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Algorithm for the Expert Examination of an Enterprise's Financial and Economic Activity

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Abstract: This study substantiates an algorithm for examining an enterprise's financial and economic activity, determining a sequence of interrelated stages ensuring objectivity, completeness, and evidentiary value of conclusions under market instability. Methods include systemic analysis, documentary verification of primary documents and financial statements, quantitative analysis of financial indicators (liquidity, financial stability, business activity, profitability), and qualitative analysis of business operations. The algorithm encompasses a preparatory stage, documentary verification, quantitative and qualitative financial analysis, and synthesis of results as an expert opinion, retaining flexibility under crisis or martial law. Results apply to forensic financial experts and internal financial control specialists detecting violations.

Keywords: business entity, documentary verification, expert opinion, financial reporting, financial stability, forensic accounting, internal control, liquidity, martial law, profitability.

Introduction

The financial and economic activity of an enterprise constitutes the foundation of its existence and development. Under market economy conditions characterized by competition, instability, and a changing external environment, the issues of monitoring and assessing the financial condition of enterprises are becoming increasingly relevant. This problem is exacerbated under martial law in Ukraine, when enterprises operate amid heightened risk, limited resources, and persistent uncertainty. Under such circumstances, there arises a need to develop clear, scientifically grounded approaches to examining financial and economic activity that would enable the timely identification of problems, the assessment of an enterprise’s condition, and the adoption of well-founded decisions.

Literature Review

The general context of this issue is outlined by Abdullah and Said (2019), who, based on an empirical analysis of corporate financial fraud cases, examine the relationship between audit committee characteristics and instances of fraud, as well as the effectiveness of a risk management committee separated from the audit committee. The authors demonstrate that the presence of a separate risk committee is significantly associated with a reduction in the incidence of corporate financial fraud, whereas the characteristics of the audit committee alone show no such independent association. This conclusion is corroborated and extended by Akinbowale et al. (2020), who propose an approach to combating economic crime through the combination of quantitative methods with a qualitative assessment of documentary evidence. The researchers demonstrate that such a combination provides a clearer understanding of an entity’s financial and economic activity than the application of any single method alone.

The theoretical foundations of forensic financial examination as a research instrument are addressed directly by Artiukh-Pasiuta et al. (2020), who generalize approaches to interpreting this concept and propose a classification of examination types by category and kind, thereby enabling the determination of tasks, the boundaries of expert competence, and the criteria for formulating research methods for each type; the authors also systematize the philosophical, general, particular, and special methods employed by a forensic expert. A closely related position is upheld by Karpenko and Kopaihor (2023), who examine the nature, objects, sources, and functions of forensic accounting examination and justify the expediency of introducing a separate academic discipline for training accounting and taxation specialists; notably, the authors link the relevance of this issue to the challenges that the financial and economic crisis caused by martial law in Ukraine poses to the forensic examination institution.

The procedural component of the expert examination process itself is addressed directly by Artiukh-Pasiuta et al. (2022), who systematize the methods of forensic financial examination of the reliability of enterprises’ financial statements. Unlike most publications, this work clearly delineates the sequence of expert actions, which makes it methodologically valuable for constructing an examination algorithm. This direction is further developed by Ivankov (2023), who, drawing on a synthesis of international experience among forensic accountants, proposes modifying the tools of forensic financial examination of financial fraud; the novelty of the proposed model lies in integrating examination techniques with elements of internal enterprise control capable of preventing potential fraudulent schemes before they are fully detected in the course of the examination.

The instrumental dimension of the problem is addressed by Loboda and Kyrychenko (2023), who propose a methodology for assessing an enterprise’s financial stability using economic and statistical methods. The authors justify the selection of specific indicators, describe the procedure for their calculation and interpretation, and demonstrate how statistical instruments can enhance the objectivity of the results of an expert examination. A related but methodologically distinct contribution is offered by Proskurina and Hnidkova (2022), who treat financial analysis as a comprehensive instrument that combines an assessment of financial condition with an analysis of an enterprise’s financial performance. This perspective is further complemented by Ruzakova (2022), who compares existing methods of assessing financial condition according to criteria of accuracy and applicability, thereby allowing the selection of the most appropriate instruments depending on the specific expert situation.

The problem of adapting analytical instruments to conditions of instability is raised by Mykhailenko and Nikolainko (2022), who identify specific changes in approaches to documenting business operations and verifying financial statements under martial law in Ukraine. Taken together with the conclusion of

Karpenko and Kopaihor (2023) discussed above regarding the impact of the wartime crisis on the demand for improved forensic examination tools, this confirms that the algorithm for expert examination must be a flexible instrument capable of adapting to the actual operating conditions of the object under study.

The **purpose of the study** is to substantiate an algorithm for the expert examination of an enterprise's financial and economic activity as a sequence of interrelated stages that ensure the objectivity and completeness of the conclusions obtained. To achieve this purpose, the study addresses the following objectives:

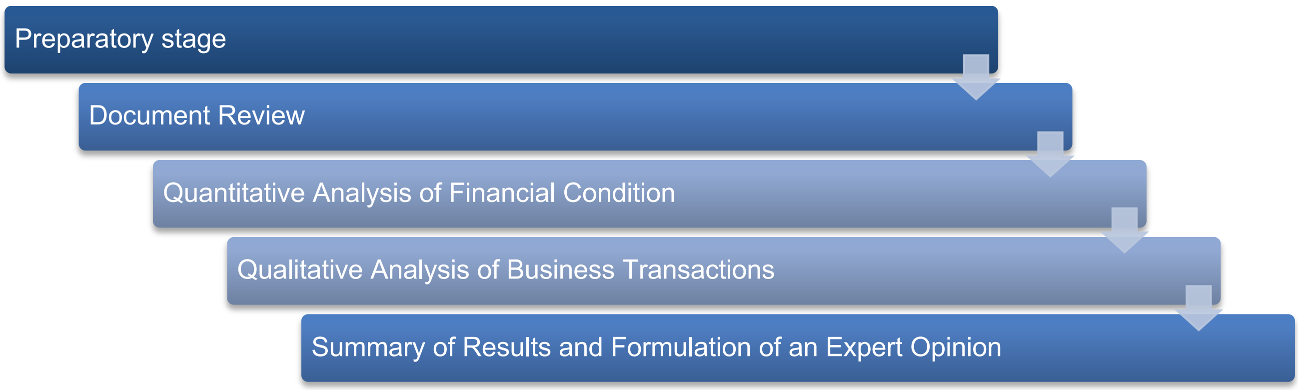
1. to determine the theoretical foundations of the expert examination of financial and economic activity;
2. to systematize the methods applied at various stages of the expert examination process;
3. to develop a structured examination algorithm that accounts for the operating conditions of the enterprise.

Results

The expert examination of an enterprise's financial and economic activity is a complex process that requires clear organization and a well-defined sequence of actions. Unlike conventional financial analysis, an expert examination carries legal significance, and its results may be used as evidentiary grounds in legal proceedings. For this reason, constructing an algorithm for such an examination involves establishing a clear sequence for the application of its components, documenting each step, and substantiating the conclusions reached (see Fig. 1).

Figure 1

Stages of the Algorithm for the Expert Examination of Financial and Economic Activity



Source: developed by the author

The expert examination process begins with a preparatory stage, which involves obtaining materials for the examination, determining its subject and scope, and formulating a list of questions that the expert is required to answer. At this stage, the available documentation is reviewed, and its completeness and sufficiency for conducting the examination are assessed; if necessary, a request for additional materials is formulated. It is important to clearly record which documents were obtained, for what period, and in what condition, since this information becomes part of the expert opinion and may be of decisive importance in legal proceedings. The quality of the preparatory stage largely determines the reliability of the final conclusions, since incomplete source data inevitably leads to limitations in subsequent analysis and narrows the expert's ability to formulate unambiguous answers to the questions posed (Ruzakova, 2022).

The next step is documentary verification, aimed at establishing the reliability and completeness of the financial statements and primary documents provided. During this verification process, the data contained in the financial statements is checked against the primary accounting documents, and any discrepancies, errors, or indications of falsification are identified. Documentary verification serves as the foundation for all subsequent stages, since any analytical calculations will hold value only if the source data on which they are based is reliable. It is precisely at this stage that the first indications of financial violations may be detected, which subsequently become the subject of more detailed examination.

Following the documentary verification, a quantitative analysis of the enterprise's financial condition is conducted, involving the calculation and assessment of a system of financial indicators that characterize various aspects of the entity's activity. Such indicators include the ratios of liquidity, financial stability, business activity, and profitability, which are calculated based on financial statement data for several reporting periods to ensure a dynamic analysis. The application of economic and statistical methods at this stage makes it possible not only to capture the current state of these indicators but also to identify trends in their changes over time, which is important for understanding the enterprise's overall development trajectory.

Concurrently with the quantitative analysis, or immediately following it, a qualitative analysis of business operations is conducted, aimed at examining specific types of the enterprise's activity in order to identify operations that contradict current legislation or economic logic. Within this stage, the enterprise's contractual base, transactions with counterparties, the movement of monetary funds and inventory assets, and the conformity of prices in business agreements with market levels are all analyzed. The combination of quantitative and qualitative analysis makes it possible to detect concealed asset stripping schemes or tax liability understatement, which are not evident when only one of these approaches is applied, since individual transactions may appear entirely lawful when considered in terms of a single indicator but acquire an entirely different significance within the context of the overall picture of the enterprise's financial and economic activity.

The final stage consists of synthesizing the results and formulating the expert opinion, in which all collected data are systematized, the results of the documentary verification are compared with the results of the quantitative and qualitative analysis, and answers to the questions posed are formulated. The expert's opinion must be clear, logically structured, and must contain specific answers to each of the questions posed, supported by references to the relevant documents and calculations, thereby ensuring its evidentiary value in legal or other proceedings. Individual indicators, when considered outside their interrelationship, may produce a distorted picture of an enterprise's financial condition; therefore, the interpretation of results must be carried out comprehensively, taking into account all identified facts and circumstances. In cases where the examination is conducted under martial law or another crisis situation, the opinion must also include an assessment of the circumstances that objectively affected the enterprise's financial and economic activity and were beyond the control of its management, which constitutes a necessary condition for a fair and comprehensive assessment of the situation under study (Ivankov, 2023).

Conclusions

The proposed algorithm for the expert examination of an enterprise's financial and economic activity combines a preparatory stage, documentary verification of primary documents, quantitative analysis of financial indicators, and qualitative analysis of business operations, culminating in the formulation of an expert opinion. All the stated objectives were fully accomplished: the theoretical foundations of the examination were determined, the methods applicable to each stage were systematized, and a coherent sequence of expert actions was established.

This sequence ensures the evidentiary value of the results and allows their use in legal proceedings, since each stage is documented and logically follows from the preceding one. The proposed algorithm can be applied by forensic financial experts in conducting forensic financial examinations, as well as by specialists in enterprises' internal financial control departments for the early detection of financial violations. This increases the efficiency of identifying discrepancies between financial statements and primary documents and reduces the risk of unsubstantiated managerial decisions.

At the same time, the study has certain limitations. The algorithm was developed at a general theoretical level without empirical validation using data from specific enterprises, which limits the assessment of its applicability to particular sectors of the economy with their inherent specific financial indicators. The quantitative assessment of the impact of martial law factors on individual indicators of financial stability also remains outside the scope of this study and requires separate empirical investigation.

Further research should focus on the empirical validation of the proposed algorithm using data from enterprises in various sectors, the development of sector specific modifications of the methodology, and the integration of digital data analysis tools into the process of conducting forensic financial examinations. This will improve the accuracy and efficiency of expert conclusions amid the ongoing transformation of Ukraine's economic environment.

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