

**REPUBLIC OF AZERBAIJAN**

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**ABSTRACT**

**of the dissertation for the degree of Doctor of Philosophy**

**Theoretical Foundations of the Scientific and Methodological  
Support for Forensic Economic Expertise**

**Specialty:** 5612.01 – Criminal Procedure, Criminalistic and  
Forensic Expertise; Operation-search activity

**Field of science:** Law

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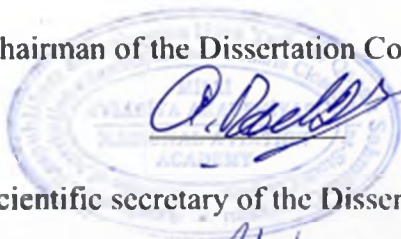

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## **THE GENERAL CHARACTERISTICS OF THE STUDY**

**The relevance of the topic and its degree of development.** In recent years, as methods of committing crimes have become more sophisticated and new technologies have been employed, the conduct of forensic examinations, including forensic economic investigations, has required broader use of the latest advances in science and technology, particularly modern information and computer technologies. This also calls for the enhancement of the scientific, methodological, and informational support system of forensic expertise activities in line with contemporary standart.

Forensic expertise develops through the creation and improvement of the scientific-theoretical and organizational-methodological foundations for new classes, types, and categories of expert investigations, in accordance with the integration and differentiation of scientific knowledge and the modern requirements of forensic investigative practices. Over the past few decades, one of the emerging categories of expert examinations is forensic economic expertise.

The demand for forensic economic expertise in our country has been driven by the increasing number of crimes related to economic activities in recent years. The rise in crimes in the field of economic activity has led to the expansion of the types of forensic economic expertise conducted at the Forensic Expertise Center of the Ministry of Justice of the Republic of Azerbaijan. In 2014, 5,670 economic expert examinations were appointed by the preliminary investigation and judicial authorities, whereas in 2023, the number of forensic economic expert examinations increased by 33.5%, reaching 7,570. The necessity to examine the content of documents related to various types of accounting in order to identify signs of crimes related to economic activity, in turn, requires the widespread application of forensic economic expertise in preliminary investigations and court hearings.

The growth of economic activity and its digitalization, as well as the use of new methods, make it necessary to study a wider variety of documents to uncover signs of crimes in this area. This, in turn,

demands broader application of forensic economic expertise, including types such as forensic accounting, forensic financial-economic, and forensic tax examinations. At the same time, there is a recognized need to develop new research methodologies that are scientifically grounded and meet modern standards, while also improving traditional methods.

The Forensic Expertise Center of the Ministry of Justice of the Republic of Azerbaijan has been a member of ENFSI since 2011. ENFSI's mission is to ensure high quality in forensic activities across European countries, to strengthen cooperation among forensic institutions, to accredit laboratories conducting research under ISO/IEC 17025 standards, and to support the advancement of forensic science in Europe through the unification of international experience. Work has already been carried out to bring forensic examinations into line with ISO/IEC 17025 standards. This standardization provides a unified approach to forensic expertise and should cover all classes and types of examinations, requiring the preparation of standardized, accredited, and documented methodologies. This need is especially pressing in forensic economic examinations, as their scope is constantly expanding and new responsibilities are arising.

The analysis of expert practice indicates that, because these examinations have continuously developed subject matter, objects, and tasks of their own, challenges are encountered when appointing them, framing questions, and preparing materials. Therefore, there is a need to develop typical, standardized, and formally documented expert methodologies.

The general theoretical provisions of the dissertation are based on the works of Abbasova F.M., Abbasov N.I., Abdunnur Yildiz, Averyanova T.V., Javadov F.M., Jumhur Demir, Evsikov S.T., Asgarov B.M., Asgarova M.P., Geraldo-Campos V.A., Harun Oghunch, Hasanov G.H., Karimov Sh.M., Korinek L.A., Mahmudov A.M., Mustafayev M.H., Merve Uysal, Rossinskaya E.R., Savitskiy A.A., Serkan Akchay, Timshenko V.A., A. Tuli A., Vahidov S.T., Yang S., Zhao L., Zheng X., and others. In recent decades, issues related to the scientific-theoretical and

methodological characteristics of forensic accounting expertise and its subtypes have been studied by distinguished scholars such as G.H. Hasanov<sup>1</sup>, N.D. Eriashvili<sup>2</sup>, T.V. Koteneva<sup>3</sup>, E.S. Sarigina<sup>4</sup>, Serkan Akchay, Abdunnur Yıldız<sup>5</sup>, and others. However, these studies are fragmentary in nature, and no comprehensive research has been carried out at a monographic level where scientific-methodological recommendations are developed.

In Azerbaijan, issues of a scientific-theoretical, organizational-methodological, and legal nature regarding the class of forensic economic expertise and its individual categories and types have not been studied at the monographic level.

These theoretical and practical issues highlight the relevance of the dissertation topic.

### **TObject and Subject of the Study:**

The object of the study is the definition of forensic economic expertise, proceedings of its individual categories and types, expert, investigative and judicial experience in using the results of such special studies in the process of proving.

The subject of the study is the formation and application of the system of specialized knowledge that forms the scientific-theoretical and methodological foundations of forensic economic expertise, as well as the laws governing the technology and methodology of conducting forensic economic expertise.

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<sup>1</sup>Forensic Economic Expertise. – Baku: 'Ministry of Justice Publishing House,' – 2007. – 52 pages.

<sup>2</sup>Forensic Accounting Expertise: A Textbook for University Students / Edited by A.R. Rossinskaya, N.D. Eriashvili. – Moscow: UNITY-DANA, – 2015. – 383 pages.

<sup>3</sup>Methodological Foundations of Forensic Economic Expertise: Monograph. – Moscow: INFRA-M, – 2016. – 212 pages.

<sup>4</sup>Forensic Financial and Economic Expertise: Theoretical and Organizational-Methodological Aspects / Author's Abstract of Dissertation, Candidate of Law. – Moscow, 2017. – 32 pages.

<sup>5</sup>Accounting Errors and Frauds and the Role of Forensic Accounting in Detecting Frauds // – Inonu (Turkiye): Individual and Society, Social Sciences Journal, – 2022, Vol. 12, Issue 1, – pp. 91–141.

**Purpose and Objectives of the Study** are to develop, in the context of new socio-economic and legal relations, the scientific-theoretical and methodological foundations of forensic economic expertise and its individual categories and types. Additionally, the study aims to establish the basis for the formation of the subject, objects, tasks, methods, specific typical methodologies, and procedural technology of forensic accounting, forensic financial-economic, and forensic tax expertise.

The realization of the set purpose has been accomplished through the resolution of the following duties:

- Determining the development patterns of forensic economic expertise through the study of its genesis, history, and evolution, and justifying its distinction as an independent class of expertise;

- Developing a scientifically grounded classification system for forensic economic expertise, including its categories and types;

- Clarifying the subject, objects, and duties of the categories of forensic economic expertise, as well as the scope of questions that can be posed;

- Analyzing the issues related to the appointment and execution of forensic economic expertise and identifying potential solutions;

- Developing the methodology for preparing expert opinions and accompanying materials in forensic economic expertise;

- Identifying the system of general and specific scientific methods that form the methodology of forensic economic expertise and determining their essence and content in relation to this field;

- Identifying prospective directions for the methodological support of forensic economic expertise, evaluating possibilities for passporting and standardization in this area, and developing standardized, typical methodologies and technologies.

**Study Methods.** The methodological foundation of the dissertation research is based on the fundamental principles and provisions of the theory of forensic expertise, criminal and criminal procedural law, criminology, and economic sciences, as well as a system of scientific methods.

In addition, during the analysis of the research subject, general and specific scientific methods were applied, including: historical

(used in studying the formation and development of forensic accounting and other types of forensic economic expertise); logical (applied in defining the concepts included in the subject of the study and in the theoretical analysis of these concepts); system-structural, comparative-analytical, complex, and statistical (used in the collection, analysis, and generalization of empirical data), among others.

**Main Clauses Defended:**

1. The emergence of forensic economic expertise in the Republic of Azerbaijan and its four-stage historical development largely mirrors the history of the Republic itself.

The use of artificial intelligence technologies in forensic economic expertise represents a new stage, allowing more reliable resolution of issues such as whether documents or systems have been subjected to external influence.

2. The classification of forensic economic expertise includes the following types: forensic accounting expertise; forensic financial-economic expertise (covering financial-analytical and financial-credit aspects); and forensic tax expertise. Considering that documents are now often prepared using computer technologies, computer-economic expertise should also be treated as a new type, based on theoretical and methodological analysis. The classification system of forensic economic expertise is developing through the synthesis of scientific knowledge, integration of different disciplines, and the expansion of examination objects, which lead to the emergence of new types and subtypes.

3. The methodology of forensic economic examination is a program (algorithm) for solving the tasks (formulated questions) set before the examination, directed toward the study of accounting records and/or the content of economic transactions by individuals possessing specialized economic knowledge, with the aim of identifying information about facts of evidentiary significance. The methodology of forensic economic expertise consists of the consistent application of a certain set of general scientific and specialized scientific methods, information-analytical techniques, and methods of economic-legal sciences, conditioned by the object of

expert research. Depending on the nature of the tasks, these methods may be applied individually or in combination. For instance, factor analysis, used to identify the causes of deviations of certain indicators from established parameters, relies on excluding the influence of all factors except one on the indicator's value, though in subsequent studies it may be applied in a more comprehensive manner.

4. A typical, documented methodology for forensic economic expertise is structured as a set of elements arranged in logical order, reflecting the main stages of its application. Such methodologies may be developed for types, subtypes, or specific tasks.

5. All typical and standardized methodologies, developed considering both theoretical foundations and practical experience across all types and subtypes of forensic economic examinations, should be included in the 'Methodological Fund of Forensic Expertise' (in line with Article 11-5 of the Law on Forensic Expertise Activities). This is also significant for compliance with ISO/IEC 17025 standards.

6. The subject of forensic accounting expertise covers factual information regarding the essence and content of financial and business transactions recorded in accounting reports and related documents, the methods of accounting, the mechanisms and techniques of record falsification, and the quantitative and qualitative parameters. Its object consists of accounting entries reflecting the economic content of financial, commercial, and other transactions, as well as the economic activities of business entities. If certain materials are not subject to documentary inspection (e.g., witness statements or protocols of evaluated people), the expert must collect all available information.

7. The main objective of forensic accounting expertise is to examine the recording of economic transactions in accounting to detect negative irregularities in reports and reporting processes. Given the increasingly complex nature of economic activity, conducting comprehensive computer-accounting, accounting-construction, and similar examinations helps investigative and judicial authorities determine the causes of irregularities.

8. According to the method for examining informal accounting documents, an expert can provide an opinion based on such documents only under certain conditions: if the informal document pertains to the inventory period in which material loss occurred according to accounting records; if it fully covers the settlement between the responsible person and the supplier and is signed by both; if the informal documents specifically relate to a particular commercial facility; and similar cases.

9. During the investigation of crimes, "draft" records that are discovered may serve as objects of forensic examination for the purpose of conducting a comparative analysis with the content of official accounting records. The economic content and structural characteristics of the information in these "drafts" can be assessed for conformity (or discrepancy) with the indicators of official accounting.

10. Financial-credit expertise focuses on identifying signs and methods of distortion of information about a business entity's financial condition, assessing the borrower's ability to repay loans, and related matters. Financial-analytical expertise, on the other hand, involves evaluating financial condition and financial-economic activity indicators, identifying the reasons for changes in financial condition, and similar tasks.

11. The expansion in the types, volume, and scope of lending and financing has led to the emergence of new types of financial expertise. Using general methodologies and taking specific characteristics into account, the methodological foundations of these new expertise types should be developed. The preparation of such methodologies is also relevant for solving specific tasks. For example, in cases involving the sale of products below cost depending on the financial-economic situation of the business entity, there is currently no unified methodology for determining the amount of losses. This is explained by the differing characteristics of various entities; nevertheless, it is possible to develop methodologies for addressing general issues.

The technological algorithm of forensic economic examination should include, at the initial stage, the preliminary modeling of expert

questions, modeling of financial-economic transaction processes, and analysis of the resulting models.

12. The subject of forensic tax examination includes actual information (case circumstances) established for the purposes of justice proceedings, based on the study of tax subjects and elements, the amounts of taxes actually paid and due, the correctness and completeness of their calculation, and compliance with tax legislation. Its object comprises accounting registers and reports reflecting information about primary accounting documents, as well as non-accounting documents examined in connection with these accounting records.

13. The main tasks of forensic tax examination include determining compliance with tax legislation, detecting instances of violation of tax laws, and verifying documentary evidence of violations identified during a tax audit.

A universal methodology for tax examinations is not feasible, as each business entity has unique features in calculating and paying taxes. Therefore, it is more practical to develop methodologies based on the common characteristics of business entities.

**Scientific Novelty of the Study:** For the first time in Azerbaijan, a systematic-structural approach has been applied to study forensic economic examination and its types—such as forensic accounting, forensic financial-economic, and forensic tax examinations—at a monographic level. The scientific-theoretical and organizational-methodological foundations of forensic economic examination have been improved in accordance with contemporary conditions, and the execution technology for these examinations has been developed. Methodologies have been elaborated for determining shortages of goods and inventory at commercial facilities without considering trade amendments, for resolving specific issues related to identifying debts (including principal and interest) on loans granted to legal and natural persons in cases of evasion from credit obligations, and for the calculation of VAT.

From the perspective of modern expertology, the subject, objects, tasks, methodology, technology of forensic economic expertise and its individual categories and types, as well as

theoretical and methodological problems related to the characteristics of its appointment were comprehensively reviewed. Directions for solving theoretical and methodological problems have been identified, and scientific-methodical proposals and recommendations for forensic-investigative bodies have been formulated to improve the efficiency of expertise execution, and to ensure the passportization and standardization of methodological support.

**Theoretical and Practical Significance of the Study.** The developed methodologies can serve as typical approaches for addressing a range of issues in forensic economic expertise, while also establishing the foundational conditions for the standardization (passporting) of expert methodologies.

The scientific-theoretical provisions, conclusions, suggestions, and recommendations presented in the dissertation can be applied in the activities of both state and private forensic expertise organizations. They can also be utilized in the training and retraining of experts specializing in "Forensic Economic Expertise," in the development of specialized programs for these courses, in improving the scientific-theoretical and methodological support of forensic economic expertise and its individual categories and types, as well as in future scientific research.

**Approval and Application.** The generalized results of the scientific research, the provisions submitted for defense, and the main proposals and recommendations have been published in the form of six scientific articles in journals recommended by the Supreme Attestation Commission under the President of the Republic of Azerbaijan. These have also been presented at three scientific-practical conferences and applied in the claimant's expert activities.

**Organization Where the Dissertation Work was Conducted.** Forensic Examination Center of the Ministry of Justice of the Republic of Azerbaijan.

**Structure of the Study.** The work consists of an introduction, three chapters with eight paragraphs, a conclusion, a bibliography list, and appendices. The first chapter of the thesis consists of 55210 characters, the second chapter of 97175 characters, the third chapter of 85198 characters, the thesis 287 093 characters.

## MAIN CONTENT OF THE WORK

In the Introduction, the relevance and degree of development of the topic, the object and subject of the research, the purpose and objectives of the study, research methods, provisions to be defended, the scientific novelty of the research, its theoretical and practical significance, its approbation and application, the name of the institution where the dissertation was carried out, and the volume of the structural sections of the dissertation are outlined. The total volume of the dissertation is indicated by a symbol.

The first chapter of the dissertation, titled **“The Formation and Development of Forensic Economic Expertise: Classification of Forensic Economic Expertise”** consists of two sections.

In the first section of the first chapter, **“The Emergence and Development of Forensic Economic Expertise: A Historical-Legal Analysis,”** the stages of development of forensic accounting expertise in the Republic of Azerbaijan are traced, and the characteristics of its evolution are defined. The emergence and development of forensic economic expertise are closely linked to accounting and have evolved through distinct stages, from simple calculations to complex, specialized expert examinations. This area of expertise continues to evolve. Throughout different periods of Azerbaijan’s history, particularly in relation to its inclusion in and occupation by Russia, forensic accounting expertise also developed within the context of these historical realities.

Stages of the development of forensic economic expertise in the Republic of Azerbaijan:

– Stage I: The period up to 1917 is characterized by the first attempts to involve specialists with specific knowledge in the field of accounting and the creation of the specialist-accountant institution.

– Stage II: 1917-1992 – The development of forensic accounting expertise within the command-administrative management system is marked by the transition from appointing forensic accountants from among specialists by judicial and

investigative bodies to the establishment of specialized accounting expertise institutions. This stage also includes the creation of a dedicated structure within the Forensic Expertise Scientific-Research Institute (now the Forensic Expertise Center) under the Ministry of Justice, responsible for conducting forensic accounting expertise.

– Stage III: 1991-1999 – The development of forensic economic expertise under the market economy mechanism is characterized by the improvement of both the organization and the organizational-methodological foundations for conducting forensic economic expertise.

– Stage IV: The period starting from 1999 to the present. This stage is marked by improvements in organizational and legislative foundations, as well as the scientific-theoretical and methodological foundations of forensic accounting expertise. It includes the development of new methodologies, expert research methods, and the preparation of relevant resources.

– The use of artificial intelligence in forensic economic expertise represents a new stage. Deep neural networks are utilized not only for recognizing patterns but also to strengthen regression algorithms to achieve maximum accuracy, and in the future, they will be applied to solve larger and more complex tasks.

In the second section of the first chapter, titled **“Classification of Forensic Economic Expertise: Scientific-Theoretical Aspects”** the scientific positions regarding the classification of forensic economic expertise are systematized, the foundations of classification are determined, and the approaches of various countries to classification are analyzed. The classification of forensic economic expertise is then presented and justified.

A unified approach for determining the scientific and practical criteria for classifying forensic economic expertise into classes has not yet been developed. Based on the essence of forensic economic expertise, the subject of expert research, its relationship with specific fields of economic science, and the demands of investigative and judicial practice, it is deemed more logical to classify forensic

expertise into categories such as forensic accounting, forensic financial-economic (financial-analytical and financial-credit), and forensic tax expertise. Since the study of the regularities of accounting and tax accounting data of taxation subjects and elements in the field of tax offenses requires specific specialized knowledge, the differentiation of tax expertise should be considered justified.

Since an expert study of the economic efficiency of production activities and its indicators is carried out within the framework of engineering-economic expertise, engineering-economic expertise should not be included in the class of forensic-economic expertise but should be categorized as a complex expertise.

Similarly, since forensic commodity expertise examines documents that reflect the quantity and quality indicators of specific goods and materials, it should not be considered a part of forensic economic expertise.

**The second chapter of the dissertation, titled “Specific Scientific-Theoretical Characteristics of 'Traditional' and New Types of Forensic Economic Expertise” consists of three sections.**

**In the first section of the second chapter, titled “The Subject, Objects, and Tasks of Forensic Accounting Expertise”, the issues related to the accurate determination of the subject, objects, and tasks of forensic accounting expertise are analyzed. The challenges of properly framing the questions are also addressed, with the author’s position presented.**

The subject of forensic accounting expertise includes information on the proper and timely documentation of economic transactions conducted in accordance with legislative requirements, the organization and execution of accounting records, and the preparation of reports.

The object of forensic accounting expertise consists of information about a business entity’s accounting, which an expert-accountant can use within their authority — either independently or using information technologies — to address the questions posed. Specific objects of study include accounting documents such as

primary records (instructions, invoices, accounts, cash receipts and disbursement orders, payment schedules, etc.), accounting registers (books, journals, orders, turnover tables, accounting sheets, etc.), reporting forms, computerized accounting records stored on computers or electronic media, audit reports, expert opinions from other fields, protocols of document seizure and their attachment to the case, and other procedural documents (interrogations, confrontations, searches, seizures), as well as accounting reports (treasurers' reports, reports of materially responsible persons, advance reports, and company balance sheets).

When informal accounting documents ("black accounting") comply with accounting requirements, their content should be compared with official accounting records.

In the context of accounting conducted using information technologies, the objects of forensic accounting examination include not only documents on paper, but also electronic documents stored on computer media and transmitted through information networks, verified with electronic signatures.

The main tasks of forensic accounting examinations can be organized as follows: determining the validity of debits and credits for inventory and cash; identifying surpluses or shortages of inventory and cash, their amounts, timing and location, and methods used to conceal such surpluses or shortages; verifying the accuracy of accounting, reporting, and control procedures (for example, the correctness of document preparation for receipt, storage, disposal, and write-off of inventory and cash; and detecting errors in accounting organization that may lead to surpluses or shortages); determining the individuals responsible for inventory and cash, as well as those accountable for violations of accounting and control procedures.

Based on the analysis and generalization of forensic investigation and expert practice, additional typical questions posed during forensic accounting examinations may include: have standard norms for natural losses been applied correctly; for which business

transactions analytical accounting records do not correspond to synthetic accounting and reporting data; have receipts or write-offs of raw materials or goods been recorded in the accounting documents; which entries in the account registers are not confirmed by primary accounting documents.

In the second section of the second chapter, titled “**The Subject, Objects, and Tasks of Forensic Financial-Economic Expertise,**” the subject, objects, and tasks of financial and economic expertise are defined. The questions posed to the expertise are formulated, shortcomings in investigation, court, and expert practice are identified, and solutions to these issues are proposed.

Two types of financial and economic expertise should be distinguished: 1. Financial-credit expertise – Identifying deviations and violations in the areas of financing and crediting; 2. Financial-analytical expertise – Determining the financial condition of an economic entity, analyzing the indicators of its financial-economic activity, and identifying deficiencies.

Several scientific-theoretical and methodological aspects of financial-economic expertise have not been solved. The unresolved aspects of financial-economic expertise necessitate further research and the activation of new expert studies in this field.

The object of financial-economic expertise consists of information of economic significance regarding the composition and placement of the financial-economic resources of an economic entity, the financial results of its activities, the financial sources necessary for conducting economic activities, and other related data.

The subject of financial-economic expertise is the determination of factual data related to business transactions and other relevant information, which is analyzed through special investigations conducted by expert economists on business documents and other materials presented for expertise.

The main tasks of financial-economic examination include the study of material carriers (documents) using specialized knowledge in the fields of enterprise economics and finance, to analyse

economic output (economic transactions). Typical tasks include: determining the financial condition of the business entity (structure of assets, liabilities, and equity), including its solvency, liquidity, financial stability, profitability, and creditworthiness; analysing the financial result, its nature, indicators and methods, and formation characteristics; examining the directions of income utilization over a specific period; assessing the entity's financial capacity to meet obligations or assume debt responsibilities, and analysing the full and timely fulfilment of contractual obligations to counterparties; and analysing economic factors that significantly affect changes in the financial condition of the business entity.

The mistakes made when appointing forensic financial-economic expertise often involve posing questions that do not require special knowledge or only need simple mathematical calculations. These questions may be ones that anyone can answer, are widely known, or involve the interpretation of legal norms, the legal assessment of individuals' actions, or the provision of legal advice.

It is advisable to pose the following types of questions in the context of forensic financial-economic examination: what was the financial situation of the enterprise between ... and ...? did the financial position worsen during that period, and if so, what caused it? is the enterprise's financial condition sufficient to grant a loan to another company, and if yes, from which financial sources? what is the principal and interest debt of an individual (or legal entity) under the credit agreement dated ...? was it justified that part of the loan repayment was allocated to interest? has the bank correctly calculated the principal and interest debt under the credit agreement dated ...? has the enterprise made payments under its contractual obligations (including to the state budget) in full and on time? of the total amount paid, how much went to interest debt and how much to penalties?

Typical questions that may be raised during the execution of financial-analytical examination include: what is the enterprise's financial condition as of a specific date? how has the dynamics of the enterprise's financial condition changed during the examined period?

which operations led to the deterioration of the enterprise's financial condition? are there signs of deliberate bankruptcy in the enterprise's activities? do the terms of the transactions (contracts) affecting the enterprise's financial condition correspond to market conditions?

During the assignment of a forensic financial-credit examination, the following questions may be posed: what is the amount of funds each depositor has placed in a specific bank branch, both individually and in total? what portion of these deposits was made in Azerbaijani manat, and what portion in US dollars? during which period were these deposits made? have interest payments been made on these deposits? If so, what is the amount of interest paid for each individual deposit and the total interest for all deposits, and according to current records, what is the amount of unpaid principal and accrued interest per depositor and in total? what is the amount of loss incurred by each depositor? were there any violations of laws and regulations during the placement of deposits by the bank branch, and if so, what were these violations and their causes? who bears financial responsibility for the failure to detect violations of laws and regulations by the bank branch in a timely manner?

**In the third paragraph of the second chapter, titled "Subject, Objects, and Tasks of Forensic Tax Expertise,"** the subject, objects, and tasks of tax expertise are defined, and the questions posed to the expertise are formulated.

Based on the study of the regularities of subjects and elements of taxation, the amounts of taxes actually paid and payable, and their correct and complete calculation in accordance with tax legislation, the subject of forensic tax expertise consists of the factual information (case circumstances) examined and determined during judicial proceedings in the field of taxation and tax law, using special knowledge.

The objects of forensic tax expertise include the taxpayer's primary accounting documents; copies of these same documents held by the taxpayer's counterparty; registers of accounting and tax

records; tax reporting (tax declarations); business contracts; and unofficial accounting documents and records.

The tasks of forensic tax expertise include determining distortions in accounting and tax records and their impact on the measurement of the tax base; establishing whether the formation of the tax base and the amount of tax payments comply with current legislation; verifying the complete and timely fulfillment of tax liabilities; identifying potential tax risks; and determining the validity of tax documents related to the necessity and amounts of taxes due during the execution of business transactions.

Within the framework of forensic tax expertise, diagnostic and classification issues are addressed, rather than issues of identification. While assigning a forensic financial-credit examination, questions may include: how much money did each depositor place in a specific bank branch, both individually and in total? what part of the deposits was in Azerbaijani manats and what part in US dollars? over what time periods were these deposits made? were interest payments made on these deposits? If yes, how much was paid to each depositor separately and in total, and according to current information, how much principal and interest remains unpaid both individually and collectively? what is the exact amount of loss suffered by depositors, broken down by depositor? did the bank branch commit any violations of laws and regulations during the acceptance of deposits, and if so, what were the violations, their nature, and causes? who bears responsibility for failing to detect these violations at the proper time?

**The third chapter of the dissertation, titled “Methodology, Methodological Foundations, and Technology of Forensic Economic Expertise”, consists of three paragraphs.**

**The first paragraph of the third chapter, titled “Methodology and Methodological Support of Forensic Accounting Expertise”, analyzes the methods used in forensic**

accounting expertises, the applied methodologies, and determines the characteristics of their application.

Methods of forensic accounting examination are a set of techniques for studying information sources that reflect data on the distortion of official and unofficial accounting records, the mechanisms and methods of such distortions, as well as the quantitative and qualitative characteristics, unusual conditions, and methods of conducting accounting operations.

In forensic accounting expertise, general scientific methods such as analysis, synthesis, abstraction, concretization, induction, and deduction are utilized. The methods for checking documents include formal, mathematical, and normative checks; document comparison; cross-checking of documents; control comparison (audit); reconstruction (restoration) of quantitative accounting records; and chronological checks. These specific scientific methods are applied by the expert to investigate the data reflected in the documents in order to detect inaccuracies in the accounting process or identify any inconsistencies within it.

In forensic accounting examinations, the following methods are most often applied: formal verification – checking whether the document contains all the necessary indicators describing the transaction; mathematical verification – calculating the final results; normative verification – reviewing whether the content of the document complies with laws, internal rules, instructions, and standards effective at the time, and whether the transaction itself was reasonable; comparison of documents – checking consistency between two or more related documents; cross-checking of documents – a comparative review; control comparison – analyzing inventory by comparing opening balances, inflows and outflows during the period, and closing balances; reconstruction of quantitative accounting – used when all material transactions are documented, but accounting records are only in monetary terms; chronological verification – reviewing documents in chronological order or through

comparative methods; partial or full reconstruction of accounting – restoring bank operations, cadastral records, etc.

Since forensic experts rely on case materials provided by investigative authorities, most of these methods are documentary in nature. The choice of methods depends on the specific questions raised in the case.

The methodology of forensic accounting expertise is a set of general scientific, special scientific, and specific expert methods and techniques employed by the expert-economist to examine the facts of an economic entity's business activity, as well as the information in accounting reports submitted for expert research and recorded on tangible media, in order to identify cases of relevance for the case.

The second paragraph third chapter, titled **“Methodological and Methodical Features of Forensic Financial-Economic Expertise”**, explores the methodological and practical aspects of financial-economic expertise and addresses potential challenges while proposing solutions to overcome them.

In forensic financial-economic expertise, documentary verification methods and techniques are widely applied.

The examination of documents reflecting financial transactions is essential for identifying negative circumstances that may affect the financial condition of an enterprise or organization. Therefore, within the structure of expert research methodologies, alongside analytical methods, the use of specific regulations governing financial relations occupies a special place.

A current issue in forensic financial-economic expertise is the insufficient provision of modern, standardized methodologies.

Given the widespread occurrence of cases involving the evasion of credit obligations, existing methodological approaches to determining the debt on loans granted to legal and natural persons have been improved, and a typical methodology aimed at solving specific issues has been developed. When conducting research to determine the debt on a given loan, it is necessary to examine all documents submitted for investigation, including materials from

criminal or civil cases, preliminary verification materials, calculations prepared by responsible bank employees, and other relevant documents. Special attention should be given to the documents collected in the debtor's credit file and submitted for forensic examination.

The complex application of economic-analytical research methods and techniques in financial-economic expertise enables the resolution of the most complex diagnostic tasks. These methods and techniques include the method of identifying informational interdependencies between financial indicators, comparison, grouping, reconciliation of balance sheets, ratio analysis, bringing financial indicators to a comparable level, block diagrams, tabular structures, time series, and others. Combined under the general terms of *economic-mathematical analysis*, these methods and techniques play a significant role in the implementation of financial-economic expertise.

One of the pressing problems of forensic economic expertise, including forensic financial-economic expertise, is the insufficient provision of modern standardized (passportized) methodologies. Due to the absence of unified standards, serious difficulties arise in the development, approval, and practical application of standardized expert methodologies across all types and subtypes of forensic economic expertise. Based on the analysis of expert practice, including the most common errors encountered during the conduct of expert examinations, it should be considered necessary to develop typical expert methodologies for each type of forensic economic expertise and to improve existing methodologies in line with the current level of legislation, science, and technology.

As an example, we propose the following methodology for determining shortages of goods and material reserves in a trade facility without taking trade margins into account: determination of the actual balance of goods and material reserves at the beginning of the period under investigation in the trade facility; determination of the quantity of goods and material reserves received and released during the investigated period; determination of the balance of goods

and material reserves at the end of the investigated period according to accounting records; determination of the size of shortages (or surpluses) of goods and material reserves in the trade facility, without considering trade margins.

Expert examination is carried out in natural terms (physical units) for those goods for which shortages (or surpluses) were identified because of inventory, considering their types and names.

Key stages of the methodology:

1. Determining the actual balance of goods at the beginning of the period studied. The actual quantity of commodity-material reserves at the trade facility at the beginning of the examined period is established based on data from inventory lists and (or) the handover–acceptance acts of goods (drawn up in case of changes of materially responsible persons).

2. Determining the quantity of commodity-material reserves received and issued during the studied period, as well as the balance of commodity-material reserves at the end of the studied period according to accounting documents.

Forensic financial-credit examination may address the following questions:

– As of a specific date, what is the total debt under the loan, including the principal and interest obligations?

– As of a given date (or period), what is the total amount of interest calculated under the bank loan agreement for the legal or natural person?

– As of a given date (or period), what amounts of the principal and interest debt have been paid by the legal or natural person under the bank loan agreement?

The third paragraph of the third chapter, entitled “**Methodological Features and Technology (Algorithm) of Forensic Tax Expertise,**” is devoted to the research methodologies applied in forensic tax examinations and the compilation of a methodological algorithm.

In the course of forensic tax expertise, the research methods and techniques developed during forensic accounting and forensic financial-economic expert proceedings are applied.

The methodological support for forensic tax expertise should be based on the methods and techniques of studying primary accounting documents used to determine the taxation elements. This includes examining accounting and reporting registers, determining the documentary validity of financial and economic transactions reflected in primary documents, and ensuring compliance with tax legislation regarding these transactions.

It is advisable to set the type of tax not paid by the taxpayer as the basis for dividing expert methodologies during the investigation of tax crimes. For each type of tax, it is essential to study the most common methods of evading payment, as the method of tax evasion dictates the range of sub-issues the expert must address in order to determine the amount of unaccounted tax and the composition of the research objects. The solution to each sub-issue is determined by the quantitative and qualitative characteristics of the objects submitted for examination.

In the context of forensic tax examination in criminal proceedings, the components of expert research can be characterized through the following general methodology: – reviewing all the materials provided for the examination and evaluating whether they are sufficient to answer the questions raised and to issue an expert conclusion; – analyzing the economic content of business operations, as well as assets and liabilities, based on the information in the submitted documents; – establishing the performance indicators of the financial and economic activities under review; – assessing the compliance of specific individuals with the provisions of applicable tax legislation; – comparing the obligations imposed by sector-specific legislation with the actual performance of those obligations by the individuals concerned, within the limits of the expert's competence. Since forensic tax expertise is primarily associated with

cases of value-added tax (VAT) evasion, the issue of developing a typical, standardized methodology for forensic tax expertise, particularly during the investigation of VAT evasion crimes, has been resolved. Additionally, the process of algorithmizing the proceedings for this category of expertise has been addressed.

The standardized methodology should also clarify key concepts such as accounting records and registers, primary and accounting documents, analytical accounting and registers, synthetic accounting, accounting policy, value-added tax, taxpayer, taxable turnover, the "0%" VAT rate, and turnover exempt from VAT, among others.

VAT shall be computed according to the formula:  $VAT=(V+F+A)\times 18\%$  where: V – customs value determined at the time of customs clearance of goods, F – customs fee, A – excise amount. The algorithm for solving the issues (questions) before the examination should cover the following stages: 1. Determining the size of the taxable turnover for the sale of goods, works, and services, as well as the amount of VAT accrued on that taxable turnover; 2. Determining the validity (accuracy) of VAT accounting; 3. Determining the completeness of VAT calculation and payment.

**The Conclusion** systematically presents the main theoretical generalizations and recommendations.

**The Appendices** includes the content and results of a survey conducted among law enforcement officers.

***List of published scientific articles of the Applicant:***

1. On some issues solved by forensic accounting expertise//– Baku: Actual issues of forensic expertise, criminalistics and criminology. Collection of scientific works, –2009. No. 49, –p.48-58 (co-author Hasanov G.H.);

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3. Theoretical foundations of the forensic economic expertise class //–Baku: Actual issues of forensic expertise, criminalistics and criminology, – 2016. No. 64, –p.99-102;

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