, rules and methodological documents of the Baku Stock Exchange and the Central Bank, and international accounting and auditing standards.

The dissertation employed various scientific research methods, including induction, deduction, analysis and synthesis, comparison, generalization, and others.

Main provisions submitted for defense.

The following theses are submitted for defense within the dissertation:

- Based on international practice, the essence of financial instruments is clarified in the context of accounting categories, classification features are refined and expanded, and a new approach to the classification of securities in bank accounting is proposed;
- The necessity of organizing the accounting of securities transactions in banks and recognizing operating expenses in accordance with the requirements of international standards on the accounting of financial instruments has been substantiated;
- A methodology for the accounting, recognition, derecognition, and valuation of risks arising from changes in the fair value of securities in accordance with international standards has been proposed;
- The justification for the application of the continuous audit concept and process-based analytical methods (intellectual and deep analysis) in the audit of securities transactions in banks has been provided;
- The use of modern digital technologies enabling the development of a new informational model for internal audit, handling of unstructured data during the audit process, improvement of service quality, enhancement of risk analysis, and generation of reports based on real-time data has been proposed;
- The current challenges in the operations of domestic banks in the securities market, the factors influencing the development of securities transactions in the near future, and the priority directions of bank activities in the securities market as universal institutions contributing to the development of the national economy have been identified.

Scientific Innovation of the Research.

- A new classification of securities has been proposed to ensure analytical accounting of securities transactions;
- The classification of securities in banks has been substantiated to be carried out based on the business models used for managing the securities portfolio, and the use of classification criteria in line with international standards has been recommended;
- A methodology for reflecting securities transactions in accounting has been developed based on the recognition criteria for financial assets in accordance with international standards;
- A model for the formation of expected credit loss provisions in banks has been proposed;
- A new methodology for auditing securities transactions in banks in the context of digitalization has been developed;
- The necessity of using modern technologies and methods for obtaining audit evidence in the audit of securities transactions in banks has been substantiated;
- The classification of key information sources for the internal audit of securities transactions in Rabitabank OJSC has been provided, and the capabilities of the "Audit 4.0" model have been identified within the framework of the technological principles of the "Industry 4.0" model;
- The formation of risk-oriented audit as a key strategic direction of internal audit in banks and the application of continuous auditing under conditions of digital transformation have been proposed;
- The development priorities for securities transactions in the banking sector of the Republic of Azerbaijan have been identified.

Theoretical and Practical Significance of the Research. The problem-solving approach based on international standards in the research significantly improves the reliability, analytical value, and comparability of financial instrument information and ensures the

implementation of audit using new information technologies.

The results, proposals, and recommendations obtained can be applied in various organizations, including banks, in forming the accounting and auditing practices for securities operations.

They may also be used in the development of normative and methodological documents in the field of securities accounting and auditing, as well as in teaching accounting, financial reporting, and IFRS-related disciplines.

Approbation and Implementation. On the topic of the dissertation, the applicant has published 7 scientific articles in local and international journals recognized by the HAC, as well as 3 conference materials in international scientific-practical conferences.

The results of the research have been accepted for practical use by Rabitabank OJSC (Reference No. RB-02/3407 dated October 5, 2023).

Name of the Institution Where the Research Was Conducted.

The dissertation was carried out at the Department of “Accounting and Audit” of Baku Business University.

Structure and Volume of the Dissertation. The dissertation consists of an introduction (10,357 characters), three chapters (Chapter I – 73,935 characters, Chapter II – 72,222 characters, Chapter III – 72,119 characters), a conclusion (12,512 characters), and a list of 139 references (14,706 characters), totaling 150 pages. The dissertation includes 4 figures, 15 tables, and 6 diagrams. Excluding the bibliography, figures, tables, and diagrams, the total character count is 241,145.

MAIN CONTENT OF THE RESEARCH

The introduction of the dissertation presents the relevance and the level of elaboration of the research topic, its aims and objectives, the subject and object of the study, applied methods, key theses submitted for defense, scientific novelty, theoretical and practical significance, as well as approbation and application.

The first chapter of the dissertation, titled “**Theoretical and**

Methodological Foundations of Accounting and Auditing of Securities Transactions in the Banking Sector”, first highlights the banking system as an integral component of the globalizing economic system, emphasizing its vital role in organizing financial flows and ensuring macroeconomic stability.

The research identifies the regulation of accounting policy in bank management as a decisive factor in safeguarding financial stability. Accounting policy forms a unified methodological basis for the operations of a commercial bank, ensuring the completeness, consistency, and reliability of reporting data. A well-chosen accounting policy minimizes the risk of erroneous decisions, creates an operational information base for both internal and external users, and enhances the quality of strategic management decisions.

In recent years, scientific research has made significant contributions to the development of the conceptual foundations of accounting and to improving the mechanisms for applying accounting policy in the banking sector. The study also explores the economic essence of financial instruments and the principles for their recognition in accounting. Securities are presented as financial instruments used in the redistribution of financial resources, a process that results in the creation of both financial assets and liabilities or equity. For example, the issuance of shares by a bank serves as a means of increasing its equity, while for the investor, such shares are considered financial assets. Likewise, debt securities (such as bonds or promissory notes) constitute financial liabilities for the bank and financial assets for the investor.

Definitions of financial instruments provided by various international organizations—including the IMF (International Monetary Fund), IVSC (The International Valuation Standards Council), GAAP (Generally Accepted Accounting Principles), IAS (International Accounting Standards), and IFRS (International Financial Reporting Standards)—have been reviewed comparatively. Each approach characterizes financial instruments as contracts concluded between parties, giving rise to a financial asset for one party and a financial liability or equity instrument for the other.

According to the IMF's¹ recommendations, financial instruments are viewed as financial claims that define creditor–debtor relationships between institutional units and meet high liquidity criteria. The IVSC defines them as contracts that give rise to rights and obligations to transfer cash flows. These approaches demonstrate that the principal condition for recognizing financial instruments is their contractual nature.² Based on international accounting principles, a financial instrument is characterized as a contract that gives rise to a financial asset for one party and a financial liability or equity instrument for the other.³

A bank's status in the securities market – as an issuer, investor, or professional participant – determines the specific features of how its securities operations are audited. Whether a bank holds the appropriate license and the type of professional activity permitted under such a license is one of the key issues in audit activities. The Central Bank of Azerbaijan grants licenses to banks for various types of professional activities, including brokerage, dealing, trust management, depositary, and clearing operations. During an audit, the primary objective is to assess the compliance of a bank's securities operations with legislation and regulatory requirements and to obtain audit evidence confirming the proper recognition of these operations in the accounting records and financial statements.

There are several factors that complicate the audit of financial instruments. These include:

- both management and the auditor may have difficulty understanding the nature of financial instruments, the purposes for which they are used, and the risks to which the organization is exposed;
- market conditions and liquidity may be subject to sharp fluctuations, forcing management to manage risks more

¹ Monetary and financial statistics: compilation guide – Washington, D.C. International Monetary Fund, 2016. – 396 p

² IVS 500: Financial Instruments [Electronic resource]. – Mode of access: <https://www.ivsc.org/files/file/view/id/672>. – Date of access: 14.03.2018.

³ IFRS [Electronic resource]. – Mode of access: [http:// www.ifrs.org/issued-standards/list-of-standards](http://www.ifrs.org/issued-standards/list-of-standards). – Date of access: 13.03.2018.

effectively;

- there may be challenges in obtaining sufficient evidence to support valuations;
- certain individual transactions involving financial instruments may be significant, thus increasing the risk exposure to the assets;
- the amounts of financial instruments presented in the financial statements may be small, yet such instruments may be subject to external influences and associated with high risks;
- some employees may have significant influence over transactions involving financial instruments, especially where their compensation is tied to the revenues generated from such operations. In some cases, these individuals may even earn more than others within the organization.

In recent years, the expansion of financial markets –particularly the securities market – has increased interest in this field and led to the emergence of new financial instruments. In such a context, the proper accounting and recognition of securities transactions in financial statements is of critical importance. This requires that securities accounting be regulated by an effective and comprehensive normative-legal framework. The legal regulation system governing the accounting of securities encompasses documents with various levels of legal authority. The Constitution of the Republic of Azerbaijan forms the foundation of the legal system and holds supreme legal force. The legal security of investment activity in the securities market is protected by constitutional principles, and no one may be deprived of property without a court decision.

In the second chapter of the dissertation, titled “**Analysis of the Current State of Securities Operations, Their Accounting and Auditing in the Banking Sector of Azerbaijan**”, the economic essence of the securities market, its functions, and its role in the development of the national economy are examined. The study analyzes the formation of the legal and regulatory framework, mechanisms of state regulation, and the creation of infrastructure in line with international practices to ensure the efficient operation of this market. At the same time, the capabilities and challenges of the

securities market in mobilizing financial resources, their redistribution, and reducing investment risks, as well as its functional characteristics, are investigated systematically. Based on the approaches of various researchers, the economic role of the securities market is identified.⁴ By ensuring the mobility of capital and the secure establishment of property rights, the securities market performs an intermediary function between capital owners and users. It also facilitates the efficient allocation of capital among market participants, contributes to the formation of enterprise market value, and positively influences other financial and real sector markets.

By offering opportunities for the population and organizations to invest in various types of securities, the market increases the competitiveness of the financial market and contributes to the effective distribution of income. This process supports the formation of a social cooperation institution within society and promotes a fairer distribution of financial resources among population groups⁵. In investing in securities, the main criteria are profitability, liquidity, and risk.

The study also analyzes the circulation of securities within the financial market, the mutual relationships between investors and issuers, the role of investment intermediaries, and the segmentation characteristics of the market. For the securities market to fully fulfill its functions, favorable conditions must exist to enable the free movement of investment and liquidity.

The volume of investment is one of the key factors directly influencing the pace of economic growth. Analytical studies in the field of investment show that under conditions of limited private financial resources, insufficient state budget allocations, and low levels of foreign investment, bank loans act as the main source of financing for the non-financial sector.

⁴ Анисимов А.А., Тихонова О.Б. Российский рынок ценных бумаг: особенности развития и их влияние на экономическую безопасность страны // Экономическая безопасность. Том 4. № 4. 2021, с. 971-990

⁵ Юзвович Л. И., Моисеева Н. Н. и др. Банковское дело: учебное пособие / Уральский федеральный университет. - Екатеринбург: Изд-во Урал. ун-та, 2020. – 296 с

Although the total assets of the banking system in Azerbaijan have continued to grow in recent years, the level of capitalization remains below the desired threshold. In 2024, the total assets of the banking sector amounted to 53,001.4 million AZN, which corresponds to 42.1% of GDP. Bank loans to the economy increased from 14,530.4 million AZN in 2020 to 29,288.2 million AZN in 2024. The share of loans in GDP increased from 20.1% to 23.2%, confirming the significant role of the banking system in financing economic activity.

Nevertheless, the lending process occurs amid increasing risks in the banking system and existing difficulties in forming the resource base. Therefore, the state of the securities market and its development prospects are of particular importance in the current stage and are extensively explored within the research framework.

This chapter analyzes the development trends of the securities market, which is one of the most dynamic sectors of the economy. Despite the presence of several inhibiting factors, an increase in the level of market capitalization has been observed. For example, the total trading turnover on the Baku Stock Exchange (BSE) amounted to 14.1 billion AZN in 2020, while this figure reached 72.5 billion AZN in 2024. Compared to 2022, the market volume in 2024 increased by approximately 5 times.

A sharp increase in the number of transactions concluded in the stock market was also recorded during the analysis period: this figure rose from 11,018 in 2022 to 13,545 in 2023, and to 72,272 in 2024. This means an almost 7-fold increase compared to 2022 and a 5-fold increase compared to 2023. The growth in the number of transactions was observed across all major segments of the market –including government securities, corporate securities, and repo operations (Table 1).

Table 1.

**Turnover of Securities Transactions at the Baku Stock
Exchange in 2022–2024, mln AZN**

Markets/ Operations	2022		2023		2024	
	No. of Transacti ons	Volume	No. of Transacti ons	Volume	No. of Transacti ons	Volume
I. Government Securities	1737	8622,9	2807	8405,6	2725	7864,4
Government Bonds	872	1684,1	1683	4540,2	2306	5875,7
Primary Market	357	1163,2	934	3734,9	1071	4790,4
Secondary Market	515	520,9	749	805,3	1235	1085,3
CBAR Securities	865	6938,7	1124	3865,4	419	1988,7
Primary Market	804	6447,3	870	3165,6	310	1666,7
Secondary Market	61	491,4	254	699,8	109	322,0
II. Corporate Securities	3237	3356,5	3961	2279,1	61058	3686,7
Shares	2499	582,9	2348	245,2	59139	373,5
Primary Market	75	365,4	97	119,0	49350	131,2
Secondary Market	2424	217,6	2251	126,3	9789	242,7
Corporate Bonds	738	2773,5	1613	2033,9	1919	3313,2
Primary Market	106	275,7	214	498,1	300	1577,4
Secondary Market	139	1676,0	787	766,7	384	799,7
III. Repo and Reverse Repo Transactions	1322	2150,2	6777	17384,5	8489	60922,2
Repo on Corporate Securities	31	36,8	124	281,4	311	34610,8
Repo on Government Bonds	1240	1941,1	5321	13948,0	566	1542,5
Repo with Central Bank Notes	51	172,3	1332	3155,1	7612	24768,9
Total Securities Market	11018	15563,0	13545	28069,2	72272	72473,3

Source: www.bfb.az

In 2023, the ratio of the total volume of securities transactions to Gross Domestic Product (GDP) – also referred to as the market capitalization-to-GDP ratio – was 23.1%, while in 2024, it reached 57.5%. The changes in the share of the Baku Stock Exchange's trade turnover in the country's GDP over the period 2022–2024 are visually illustrated in a column chart (Figure 1).

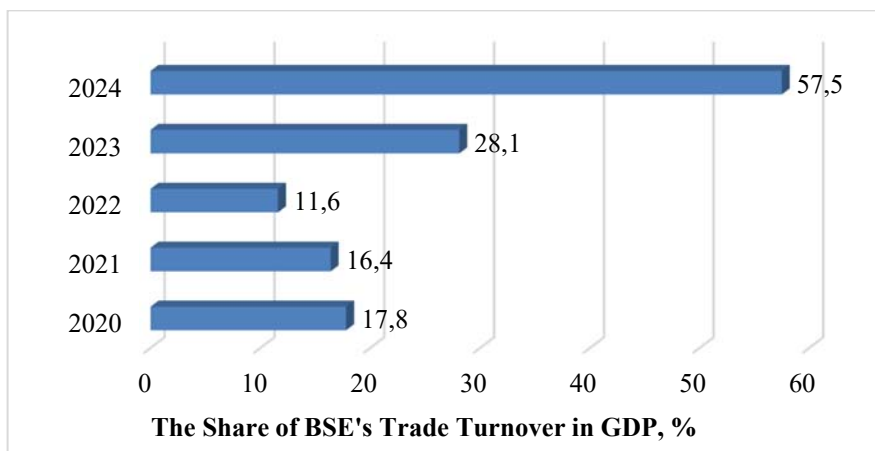


Figure 1. The Share of the Baku Stock Exchange's Trade Turnover in the Country's GDP in 2020–2024, %

Source: Compiled by the author based on data from the Baku Stock Exchange (BSE).

During the period under review, operations with government securities and repo/reverse repo transactions dominated the trade turnover of the Baku Stock Exchange (BSE). Specifically, in 2022, out of the total trade turnover of 15,563.0 million AZN, 8,312.8 million AZN or 53.4% was attributed to transactions involving government securities; 2,189.7 million AZN or 14.1% to corporate securities; and 5,060.5 million AZN or 32.5% to repo operations. By 2024, these shares had changed to 10.9%, 84.0%, and 5.1%, respectively. As observed, government securities held the largest share of the market in 2022 (53.4%). However, by 2024, corporate securities had assumed a dominant position in the market, accounting for 84.0% of total turnover (Figure 2)

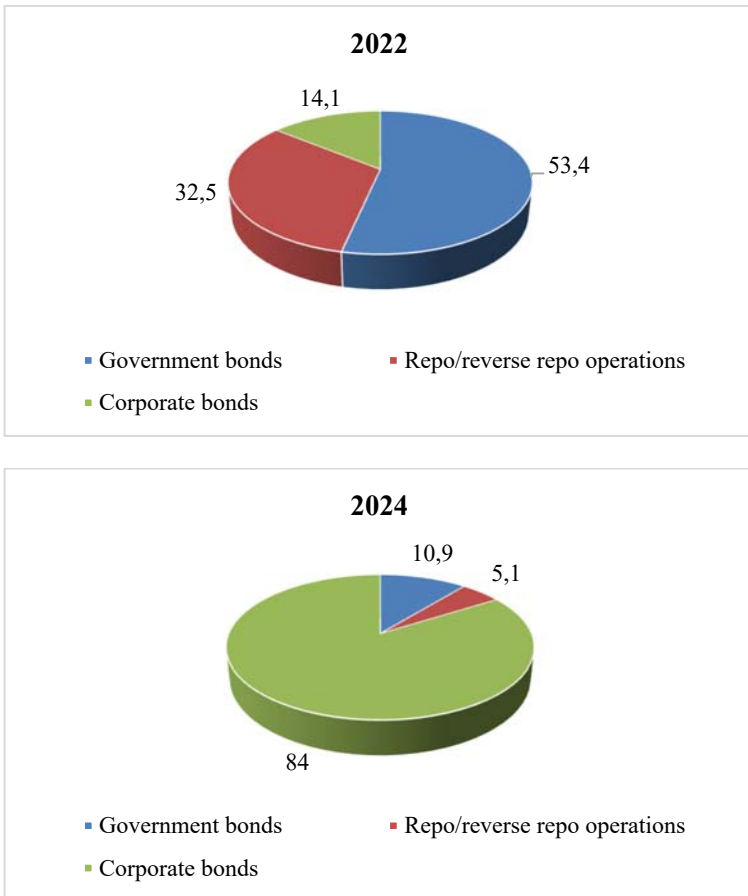


Figure 2. The Share of Individual Segments in Total Trade Turnover of the Capital Market in 2022 and 2024, %

Source: Compiled by the author based on data from the Baku Stock Exchange (BSE).

It should be noted that the replacement of the standard “Financial Instruments: Recognition and Measurement” (IAS 39) with the standard “Financial Instruments” (IFRS 9) was driven by the growing relevance of the impairment of financial assets. The core idea of the new standard is to account not only for incurred losses but for expected credit losses (ECL). According to IFRS 9, economic entities,

including banks, must identify potential losses at the initial recognition of financial assets and regularly reassess the provisions related to these losses. In doing so, they must consider not only past loss events but also current and forward-looking economic conditions.

IFRS 9 regulates the accounting of financial instruments across four key areas: classification and measurement of financial assets, impairment, accounting for financial liabilities and their valuation, and hedge accounting. The standard provides for the application of both fair value and amortized cost models in the accounting of financial instruments.

In the accounting of securities operations in banks, the principle of fair value measurement serves as a conceptual foundation. The application of this principle enhances the informativeness and reliability of financial reporting. In accordance with the standard's requirements, operations involving securities are measured either at fair value or at amortized cost, depending on the bank's objectives and strategies, as well as the characteristics of cash flows from financial assets.

One of the most complex areas of financial instrument accounting is hedge accounting. Hedging aims to manage risks associated with changes in the value of recognized assets and liabilities, cash flows, or their fair value through the use of financial instruments.

The new approaches introduced in IFRS 9 primarily cover two critical areas: classification of financial assets and accounting for impairment provisions. Financial assets are classified into the following three categories:

1. Assets measured at amortized cost;
2. Assets measured at fair value through other comprehensive income (FVOCI);
3. Assets measured at fair value through profit or loss (FVTPL).

The classification of debt instruments depends on the business model under which they are managed. If a debt instrument is held to collect contractual cash flows that represent solely payments of principal and interest, it is measured at amortized cost. If it is held both to collect cash flows and to sell, it is measured at fair value through other comprehensive income. If the business model is

focused solely on fair value changes, the instrument is measured at fair value through profit or loss.

One of the most significant changes introduced by IFRS 9 relates to the mechanism for forming impairment provisions. Unlike the previous model, which accounted only for incurred losses, the new model is based on the recognition of expected credit losses. Under this model, the impairment process is carried out in three stages:

1. From the moment the asset is recognized, expected credit losses over the next 12 months are measured;
2. When a significant deterioration in credit quality occurs, lifetime expected credit losses are recognized;
3. If the asset becomes further impaired and actual credit losses are observed, lifetime expected credit losses are measured more accurately.

This approach has had a substantial impact on banks' risk management practices and their policies on forming impairment provisions.

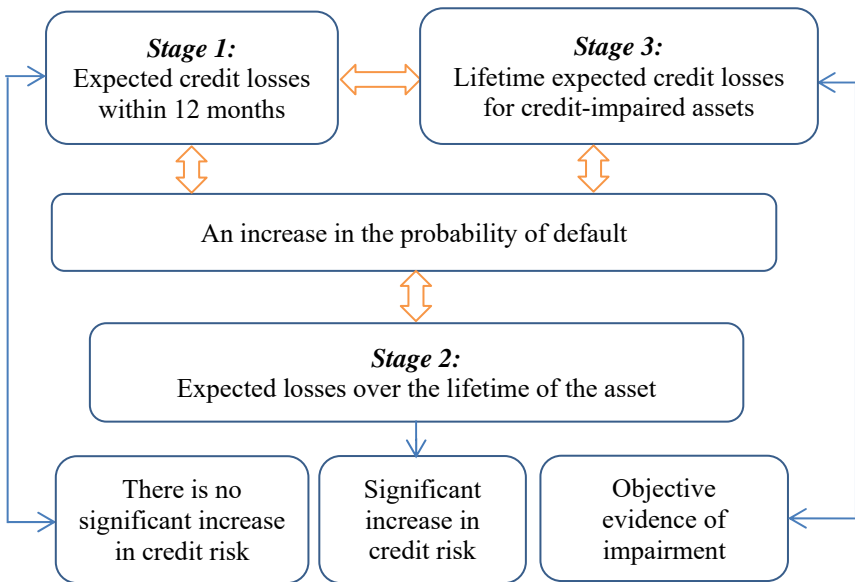


Figure 3. Stage-Based Provisioning Approach in Accordance with the Expected Credit Loss (ECL) Model

As can be observed, the expected credit loss (ECL) model is based on a three-stage system for the formation of provisions, where the transition from one stage to another is determined by changes in the credit quality of financial assets. This approach represents a core feature of accounting and control in banks, requiring prudential (i.e., anticipatory and conservative) assessment of assets. Such an assessment method serves to detect bank risks – particularly those related to instability at an early stage and minimize them.

Unlike the traditional approach, which only addresses losses that have actually occurred or currently impaired assets, the ECL model is forward-looking. It recommends the creation of provisions based on forward-looking assessments, including macroeconomic trends and forecasts. This requires banks to possess more sophisticated analytical and forecasting capabilities and enhances their resilience to risk.

The application of IFRS 9 *Financial Instruments* represents a positive reform for the banking sector. The approach introduced by the standard enables the timely identification of risks in securities transactions and facilitates more efficient management of banks' securities portfolios.

In the third chapter of the dissertation, titled **“Directions for Improving the Accounting and Audit of Securities Transactions in the Practice of Azerbaijani Banks”**, the focus is on the improvement of the accounting and audit system for securities transactions in the Azerbaijani banking sector. The chapter analyzes accounting mechanisms for investment activity, the identification of financial instruments, and opportunities for enhancing transparency.

Rabitabank OJSC conducts its operations mainly within the territory of the Republic of Azerbaijan and is exposed to various economic and financial risks characteristic of the local market. These risks have a direct impact on the bank's capital, financial condition, the structure of its loan and securities portfolios.

Statistical data for the analyzed period show that from 2020 to 2024, the volume of Rabitabank OJSC's assets and liabilities consistently increased. Specifically, compared to 2020, the bank's assets increased by 38.9% in 2024, and by 1.4% compared to 2023

(Table 2). This dynamic indicates that the bank has maintained financial stability and that its operations continue to expand.

Table 2.

Dynamics of Rabitabank OJSC’s Indicators for 2020–2024
(thousand manats)

Sections	2020	2021	2022	2023	2024
Assets	830916	1017873	954990	1138450	1154465
Cash and Cash Equivalents, including <i>restricted cash</i>	257414	408567	122363	101387	99858
Trading and Investment Securities	89017	102505	117919	110761	112428
Deposits in Banks and Other Financial Institutions	31354	10650	8500	4692	9386
Loans Granted to Banks and Other Financial Institutions	11788	3511	45157	136796	30154
Loans Granted to Customers	423332	473964	610877	721159	848092
a) Consumer Loans	109801	149160	205605	239634	293398
b) Business Loans	243016	241839	305404	345405	399112
c) Real Estate Loans	66924	82964	99868	136120	155582
d) Other Loans	3590	0	0	0	0
Allowance for Possible Losses (<i>provision for possible losses</i>)	23157	32159	23850	15566	23520
Net Loans to Customers	400175	441804	587027	705592	824572
Property and Equipment	19197	13 435	12 807	12 106	10 907
Intangible Assets	694	695	834	739	978
Other Assets	21275	36705	60384	66377	66181
Liabilities	732201	918448	843394	1022098	1031499
Deposits	546172	724682	607004	753824	677219
a) Deposits from Individuals	232540	254836	317032	445386	461954
b) Deposits from Legal Entities	313632	469846	289972	308438	215264
Liabilities to the Central Bank and State Funds	4 536	3 402	2 268	1 134	0
Liabilities to Credit Institutions and Other Financial Institutions	141635	160405	193171	224337	281754
Debt Securities	0	0	0	0	8 551
Subordinated Debt Liabilities	20038	5950	5950	5950	14450

Other Liabilities	19820	24009	35001	36853	49 527
Equity	98715	99425	111596	116352	122 965
Share Capital	101300	101300	101300	101300	101300
Retained Earnings	-10474	-8 811	859	3920	9071
General Reserves:	7888	6935	9437	11131	12594
a) Standard Reserves for Possible Losses on Loans, Leases, and Other Receivables	4020	4548	6099	7503	8962
b) Standard Reserves from the Revaluation of Fixed Assets	3463	3463	3463	3463	3463
c) Other General Reserves	405	-1 076	-125	165	170
Total Liabilities and Equity	830916	1017873	954990	1138450	1154465

Source: Compiled by the author based on data from Rabitabank OJSC.

The impact of the development of the digital economy and the “Industry 4.0” technological model on audit activities has also been analyzed. In the modern era, technologies such as artificial intelligence, big data analytics, robotic process automation, blockchain, and other digital innovations necessitate the transformation of traditional audit approaches. The digitalization of the securities market expands opportunities for information security and transparency for market participants, while also facilitating the automation of audit functions and the implementation of continuous monitoring mechanisms.

Within the framework of the Audit 4.0 concept, possibilities for enhancing audit process quality have been demonstrated based on principles such as real-time data analysis, modularity, functional compatibility, and decentralization. In addition, the use of technologies such as SupTech (Supervisory Technology) increases the effectiveness of financial supervision and strengthens accountability and transparency. These technological innovations enable more precise assessment of risks in the audit of securities

transactions and support the alignment of audit practices with contemporary standards and requirements.⁶

Table 3.

Development Stages of Audit Types

Audit Types	Audit 1.0	Audit 2.0	Audit 3.0	Audit 4.0
Audit Technology	Manually conducted audit	IT-based audit	Audit involving big data	Automated audit
Method of Collecting Evidence	Manual testing of primary data, use of calculator for calculations	Use of computerized audit software	Use of specialized analytical mechanisms enabling processing of large data and extraction of preliminary results	Use of robots, artificial intelligence, big data, blockchain technologies, and advanced analytical software
Audit Object	Individual financial statements	Consolidated financial statements	Integrated reporting	Integrated reporting
Continuity of Audit	Discrete	Discrete	Discrete	Continuous
Technological Platform	Industry 1.0	Industry 2.0	Industry 3.0	Industry 4.0

Source: Table compiled by the author.

The continuous audit model envisions the automation of audit procedures, a reduction in dependence on human factors, and the application of artificial intelligence technologies to perform predictive analyses. In this new model, the focus shifts from merely detecting past violations to proactively identifying potential risks and implementing preventive control measures. This approach facilitates the transition of auditing into a new digital ecosystem.

⁶ Миронова Д.Д., Шершова Е.В. Развитие современных банковских технологий в условиях цифровой трансформации экономики российской федерации // Вестник Алтайской академии экономики и права, № 4-3, 2020. с. 378-384

CONCLUSION

Based on the research conducted to improve the accounting and audit of securities transactions, the following conclusions were drawn and suggestions made:

1. Various theoretical approaches regarding the essence, functions, and role of financial instruments in the economy were analyzed and summarized in three directions. The first approach focuses on assessing the structure of financial instruments, the second emphasizes their functional characteristics, and the third views financial instruments as contract objects between various market participants.

2. The study identified specific features of accounting practices in banks: the Central Bank regulates accounting procedures and the organization of control-audit systems (through instructions, rules, and guidelines); the legal and regulatory framework governing the organization and conduct of accounting and auditing is subject to regular updates and clarifications; the Central Bank supervises banks' activities; a two-tiered system of on-balance and off-balance accounts exists within the chart of accounts in credit institutions; and there is a need to systematize information on transactions executed within a short period.

3. Analysis of international experience in financial instruments revealed that the fair value measurement principle serves as the conceptual basis for accounting securities transactions in banks. Applying the fair value principle significantly enhances the informativeness and reliability of financial (accounting) reports. One of the most complex areas of accounting for financial instruments is the accounting for hedging operations.

4. Banks operate in multiple domains, having the authority to perform both banking and securities market operations. These operations are carried out according to the rules applicable to professional participants of the securities market and the normative requirements of the Central Bank. The audit of commercial banks encompasses various areas of financial and economic performance. In our view, at the current stage of the digital information economy,

the primary tasks for auditors include the explanation of reports, preparation of forecast reports, formulation of general conclusions about the audited entity's development, implementation of risk-based process audits, application of data processing and analysis tools in internal audit, development of assurance maps, and evaluation of the efficiency of risk management systems.

5. Despite the existence of impediments to development, the securities market – regarded as one of the most dynamic sectors of the economy – continues to increase its capitalization level. During the analyzed period, government securities operations dominated BSE's trading turnover, while the secondary market trading of securities proved more attractive to professional participants. The secondary market played a crucial role throughout the entire exchange process. The study reveals the emergence of several trends in Azerbaijan's securities market in recent years, such as qualitative changes in the development of the market and the entry of numerous specialized professional investors, which are essential for ensuring the market's long-term sustainability.

6. At present, the accounting methodology for securities transactions is based on the following standards: IAS 32 “Financial Instruments: Presentation”, IFRS 7 “Financial Instruments: Disclosures”, IFRS 2 “Share-based Payment”, IFRS 9 “Financial Instruments”, and IFRS 13 “Fair Value Measurement”. Overall, the provisions of these standards can be grouped into six categories: regulated entities and regulatory documents; initial recognition and measurement; classification of financial assets for subsequent measurement; subsequent measurements of financial assets; impairment of financial assets; and disclosure of information.

7. In recent years, continuous changes have been observed in the international accounting practices for financial instruments. One of the most complex aspects of the regular improvement of accounting standards is the transition from the incurred loss recognition model to the expected credit loss (ECL) model. A significant innovation is the change in the classification of financial assets. Under the new requirements, financial assets should be classified not into four, but three categories: amortised cost, fair value through other

comprehensive income, and fair value through profit or loss. Other major innovations include the classification of debt instruments based on the business model for managing financial assets, and the new rules for recognizing impairment losses on loans.

8. In our opinion, the new model for recognizing impairment losses necessitates the development of new approaches to credit risk assessment. The determination of impairment loss amounts is fundamentally based on credit risk. The new expected credit loss (impairment) model requires the recognition of provisions considered as losses; however, their measurement depends on the deterioration of credit quality after the initial recognition of financial assets.

9. In order to improve the quality of accounting information, it is necessary to integrate several elements into the algorithm for forecasting expected credit losses (impairment). These include the assessment of the probability of default within a given time frame, the quantification of the default risk, and the calculation of the potential loss resulting from default. In our opinion, one of the main barriers to the widespread application of risk insurance measures in the financial market within bank accounting is the challenge of reflecting these measures in accounting and reporting in accordance with international standards.

10. For the recognition of financial instruments in bank accounting, it is appropriate to classify them as financial assets, financial liabilities, or equity instruments, depending on the nature of the contractual subject. One of the most significant changes in the accounting of securities is related to the provisioning (formation of reserves) for assets. The fundamental idea is the transition from an incurred loss model to an expected loss model, which requires banks to account for expected rather than incurred losses.

11. The expected credit loss (impairment) model is a three-stage provisioning model, where the transition from one stage to another depends on the changes in the credit quality of financial assets. This means that, in the current stage, the key feature of accounting and control in banks is the prudential, that is, proactive valuation focused on potential risks. In our view, such an approach can help

minimize instability risks.

12. Internal audit is an integral component of the internal control system in banks. The environment of digitalization and change has shaped significant trends in this field and has introduced new tasks aligned with modern challenges.

Key trends in the development of internal audit in banks include its transformation from a protective function into a driving force; the shift in the nature of risks (with information systems and information technology-related risks taking precedence over traditional financial risks); the application of highly dynamic planning (transitioning from periodic auditing to risk-based planning and real-time planning); and the use of modern technologies, such as internal audit management software for governance purposes, data mining for analyzing large volumes of data, and continuous auditing practices.

In addition, the development of essential competencies—particularly in communication and the ability to work with modern information technologies—has become a critical requirement.

13. Investments in financial instruments are reflected both in accounting records and in financial statements. It is necessary to enhance the reliability and transparency of financial reporting by disclosing additional information related to securities in the notes and explanations. This, in turn, requires the clarification and substantiation of modern aspects (criteria) for the identification of securities, as well as the refinement of classification features.

Modern classification criteria can be grouped into four main characteristics of securities: temporal, spatial, market-based, and accounting-related. In our opinion, for the recognition of a security in accounting and the subsequent disclosure of information in financial reporting, it is advisable to use classification features such as the issuance form of the security and the targeted allocation of funds.

For accounting purposes, it is considered appropriate to classify securities based on their maturity, legal affiliation, type of property rights, circulation characteristics, level of profitability, and intended use.

14. The accounting policy of a bank is a set of accounting rules and methods adopted by the bank that comply with the current requirements of legislative acts. The accounting of securities transactions is a sufficiently large-scale and complex area within the accounting system of commercial banks. The organization of securities accounting, the development of relevant procedures, and the establishment of a normative-methodological framework for maintaining such accounting reflect the actual processes carried out by the bank.

In our view, the main distinguishing and complex aspect of securities accounting in banks lies in several matters that are freely determined by the credit institution and formalized in its accounting policy.

When drafting its accounting policy, Rabitabank OJSC includes provisions such as the revaluation of all first-category securities at their current (fair) value on the last business day of each month; the requirement for revaluation of all issued securities if transactions are conducted with the relevant issued securities during the month; and, in cases where the fair value of a security changes significantly during the month, the necessity of performing such revaluation. It is considered advisable for the bank's accounting policy to explicitly address the determination of materiality criteria in this context

15. The analysis of scientific research in the field of auditing demonstrates that the theoretical-methodological and scientific-technical foundations for the transition of auditing to digital technologies have been established. It also shows the existence of intelligent technologies capable of modernizing individual audit procedures and forming a comprehensive innovative ecosystem of audit activities.

In our opinion, the methodology of continuous audit and monitoring may enable regular reviews of the current state of control and audit checks in banks, as well as improve risk overviews through the constant identification and monitoring of potential risks.

The expansion of operations in the securities market, its exposure to digital infrastructure transformations, and the diversity

and complexity of information sources necessitate working with unstructured information in audit processes. This, in turn, makes it inevitable to use modern technologies and methods (such as text mining, computer vision, etc.) for extracting information from texts, images, sounds, and other sources within the internal audit systems of banks.

In our view, it is essential to develop and implement process mining technology in banks. In order to achieve synergistic efficiency with internal audit, it is necessary to evaluate the condition of the corporate aggregate formed in the information technology system, determine the quality level of the corporate database, select appropriate software for the application of process mining technology, and ensure that this technology allows internal audit not to rely on selective sampling but to test the entire operational processes of the bank.

16. The securities market is an integral part of the financial system and plays a vital role in national economic development. Expansion of financial institutions and professional participants, along with the growth of internet trading and off-exchange trading systems, fosters investment and enables wider adoption of new technologies by institutional investors.

17. Securities operations in banks serve as tools for profit generation and resource base management while allowing for risk and liquidity diversification. As professional market participants, commercial banks provide services such as dealing, brokerage, placement and management of securities, depository functions, and advisory services for asset investments. The study confirms that commercial banks are active players in the securities market and show a strong interest in financial instruments.

The main findings of the dissertation have been reflected in the following published scientific articles:

1. *The Economic Essence of Securities Transactions* // Proceedings of the International Scientific-Practical Conference on “The Azerbaijan Democratic Republic and the Directions of Modern Economic Development of Azerbaijan,” dedicated to the 95th anniversary of National Leader Heydar Aliyev, organized by Baku Business University, Baku, 2018, pp. 430–433.

2. *The Emergence of the Securities Market and Its Role in Economic Development* // Proceedings of the International Scientific-Practical Conference on “Digital Economy: Azerbaijan in a New Stage of Economic Development,” organized by Baku Business University, Baku, November 25, 2020, pp. 391–394.

3. *The Securities Market in Azerbaijan and Its Development Prospects* // *Audit Scientific-Practical Journal*, Baku, 2021, No. 4, pp. 35–46.

4. *Directions for Improving the Audit of Securities Transactions in Banks in the Context of Digitalization* // *Kooperasiya Scientific-Practical Journal*, Baku, 2022, No. 1, pp. 216–224.

5. *Organizational Features of the Audit of Securities Transactions in Banks* // *Economic Growth and Public Welfare Journal* (Institute of Economics, ANAS), Baku, 2022, No. 1, pp. 62–71.

6. *Continuous Audit as an Important Tool for Real-Time Optimization of Banking Risks* // *Silk Road Journal*, Baku, 2022, No. 2, pp. 79–87.

7. *Directions for Improving the Accounting of Securities Transactions in Banks in Accordance with International Standards* // *Scientific News of Azerbaijan State University of Economics*, Baku, 2022, No. 2, pp. 73–83.

8. *Analysis and Evaluation of the Current State of Accounting for Active and Passive Securities Transactions in Commercial Banks* // *Audit Scientific-Practical Journal*, Baku, 2022, No. 2, pp. 11–23.

9. *Some Issues of Identification and Classification of Securities Used in Accounting and Reporting* // *Economic and Legal Aspects of*

Digitalization in the Context of Globalization, International Scientific Symposium, Moldova, 2022, pp. 59–64.

10. *Directions for Improving the Audit of Securities Transactions in Banks in Accordance with International Standards // Bulletin of Buryat State University: Economics and Management* (Buryat State University), Russia, 2022, No. 3, pp. 60–66.

A handwritten signature in blue ink, consisting of stylized, cursive letters that are difficult to decipher. The signature appears to be a personal name or initials.

The defense of the dissertation will take place on September 05, 2025, at 15:00, at the meeting of the FD 1.11 Dissertation Council operating under Azerbaijan State University of Economics.

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The dissertation is available for review at the library of Azerbaijan State University of Economics.

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