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CONCEPTUAL PRINCIPLES OF DEVELOPING A SYSTEM OF STATE CONTROL OF DEFENCE PROCUREMENT IN UKRAINE

Purpose. To develop theoretical and methodological provisions for improving state control over defence procurement in Ukraine and to outline approaches to establishing an integrated information and analytical environment designed to ensure the efficient and rational use of budgetary resources in the security and defence sector.

Methodology. The dialectical approach enabled the examination of the system of state control over defence procurement in the context of transformations in public administration under martial law. The methods of analysis and synthesis were applied to generalise the provisions of legislative and regulatory acts governing defence procurement and state financial control. The comparative method was used to evaluate the allocation of control responsibilities among the key public institutions.

Findings. It has been determined that the system of state control over defence procurement is multi-level in nature and combines the mechanisms of democratic civilian oversight, public financial control, and internal audit performed by state customers. The study identifies the key challenges affecting its functioning, including fragmented regulatory frameworks, overlapping control functions, and insufficient coordination among control entities. The results of the activities of control bodies were analysed, revealing a significant concentration of financial irregularities in the security and defence sector. The expediency of establishing an integrated information and analytical system for defence procurement control has been substantiated.

Originality. A conceptual approach to the development of an integrated system of state control over defence procurement has been substantiated. This approach combines institutional mechanisms of financial and procedural control with digital data analytics tools. A model of a unified information environment for state control over defence procurement has been proposed.

Practical value. The proposed approaches to organizing an integrated information and analytical control system can be used to enhance the effectiveness of state control in the field of defence procurement, strengthen coordination among oversight bodies, and ensure more transparent use of budgetary resources in the security and defence sector.

Keywords: *defence procurement, state control, security and defence sector*

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Introduction. Under martial law and amid a substantial increase in defence expenditures, the defence procurement system has acquired strategic importance for ensuring Ukraine's national security and defence capability. Through defence procurement mechanisms, the Armed Forces of Ukraine are supplied with weapons, military equipment, ammunition, logistical resources, and services necessary for conducting military operations. Therefore, the effectiveness of defence procurement management directly affects not only the rational use of budgetary resources but also the state's ability to respond promptly to security challenges. Under these circumstances, the system of state control over defence procurement becomes particularly important. It should ensure the legality of procurement procedures, the efficient use of public resources, the prevention of financial irregularities, and the minimisation of corruption risks.

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At the same time, the current system of control over defence procurement in Ukraine is characterised by a number of systemic problems. First and foremost, these include the fragmented nature of the regulatory framework resulting from the simultaneous operation of different legal regimes established by the Laws of Ukraine "On Public Procurement", "On Defence Procurement", and "On National Security of Ukraine". Control powers are distributed among several institutions, including the State Audit Service of Ukraine, the Accounting Chamber, the Antimonopoly Committee of Ukraine, internal audit units of defence contracting authorities, and entities responsible for democratic civilian oversight. Such an institutional distribution of functions leads to insufficient coordination among control bodies, duplication of certain control measures, and, conversely, the emergence of gaps in the oversight of the use of defence resources.

One of the major challenges remains the absence of a unified integrated information environment that would

enable a comprehensive analysis of all stages of defence procurement, from needs planning to contract execution and the control of budgetary expenditures. At present, different public authorities operate separate information systems and databases, which complicates information exchange among them. This fragmentation reduces the efficiency and timeliness of control activities and limits opportunities for comprehensive risk analysis in the procurement process. As a result, control measures are often implemented only after problems have already occurred and are predominantly reactive in nature, which negatively affects their effectiveness.

Under these circumstances, an important scientific task is to develop the conceptual foundations of an integrated system of state control over defence procurement. Such a system should combine institutional oversight mechanisms with modern digital tools for data processing and analysis. The introduction of a unified and secure information and analytical environment for state control of defence procurement would ensure the integration of information flows among control entities, enhance the transparency of procurement processes, enable the timely identification of risks and violations, and promote more efficient use of resources in the field of national security and defence.

Literature review. In the international scientific literature, defence procurement is primarily examined through the lens of the complexity of procurement processes themselves, their multi-stakeholder nature, long implementation horizons, and the high value of contracts.

As noted by V. Hmyria, et al. [1], the development of the defence-industrial complex and the introduction of innovative technologies are important prerequisites for enhancing the efficiency of the security and defence sector.

The researchers emphasise that defence procurement differs substantially from routine public procurement because it combines political, security, technological, and industrial interests. Therefore, it requires specialised governance and oversight mechanisms. In particular, A. Migone [2] argues that major defence procurement remains an underexplored yet fundamentally important subject for public administration research. At the same time, K. Patil and S. Bhaduri [3] demonstrate that defence procurement is typically associated with delivery delays, cost overruns, and information uncertainty.

Another stream of research focuses on accountability and institutional oversight of defence procurement. In this context, particular attention is paid to parliamentary and political control. Y. Reykers [4] demonstrates that even formally strong parliamentary oversight institutions cannot guarantee effective supervision of defence procurement unless they are supported by access to information, specialised expertise, and genuine incentives for exercising control. Thus, international studies increasingly suggest that the effective oversight of defence procurement requires more than a formal allocation of powers among public authorities. It also necessitates an integrated system of coordination, analytical support, and access to high-quality data.

A substantial body of contemporary research is devoted to the risks of fraud, corruption, and collusion in public procurement, as well as to the development of tools for their detection. In their systematic review, M. Lyra, et al. [5] identify corruption, fraud, and collusion as the most widespread violations in procurement processes. The authors emphasize that one of the most promising approaches to mitigating these risks is the application of data analytics, machine learning techniques, network analysis, and risk indicator systems. A similar position is shared by F. Decarolis, et al. [6], who substantiate the feasibility of using quantitative indicators ("red flags") to detect corruption risks in procurement. At the same time, M. Gnaldi [7] argues that risk assessment systems should account for the specific characteristics of the environment in which they operate, since universal indicators may generate a considerable number of false signals. This issue is particularly important in the field of defence procurement, where restricted access to information and the specific nature of defence contracts require the application of a risk-based approach to control rather than merely formal verification of procurement procedures.

Another stream of research focuses on internal auditing and the use of digital tools to ensure sound public procurement governance. In particular, Y. Yanuarisa, et al. [8], in their systematic literature review, note that the role of internal audit in procurement is gradually evolving. It is shifting from an instrument of formal compliance verification toward a mechanism that supports sound procurement governance, with a focus on risk prevention and improving the quality of managerial decision-making. H. Kaletnik and N. Zdyrko [9] identified several challenges affecting the functioning of public financial control in Ukraine, including insufficient coordination among control authorities, regulatory fragmentation, and the need to modernize control instruments in the context of the digital transformation of public administration.

The issue of assessing the effectiveness of public procurement procedures was examined in the study by I. Drozd and co-authors [10], which demonstrated that public procurement audit is an important instrument for increasing transparency, preventing financial irregularities, and optimizing the use of public resources.

At the same time, international studies emphasize that the use of open data, digital platforms, and analytical tools in procurement contributes to greater procedural transparency, expands audit capabilities, and reduces corruption risks. Overall, these studies indicate a gradual shift from traditional ex post control toward continuous monitoring of procurement processes based on digital technologies.

Despite a considerable number of international studies, the scientific literature still lacks research that conceptualizes defence procurement control as an integrated, multi-level system. Such a system should combine mechanisms of democratic civilian oversight, public financial control, internal audit, procurement procedure control, and modern digital data integration tools. Most existing studies either focus on general issues of defence procurement management or examine individual control instruments, including parliamentary oversight, internal audit, corruption risks, and the use of analytical indicators. Consequently, the development of an integrated system of state control over defence procurement, adapted to wartime conditions, heightened secrecy requirements, the involvement of numerous stakeholders,

and the need for rapid managerial decision-making, remains insufficiently explored.

At the same time, without an appropriate regulatory and legal framework that defines the essence of defence procurement (the Law of Ukraine On Defence Procurement [11], the Law of Ukraine On Public Procurement [12], and the Resolution of the Cabinet of Ministers of Ukraine On Approval of the Peculiarities of Public Procurement of Goods, Works and Services During the Period of Martial Law in Ukraine [13]), as well as the specifics of state control (the Law of Ukraine On the Basic Principles of Public Financial Control in Ukraine [14], the Regulation on the State Audit Service of Ukraine [15], the Law of Ukraine On the Accounting Chamber [16], the Law of Ukraine On National Security of Ukraine [17], and the Development Strategy of the Accounting Chamber for 2025–2029 [18]), it is impossible to provide an in-depth examination of the existing inconsistencies and contradictions in this field.

The legislative consolidation of fundamental concepts, principles, and institutional interrelationships forms the basis for systematic analysis and makes it possible to identify gaps in the functioning of state control mechanisms. The absence of a clear conceptual and regulatory framework leads to fragmented research and limits the possibilities for a comprehensive assessment of the effectiveness of defence resource utilization.

Purpose. This article aims to substantiate the conceptual foundations for the development of the state control system for defence procurement in Ukraine. The study identifies the major institutional and regulatory challenges associated with the functioning of this system and proposes directions for improving its mechanisms. Special attention is given to the creation of an integrated information and analytical environment and the application of modern digital technologies for monitoring and analysing procurement processes.

Objectives. To achieve the stated objective, the article addresses the following tasks. First, it examines the regulatory and legal framework governing state control in the field of defence procurement in Ukraine. Second, it identifies the main entities responsible for defence procurement control and characterises their powers and areas of competence. Third, it analyses the current state and outcomes of state control over defence procurement based on official data provided by control authorities.

Furthermore, the study identifies the key institutional challenges affecting the functioning of the state control system for defence procurement, particularly the fragmentation of regulatory provisions and the duplication of control functions. Finally, it substantiates the need to establish an integrated information and analytical system of state control over defence procurement as a unified digital environment for data exchange among control entities.

The findings obtained through accomplishing these tasks provide a theoretical and methodological foundation for improving the state control system of defence procurement and for defining strategic directions for its further development in the context of the digital transformation of the public sector.

Methods. The study employed a combination of general scientific and special research methods, which ensured a comprehensive examination of the specific features of the functioning of state control over defence procurement in Ukraine.

The methods of analysis and synthesis were used to systematise the provisions of legislative and regulatory acts governing defence procurement and state control in this area, as well as subordinate regulations defining the procedures for exercising public financial control. The systems analysis method was applied to examine the structure of the defence procurement control system, identify its institutional components, and determine the interrelationships among control entities.

The comparative analysis method made it possible to investigate the distribution of control powers among public institutions and identify instances of overlapping functions and insufficient institutional delineation within the state control system. Statistical and analytical methods were employed to analyse the official data of the Accounting Chamber of Ukraine on the scale of financial irregularities in the security and defence sector. This made it possible to assess the magnitude and dynamics of problems associated with the use of budgetary resources in the defence sector.

In addition, the study applied a structural-functional approach, which enabled the identification of the main components of the state control system for defence procurement and the clarification of their functional roles. Based on this approach, a conceptual model of an integrated information and analytical system for state control over defence procurement was developed. The proposed model provides for the integration of information flows among control entities and the use of modern digital data analysis tools.

The combined application of these methods enabled a comprehensive examination of the institutional and informational aspects of the functioning of state control over defence procurement and provided a basis for substantiating proposals for its further improvement.

Findings. In the context of studying public procurement, including defence procurement, as an instrument of public administration, the contribution of H. Kaletnik and N. Zdyrko [19] is of particular importance. The authors consider Ukraine's public procurement system as a component of the mechanism of state regulation of the economy. They also emphasize the need to strengthen institutional control mechanisms, enhance procedural transparency, and improve the efficiency of the use of public financial resources.

Defence procurement in Ukraine is critically important for maintaining an adequate level of national defence capability during martial law. It ensures the timely provision of modern weapons, military equipment, ammunition, and logistical resources to the Armed Forces of Ukraine. An effective and transparent procurement system facilitates a rapid response to frontline needs, enhances military readiness, reduces losses, and strengthens the resilience of the country's defence during prolonged armed confrontation.

For this reason, under conditions of limited financial resources, state control throughout all stages of the defence procurement life cycle is of particular importance. Such control contributes to the rational allocation of funds, the timely identification of deficiencies in the procurement system, and, consequently, improves the

effectiveness of supplying the Armed Forces of Ukraine with the necessary resources.

State financial control over defence procurement plays a crucial role in ensuring the legality, efficiency, and intended use of budgetary resources in the field of national security and defence. It is aimed at preventing financial irregularities, abuses, and corruption risks, while also enhancing the transparency and accountability of the authorised institutions involved in procurement processes.

Defence procurement is the process by which state customers acquire goods, works, and services for the implementation of state programmes in the fields of national security and defence, as well as for meeting the current and strategic needs of the security and defence sector.

One of the major challenges in the functioning of Ukraine's defence procurement system is the high frequency of changes in its regulatory framework. In particular, the Law of Ukraine "On Public Procurement" [12] has been amended more than thirty times since its adoption, indicating a continuous revision of approaches to organising procurement procedures.

A similar trend can be observed in the subordinate legislation of the Cabinet of Ministers of Ukraine regulating the specific features of procurement under martial law [13]. The relevant resolutions have also been amended dozens of times, with some of them undergoing more than thirty revisions. Such frequent changes create instability in the regulatory environment, complicate the proper application of legislation by contracting authorities, increase the risk of errors during procurement procedures, and negatively affect the predictability and efficiency of the use of budgetary resources in the defence sector.

According to the legislation [14], the responsibility for public financial control is assigned to a central executive authority with a special status that is authorized by the Cabinet of Ministers of Ukraine to implement the relevant state policy.

This authority is identified in the Regulation [15], according to which the State Audit Service of Ukraine (hereinafter – SASU) is defined as the central executive authority responsible for implementing state policy in the field of public financial control.

Therefore, under the current legislation [15], in the area of state control over public procurement, including defence procurement, SASU is responsible for procurement inspections and procurement monitoring.

Procurement inspection, the procedure for which was approved by Resolution of the Cabinet of Ministers of Ukraine No. 631 of 1 August 2013, constitutes a separate form of public financial control carried out by SASU and its interregional territorial bodies in relation to contracting authorities conducting public, including defence, procurement. The key feature of this mechanism is that it covers the entire procurement cycle, from planning to the full execution of the contract.

Importantly, following the amendments introduced by Resolution of the Cabinet of Ministers of Ukraine No. 57 of 21 January 2025, "On Amendments to Resolution of the Cabinet of Ministers of Ukraine No. 631 of 1 August 2013", the scope of this Procedure was explicitly extended to state customers in the defence sector, their services, and entities authorized to conclude state contracts (agreements).

Procurement inspections are initiated by a written decision of the Head of SASU on the grounds established by law. In particular, they are conducted when documentary or factual verification is required to establish circumstances that cannot be identified during procurement monitoring or upon instructions from the Cabinet of Ministers of Ukraine or the Ministry of Finance of Ukraine.

Thus, procurement inspection serves as an in-depth control instrument that complements procurement monitoring. It enables the examination not only of the formal aspects of procurement procedures but also of the actual execution of contracts, including compliance of the quality, quantities, prices, and other procurement conditions with legal requirements.

It is also important to note that during procurement inspections, the State Audit Service of Ukraine is authorized to conduct both documentary and on-site inspections. It may analyse data from the electronic procurement system, state registers, and databases; request documents and explanations; and carry out cross-checks, inventories, inspections, and control measurements. The results of such inspections are formalized in an inspection report. If violations are identified, the inspection outcomes may be followed by requirements to eliminate the detected deficiencies, referral of materials to law enforcement agencies, or the initiation of broader forms of control, including inspections and state financial audits.

Monitoring of public procurement procedures is one of the forms of state control in the procurement sphere carried out by the State Audit Service of Ukraine. According to Article 8 of the Law of Ukraine "On Public Procurement" [12], monitoring is conducted at all stages of procurement, from the implementation of the procurement procedure to the conclusion and execution of the contract. Monitoring is based on automatic risk indicators, information provided by public authorities, media reports, data from the electronic procurement system, and the results of public oversight. Following the monitoring process, the State Audit Service prepares a conclusion identifying violations of procurement legislation and specifying obligations to eliminate them. This ensures the preventive nature of control and contributes to improving the transparency and efficiency of public funds management.

The quality of management of state-owned defence enterprises directly affects Ukraine's capacity to maintain its defence capability under conditions of armed aggression [20]. This objectively increases the importance of effective state control in this area. For this reason, at the end of 2025, the State Audit Service initiated a comprehensive audit of entities of the defence-industrial complex. The audit covered a considerable number of enterprises and organisations involved in the production and procurement of armaments, as well as state-owned enterprises subordinated to the Ministry of Defence. The results of previous control measures made it possible not only to identify numerous violations but also to prevent damage to the Defence Forces of Ukraine, determine the causes of losses, and outline mechanisms for their compensation.

At the same time, conducting such audits is associated with a number of organisational and institutional

challenges. These challenges primarily stem from the large scale of inspections, the specific and sensitive nature of the defence sector, and the need to ensure the objectivity and impartiality of control procedures.

Another institution exercising control over public procurement, including defence procurement, is the Accounting Chamber of Ukraine. Within the procurement sphere, its powers include the implementation of state external financial control (audit), particularly with respect to public procurement activities. The Accounting Chamber is also responsible for conducting a preliminary analysis of the annual report prepared by the Ministry of Economy, which contains an assessment of the functioning of the public procurement system and summarises the results of control activities in this area [16].

For the purpose of assessing the current state of public control over defence procurement, it is necessary to present the official data of the Accounting Chamber of Ukraine [21–23], as these data most clearly illustrate the scale of financial violations and systemic dysfunctions arising in the management of defence resources (Fig. 1). The indicators presented below make it possible to assess the actual situation in the security and defence sector, identify key risks, and emphasise the urgent need for a profound reform of control mechanisms in the fields of defence and national security.

According to the Accounting Chamber, the total amount of violations identified in 2024 reached UAH 217,488.4 million, of which 84.8 % occurred in the security and defence sector. This figure indicates an unprecedented concentration of financial irregularities in a critically important sector that, under martial law, is the principal recipient of public resources. The dominance of defence-related violations, accounting for more than four fifths of the total amount, clearly demonstrates the existence of systemic dysfunctions in the budget process, insufficient institutional accountability, and weaknesses in both internal and external control mechanisms. In fact, such a proportion of violations makes the defence sector one of the riskiest areas of public administration, where non-compliance with legislation has moved beyond an administrative issue and acquired a strategic dimension that directly affects the country's defence capability.

The data presented in Fig. 2 demonstrate the dynamics and relative share of violations in the security and defence sector within the overall structure of financial violations. The findings show that the share of violations in this sector not only dominates but also continues to increase. In 2022, defence-related violations accounted for only 5.4 % of the total amount, whereas by 2024 their share had risen to 84.8 %. In absolute terms, the amount of violations increased from UAH 3,174 million to UAH 184,405.6 million. Such a disproportion indicates substantial deficiencies in the governance of the defence sector, where the growth in financial allocations significantly outpaces the state's capacity to ensure adequate control over these resources. As a result, defence expenditures are characterised by the highest level of systemic risk. This situation points not only to individual cases of misconduct but also to structural weaknesses in the organisation of control and resource management, which hinder the effective, transparent, and accountable use of public funds during wartime.

According to the Development Strategy of the Accounting Chamber for 2025–2029 [18], one of the institution's key challenges is to ensure the effective implementation of its newly expanded powers resulting from legislative amendments. These powers include auditing international assistance funds, local budgets, state-owned enterprises, and the government's consolidated financial statements. In this context, particular attention should be paid to clearly delineating the functions of the Accounting Chamber and the State Audit Service of Ukraine, which requires appropriate legislative regulation. Another strategic priority is conducting audits in the fields of security and defence, infrastructure recovery, and the assessment of damages caused by armed aggression. Accordingly, the Accounting Chamber's strategic priorities include expanding audit coverage in these areas, particularly with respect to international assistance, local budgets, state-owned enterprises, consolidated financial statements of chief spending units and the government, as well as the security and defence sector.

At the same time, as reasonably noted by Accounting Chamber member Hennadii Plis in the Report [24], the indicators characterising procurement volumes, the level of competition, and the number of complaints are generated exclusively on the basis of data from the electronic procurement system. Such an approach does not ensure the completeness of information. The annual report does not cover all procurements financed from public funds, particularly those with an expected value of less than UAH 50 thousand, as well as a significant share of defence procurements. In particular, in 2024,

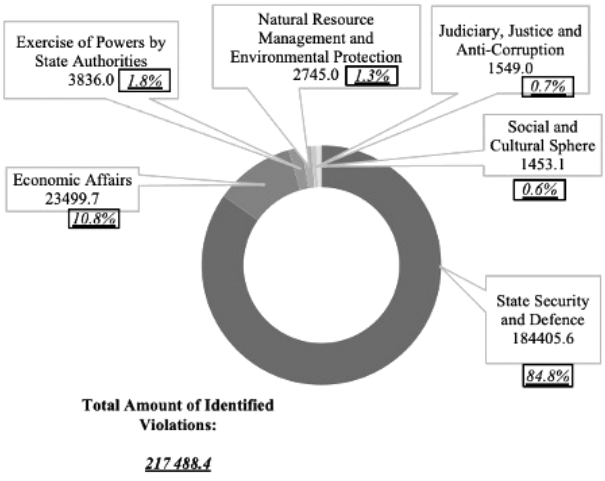

Fig. 1. Distribution of violations identified by the Accounting Chamber of Ukraine in 2024, UAH million

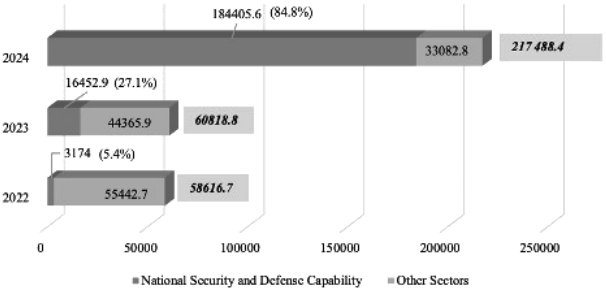

Fig. 2. Proportion of violations in the security and defence sector in the total structure of detected violations, UAH million

defence procurements with a total estimated value of UAH 381 billion were carried out by only two state customers, namely the State Enterprise "State Logistics Operator" and the State Enterprise "Defence Procurement Agency".

According to the Peculiarities of Public Procurement [13], when the value of a procurement is less than UAH 50 thousand and the procurement is conducted without using the electronic procurement system, the contracting authority is not required to publish a report on the concluded contract. This further exacerbates the problem of incomplete data within the public procurement system.

Overall, according to the Ministry of Economy of Ukraine, 127,759 defence procurements with a total estimated value of UAH 218.36 billion were conducted through the electronic procurement system in 2024. However, these data were not fully reflected in the annual report [24]. This indicates the existence of significant information gaps in the analytical support system for state control.

Therefore, the current regulatory framework governing defence procurement in Ukraine is characterised by a certain degree of institutional and regulatory inconsistency between the provisions of the Law of Ukraine "On Public Procurement" [12] and the Law of Ukraine "On Defence Procurement" [11].

On the one hand, defence procurement legislation provides for the application of specific procurement procedures through the electronic procurement system, including restricted tendering and simplified procurement procedures. This formally integrates defence procurement into the general infrastructure of the public procurement system.

On the other hand, the electronic procurement system serves as a key source of analytical information on the functioning of the public procurement system. In particular, it provides data on procurement volumes, the structure of procurement procedures, the level of competition, and the number of appeals.

At the same time, the annual reports on the functioning of the public procurement system do not fully reflect information on procurements conducted under the Law of Ukraine "On Defence Procurement", even when such procurements are carried out through the electronic procurement system. This situation indicates the existence of a regulatory gap in the integration of defence procurement into the analytical and information support system of public procurement. As a result, data remain fragmented, which complicates the implementation of comprehensive state control and hinders the development of an objective assessment of the efficiency of public funds utilisation in the defence sector.

The 2023 Report of the Accounting Chamber [25] states that the report of the Ministry of Economy of Ukraine [26] does not provide comprehensive information on the results of control activities in the field of public procurement and the problems accompanying its functioning. In particular, the report does not incorporate some of the information provided by the State Audit Service of Ukraine and the Antimonopoly Committee of Ukraine. This significantly limits the possibilities for a comprehensive assessment of the state of control activities in this area.

Among the key issues that were not reflected in the report [25] are cases of unjustified overestimation of the expected procurement value by contracting authorities during defence procurement conducted through simplified procedures. The report also does not present information on the measures taken by the State Audit Service of Ukraine in response to violations of procurement legislation identified during procurement monitoring.

Another body exercising control in the field of public procurement, including defence procurement, is the Antimonopoly Committee of Ukraine, which operates under the supervision of the President of Ukraine and is accountable to the Verkhovna Rada of Ukraine.

At the same time, alongside the functioning of the state financial control system, the Law of Ukraine "On Defence Procurement" [11] establishes the principles of both state control and democratic civilian control in this area. It also stipulates that control over defence procurement shall be exercised in accordance with the provisions of the Law of Ukraine "On National Security of Ukraine" [17], which defines the general framework for organising control within the security and defence sector. Therefore, it is advisable to identify the entities involved in the control of defence procurement, as well as to determine their powers and respective areas of responsibility.

The Law of Ukraine "On National Security of Ukraine" [17] identifies the effective use of resources, including budgetary allocations by security and defence institutions, as an important area of civilian oversight. Nevertheless, this provision does not mean that democratic civilian control bodies – such as the President of Ukraine, the Verkhovna Rada of Ukraine, the National Security and Defence Council of Ukraine, the Cabinet of Ministers of Ukraine, and the public – are directly responsible for reviewing individual procurement procedures, contracts, or financial transactions.

Their control is institutional and political in nature. It is aimed at ensuring the accountability of security and defence sector institutions, shaping public policy, reviewing reports, exercising parliamentary oversight, and supporting managerial decision-making. In contrast, direct oversight of the legality and efficiency of procurement procedures, the use of funds, and contract implementation is carried out by specialised state control bodies, including the State Audit Service of Ukraine, the Accounting Chamber, and through the appeals mechanism administered by the Antimonopoly Committee of Ukraine. Therefore, democratic civilian control establishes the general framework of accountability for the security and defence sector, whereas specialised institutions provide operational oversight of specific financial and procurement processes.

It is important to emphasize that, under the Law of Ukraine "On National Security of Ukraine", democratic civilian control constitutes a system of institutional and strategic oversight designed to secure the transparency and accountability of the security and defence sector to the public. Its implementation involves the President of Ukraine, the Verkhovna Rada of Ukraine, the Cabinet of Ministers of Ukraine, the National Security and Defence Council of Ukraine, the judiciary, as well as mechanisms of public supervision. At the same time, direct control over defence procurement processes is ex-

ercised through other mechanisms of public financial, administrative, and judicial control implemented by the State Audit Service of Ukraine, the Accounting Chamber, the Antimonopoly Committee of Ukraine, and the internal audit units of defence contracting authorities. Consequently, the defence procurement control system has a multi-level structure that combines institutional democratic civilian oversight with specialised mechanisms of financial and procedural control.

One of the key challenges facing the state control system of defence procurement in Ukraine is its fragmented nature. The regulatory framework governing this area is dispersed across several laws, including the Laws of Ukraine "On Defence Procurement", "On Public Procurement", and "On National Security of Ukraine", each of which addresses particular aspects of controlling the use of resources in the security and defence sector. At the same time, control powers are distributed among several state institutions, including the State Audit Service of Ukraine, the Accounting Chamber, and the Antimonopoly Committee of Ukraine.

Each of these bodies performs oversight functions within its respective competence, ranging from financial audits and inspections of the use of funds to the supervision of procurement procedures and the consideration of complaints submitted by participants. As a result, the existing framework does not constitute a unified and coherent model of state control over defence procurement. This situation complicates coordination among control bodies and creates risks of both overlapping functions and regulatory gaps. Ultimately, these shortcomings reduce the effectiveness of oversight over the use of budgetary resources in the defence sector.

Another challenge in the functioning of the state control system over defence procurement is the partial overlap of control powers exercised by different public authorities. Under the current regulatory framework, oversight of the use of budgetary funds and compliance with procurement legislation is performed by several institutions, including the State Audit Service of Ukraine, the Accounting Chamber, and the internal audit units of state customers in the defence sector.

At the same time, certain aspects of financial discipline, the efficiency of budget resource utilisation, and compliance with procurement procedures may be reviewed by different control bodies either simultaneously or consecutively. This situation creates preconditions for the duplication of control activities, increases the administrative burden on contracting authorities, and leads to the inefficient use of state control resources. Moreover, the absence of a clear delineation of control responsibilities among individual institutions complicates the establishment of a coherent system of state control over defence procurement and reduces the overall effectiveness of control mechanisms.

In order to improve the effectiveness of state control in the field of defence procurement and ensure data integration among all control entities, it is advisable to conceptually develop the architecture of an integrated information and analytical system operating as a single digital data exchange environment for defence procurement (Fig. 3).

Given the need to strike a balance between national security requirements and the principles of transparency and accountability in the use of public funds, it is advisable to establish an integrated information and analytical system for state control over defence procurement that would function as a dedicated secure governmental digital environment. Such a system should not operate merely as a repository or archive of documents. Instead, it should serve as a comprehensive real-time information and analytical platform capable of automatically aggregating, processing, and analysing data on all stages of defence procurement.

Conceptually, the system should be based on the automatic retrieval of information from multiple governmental information systems, the standardisation of these data into a unified format, their subsequent analytical processing, and differentiated access to information depending on the powers and responsibilities of control entities.

Within such a system, it would be advisable to integrate information covering the entire life cycle of defence procurement. This includes planning material and technical requirements, budget allocations and financing, procurement procedures, contract conclusion, payments, actual delivery of goods and performance of works, contract amendments, fulfilment of contractual obligations, results of state audits, procurement complaints, judicial disputes, and information provided by law enforcement agencies regarding potential violations or abuses.

Accordingly, the system should establish a unified information environment in which all data required for exercising state control over defence procurement are consolidated.

The technical foundation of such a system may consist of an integration data bus or a specialised API gateway that enables automated information exchange with external information resources. The information content of the system should be formed through the integration of data from various governmental and specialised information resources.

First and foremost, the system should utilize data from the electronic public procurement system, including Prozorro and Prozorro Market, as well as information systems of state customers in the defence sector and digital modules of the Ministry of Defence of Ukraine and the Defence Procurement Agency. Important data sources should also include the information systems of the State Treasury Service of Ukraine, accounting and contract management modules of public authorities, and other state registers. In addition, the platform should integrate information resources of public control institutions, including the Accounting Chamber of Ukraine, the State Audit Service of Ukraine, the Antimonopoly Committee of Ukraine, the State Bureau of Investigation, and other relevant authorities.

The effectiveness of integrated digital systems largely depends on the reliability of information transmission and the adaptation of communication channels to the characteristics of the information environment (Kupchuk, et al., 2023) [27].

To ensure the effective operation of such a platform, it is advisable to employ a modern data-processing architecture based on a centralized data lake or data warehouse. Such repositories would accumulate both structured and unstructured data obtained from various

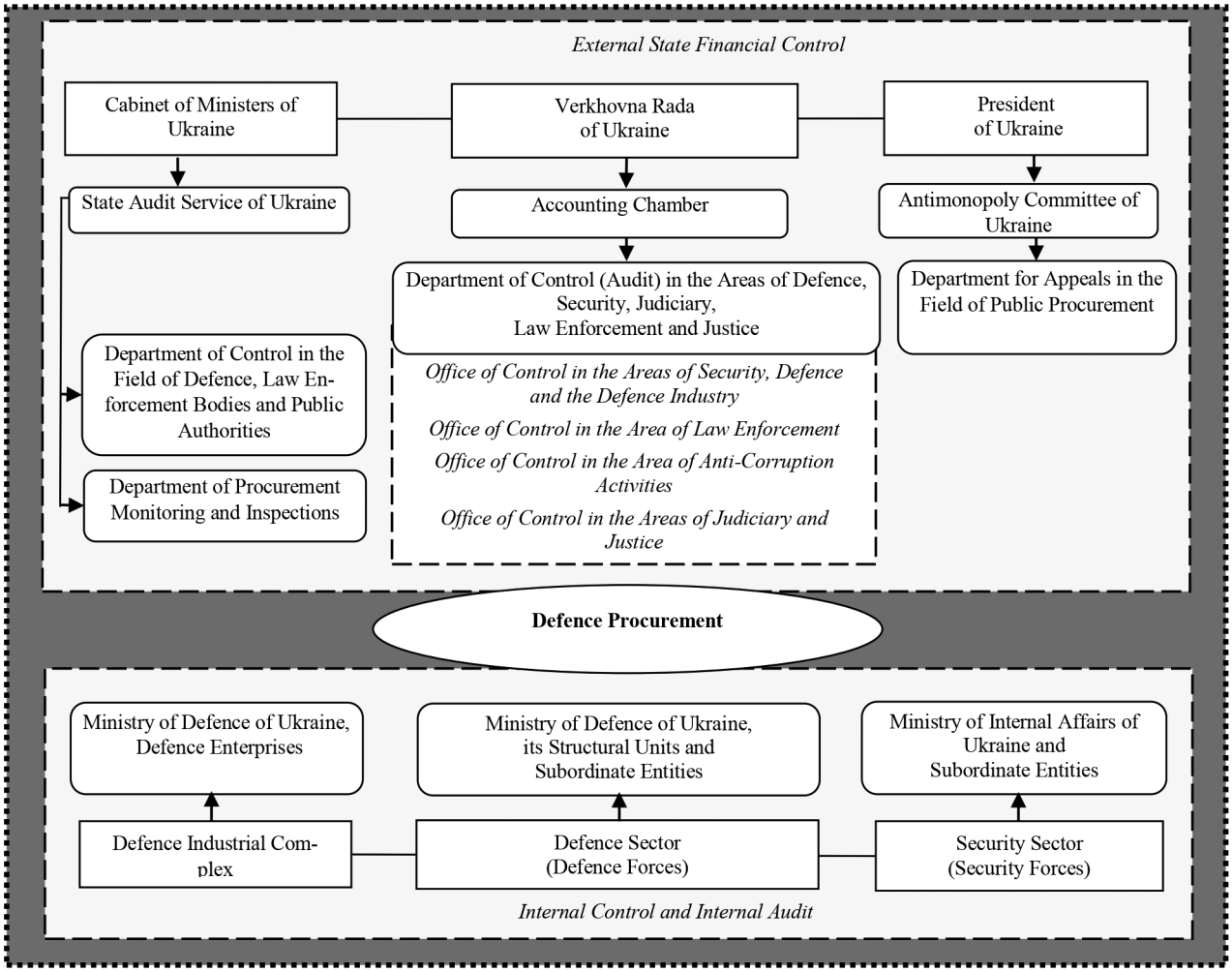

Fig. 3. Conceptual Model of the Information and Analytical System of State Control over Defence Procurement: – *an integrated digital information and analytical space for state control of defence procurement*

sources. Analytical business intelligence modules may operate on top of this infrastructure, generating interactive dashboards, analytical reports, and risk indicators for public control authorities.

An essential component of the system should be a role-based access control (RBAC) module that provides differentiated access to information for various categories of control entities. Another important element is a user activity logging module, which would generate a digital audit trail of all operations performed within the system.

For real-time operation, the system should be based on an event-driven data exchange model. Under this approach, each new action in the field of defence procurement – such as the announcement of a procurement procedure, amendments to contract terms, execution of a payment, delivery delays, initiation of procurement monitoring, submission of a complaint, or commencement of an audit – automatically generates a digital event. This event is transmitted to the central system via APIs, webhooks, or message brokers. Such technologies enable the immediate updating of information and real-time visualization of changes through analytical control dashboards.

Additional technological components may include ETL/ELT modules for data extraction, transformation, and processing; electronic document management systems based on qualified electronic signatures; a register of state contracts; geospatial information components for monitoring supply logistics and warehouse operations; and specialized risk analysis modules.

Particular importance within such a system should be assigned to automated risk detection models operating on the basis of predefined scenarios of potential violations. These scenarios may include indicators of procurement splitting aimed at circumventing competitive procedures, abnormal increases in contract values, repeated contract awards to the same suppliers, frequent amendments to essential contract terms, delivery delays, or discrepancies between the quantity of paid goods and their actual receipt. The application of these instruments would enable control authorities to promptly identify potential risks and respond to possible violations in a timely manner.

At the same time, the system should operate as a separate protected state digital environment with a multi-level information access architecture. It is advisable to structure the system into three main layers: open, official, and classified.

The open layer should provide public access to aggregated and non-sensitive information on defence procurement. This would facilitate the implementation of

the principles of transparency and accountability in the use of public funds.

The official layer should be intended for authorised public authorities and state control bodies. It should support procurement monitoring, risk analysis, coordination of control activities, and information exchange among institutions of public financial control.

The classified layer, in turn, should ensure the processing of information constituting state secrets or other restricted defence-related information. Access to this layer should be granted only to a limited circle of authorised entities.

At the same time, the development of digital public financial management systems increases the requirements for information security. Research by G. Loskorikh, et al. [28] demonstrates that modern financial and accounting systems are potential targets of cyberattacks. This necessitates the implementation of comprehensive preventive data protection measures.

As noted by Vdovenko L., et al. [29], the development of financial systems is increasingly driven by innovative metaspace technologies. These technologies enable novel forms of interaction, information sharing, and management decision-making supported by real-time data analysis. Accordingly, the modernization of state control over defence procurement should incorporate comparable digital solutions to ensure the coherent integration and effective circulation of information flows.

During wartime, the efficiency of budgetary resource utilisation in the security and defence sector becomes one of the key determinants of the state's economic security and socio-economic resilience (Dankevych, et al., 2024) [30].

Accordingly, implementing a multi-tier integrated digital control system would enable the consolidation of data from diverse sources, improve the timeliness and effectiveness of public oversight, reduce opportunities for misconduct in defence procurement, and ensure the reliable protection of strategically sensitive information essential to national security.

Conclusions. The conducted study has demonstrated that the system of state control over defence procurement in Ukraine has a complex, multi-level structure. It combines the institutions of democratic civilian oversight with specialised mechanisms of financial and procedural control. Democratic civilian oversight, as established in Ukraine's national security legislation, serves as a key mechanism for ensuring the accountability of the security and defence sector at the strategic level. This oversight is implemented through the constitutional and institutional powers of the President of Ukraine, the Verkhovna Rada, the Cabinet of Ministers, the National Security and Defence Council, the judiciary, and civil society institutions. More focused supervision of defence procurement – particularly its legality, efficiency, and overall performance – is entrusted to specialised public authorities, including the State Audit Service of Ukraine, the Accounting Chamber of Ukraine, and the Antimonopoly Committee of Ukraine. Additional control is provided by the internal audit units operating within defence procurement authorities.

At the same time, the findings revealed several systemic problems in the functioning of state control over defence procurement. First, there is fragmentation of the regulatory framework, manifested in the distribution of control mechanisms across different laws and subordinate regulations, as well as institutional inconsistencies among control entities. This situation results in the duplication of certain control functions, insufficient coordination among control bodies, and the emergence of gaps in the oversight of the use of budgetary resources in the defence sector. Another factor complicating the effective functioning of the control system is the frequent amendment of procurement legislation. Such changes create regulatory instability and increase the risk of errors in the application of legal provisions.

The analysis of official data provided by the Accounting Chamber also indicates a significant concentration of financial violations in the security and defence sector. This confirms the high level of risks in this area and highlights the need to strengthen control mechanisms. At the same time, the existing control system does not ensure adequate integration of information on defence procurement, as a substantial portion of data remains fragmented across different state information resources or is not reflected in nationwide analytical reports at all.

In view of the above, the study substantiates the feasibility of establishing an integrated information and analytical system of state control over defence procurement. Such a system should function as a single secure digital environment for data exchange among control entities. Its implementation would enable the integration of information flows from different state registers and information systems, facilitate the analysis of the entire life cycle of defence procurement, improve the timeliness of risk identification, and create conditions for more effective coordination among control authorities.

Prospects for further research in this field are primarily associated with the development of methodological foundations for building an integrated digital system of state control over defence procurement and with the establishment of a unified model for delineating control powers among state institutions. Another important area of research is the development of risk-oriented mechanisms for monitoring defence contracts. Particular attention should also be paid to assessing the potential of modern digital solutions, including Big Data technologies, automated risk detection systems, and integrated information platforms of state registers. Their implementation could significantly strengthen the analytical capacity of state control and improve the management of the state's defence resources.

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Концептуальні засади розбудови системи державного контролю оборонних закупівель в Україні

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Мета. Розроблення теоретико-методичних положень щодо вдосконалення державного контролю у сфері оборонних закупівель України й окреслення підходів до створення єдиного інформаційно-аналітичного простору, спрямованого на забезпечення результативного й раціонального використання бюджетних ресурсів сектору безпеки та оборони.

Методика. Метод діалектичного пізнання дозволив дослідити систему державного контролю оборонних закупівель у взаємозв'язку із трансформаціями державного управління в умовах воєнного стану. Метод аналізу й синтезу дав змогу узагальнити положення нормативно-правових актів, що регулюють оборонні закупівлі та державний фінансовий контроль. Метод порівняльного аналізу використано для оцінки контрольних повноважень між основними державними інституціями.

Результати. Визначено, що система державного контролю оборонних закупівель має багаторівневий характер і поєднує механізми демократичного цивільного контролю, державного фінансового контролю та внутрішнього аудиту державних замовників. Встановлені основні проблеми її функціонування, зокрема фрагментарність норматив-

ного регулювання, дублювання контрольних функцій і недостатня координація між суб'єктами контролю. Проаналізовані результати діяльності контрольних органів і виявлена значна концентрація фінансових порушень у сфері безпеки й оборони. Обґрунтована доцільність формування інтегрованої інформаційно-аналітичної системи контролю оборонних закупівель.

Наукова новизна. Обґрунтовано концептуальний підхід до формування інтегрованої системи державного контролю оборонних закупівель, що передбачає поєднання інституційних механізмів фінансового та процедурного контролю з цифровими інструментами аналізу даних. Запропонована модель єдиного інформаційного простору державного контролю оборонних закупівель.

Практична значимість. Запропоновані підходи до організації інтегрованої інформаційно-аналітичної системи контролю можуть бути використані для підвищення ефективності державного контролю у сфері оборонних закупівель, посилення координації між контрольними органами й забезпечення більш прозорого використання бюджетних коштів у секторі безпеки і оборони.

Ключові слова: *оборонні закупівлі, державний контроль, сектор безпеки і оборони*