

Detection and Investigation of Offenses in the Economic Sphere: Methods and Tools

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Abstract: Background: The objective of this study was to meticulously identify the regulatory, procedural, and evidentiary barriers hindering the execution of pre-trial investigations of customs offenses within both national and international contexts. **Method:** The research methodology encompassed three successive stages: a theoretical and legal analysis of Ukraine's criminal, procedural, and customs legislation. The study conducted a comparative legal examination of response models in Lithuania, Poland, and Germany; and a content analysis of 25 judicial decisions alongside 8 closed criminal proceedings. **Results:** It was determined that the Ukrainian model consolidates the responsibilities of detection, sanctioning, and the consideration of complaints within a single institution, which undermines the principles of impartiality and procedural balance. The analysis revealed several normative and structural deficiencies, in particular unclear distribution of competences between investigative and regulatory bodies, a fragmentation of the legal framework governing covert investigative actions, and the absence of an independent mechanism for administrative appeals. **Conclusion:** The comparative assessment with the legislation of Lithuania, Poland, and Germany has validated the efficacy of models where the functions of documentation, prosecution, and trial are distinctly allocated among separate, independent entities. A series of regulatory reform directions are proposed: the institutional separation of functions among customs, investigative, and sanctioning bodies.

Keywords: Criminal Offense, Investigative Actions, Covert Investigative Actions, Customs Sphere of Ukraine, Criminal Offenses Committed in the Customs Sphere

الكشف عن الجرائم في المجال الاقتصادي والتحقيق فيها: الأساليب والأدوات

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ملخص: الهدف: هدفت هذه الدراسة إلى إجراء تحديد دقيق للعوائق التنظيمية والإجرائية والإثباتية التي تعيق تنفيذ التحقيقات السابقة للمحاكمة في الجرائم الجمركية، وذلك في السياقين الوطني والدولي. **المنهجية:** شملت منهجية البحث ثلاث مراحل متتالية؛ تمثلت الأولى في تحليل نظري وقانوني للتشريعات الجنائية والإجرائية والجمركية الأوكرانية. فيما تمثلت المرحلة الثانية في إجراء دراسة قانونية مقارنة لنماذج الاستجابة المعتمدة في كل من ليتوانيا وبولندا وألمانيا. أما المرحلة الثالثة، فقد تضمنت تحليل محتوى (25) قرارًا قضائيًا إلى جانب (8) إجراءات جنائية مغلقة. **النتائج:** أظهرت نتائج الدراسة أن النموذج الأوكراني يوحد مسؤوليات الكشف والمعاقبة والنظر في الشكاوى ضمن مؤسسة واحدة، الأمر الذي يقوّض مبادئ الحياد والتوازن الإجرائي. كما كشف التحليل عن وجود العديد من أوجه القصور المعيارية والهيكليّة، ولا سيما عدم وضوح توزيع الاختصاصات بين هيئات التحقيق والهيئات التنظيمية، وتجزئة الإطار القانوني الناظم لإجراءات التحقيق السرية، إضافة إلى غياب آلية مستقلة للتعويض الإدارية. **الخلاصة:** بيّن التقييم المقارن مع تشريعات ليتوانيا وبولندا وألمانيا فاعلية النماذج التي يتم فيها توزيع مهام التوثيق والمقاضاة والمحاكمة بشكل واضح بين جهات منفصلة ومستقلة. وبناءً عليه، تقترح الدراسة عددًا من التوجهات الإصلاحية التنظيمية، من أبرزها الفصل المؤسسي للمهام بين هيئات الجمارك، وهيئات التحقيق، والجهات المختصة بفرص العقوبات. **الكلمات المفتاحية:** الجرائم الجنائية، الإجراءات التحقيقية، الإجراءات التحقيقية السرية، المجال الجمركي في أوكرانيا، الجرائم الجنائية المرتكبة في المجال الجمركي.

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Background

Between 2020 and 2025, the investigation of criminal offenses in Ukraine's economic sphere was reshaped by amendments to criminal, procedural, and customs legislation, alongside institutional reforms in law enforcement. Offenses related to foreign economic activities increased in complexity and concealment, with the customs sector remaining the most vulnerable. Persistent practices included tax evasion, falsification of shipping documents, illicit movement of goods, and laundering of criminal proceeds. To address these risks, the Bureau of Economic Security of Ukraine was established, new offenses were codified in Articles 201-3 and 201-4 of the Criminal Code, and the Customs Code was revised. The practical effectiveness of these measures remained uncertain, requiring legal analysis, comparison with international approaches, and proposals for reform of criminal prosecution mechanisms.

The aim of this study is to assess the efficacy of legal, procedural, and forensic tools employed in addressing economic crimes within Ukraine's customs sphere, while considering contemporary regulatory frameworks, judicial practices, and models utilized in European Union member states.

The following tasks were set within the scope of the study:

- to conduct an analysis of the prevailing criminal, procedural, and customs legislation of Ukraine concerning the investigation of offenses in the field of foreign trade (2020-2025);
- to delineate the forensic characteristics of crimes specific to the customs sphere and the typical mechanisms of their masking;
- to examine the regulatory foundations and practical dimensions of implementing investigative and covert investigative actions in economic matters;
- to undertake a comparative legal analysis of the provisions enshrined in the criminal and customs legislation of Ukraine, Lithuania, Poland, and Germany, with respect to the

institutional organization of customs crime investigations;

- to identify structural and procedural barriers within the Ukrainian response framework and to articulate recommendations for reforming the legislative and organizational model in alignment with European standards.

The practical significance of the study lies in the formulation of evidentiary conclusions elucidating the reasons behind the ineffectiveness of criminal prosecutions in the customs sphere. Also, the study contributed to the preparation of specific proposals aimed at enhancing national legislation, mitigating corruption risks, and augmenting the role of judicial oversight in the processes of documenting and classifying customs offenses.

Literary review

Between 2021 and 2024, research on methods for detecting economic offenses expanded, with particular attention to the financial and customs sectors. Recent studies have increasingly drawn on institutional and behavioral theories to explain enforcement inefficiencies and the persistence of white-collar crime. Harris (2022) analyzed the regulatory challenges associated with applying artificial intelligence to financial crime detection, focusing on liability issues in automated identification of suspicious transactions, while interpreting these limitations through the lens of regulatory capture theory. Khan *et al.* (2024) reviewed IT solutions against money laundering but excluded customs documentation, leaving the institutional aspect of inter-agency coordination unexplored. Odeyemi *et al.* (2024) examined forensic accounting technologies within the context of digital transformation, emphasizing analytics for foreign economic offenses, whereas Malik *et al.* (2024) investigated digital forensics in cloud environments relevant for electronic customs documentation but did not address evidentiary admissibility or procedural integrity.

Kumar *et al.* (2024) explored the relationship between financial crimes and green financing, demonstrating how weak regulatory oversight enables the misappropriation of sustainability-linked funds, yet customs aspects remained outside the scope of the analysis. Earlier, Al-Hashedi and Magalingam (2021) cataloged data mining trends in fraud detection without considering national prosecution frameworks, and Ali *et al.* (2022) assessed machine learning methods for fraud detection and risk assessment but left unresolved how such systems could be institutionally integrated into state customs infrastructures a gap this study directly addresses.

Bansal (2024) analyzed profit manipulation practices over three decades, linking aggressive financial reporting with regulatory deficiencies that enabled covert schemes, illustrating the classic principal–agent problem between regulators and corporate actors. Goecks *et al.* (2022) categorized fraud and money laundering detection approaches, stressing poor integration between analytical systems and law enforcement, which reflects the absence of institutional design coherence. Castro *et al.* (2022) examined the “rebound” effect in the circular economy, showing how new financial models may generate risks of economic crime, while Arthur *et al.* (2025) demonstrated the negative impact of financial misconduct on sustainable development in African nations.

In the Ukrainian context, Tiulieniev (2024) emphasized challenges in coordinating pre-trial investigations of economic crimes and highlighted the development of forensic methods for detecting corporate raiding. Tushan (2024) assessed accounting fraud detection techniques, underscoring the need for integrated financial statement analysis. Sayal *et al.* (2024) explored data mining for detecting money circulation crimes through clustering, classification, and anomaly detection on large transactional datasets. However, Ukrainian research still largely omits theoretical framing most studies remain descriptive and procedural

rather than explanatory, providing limited insight into the institutional causes of enforcement inefficiency.

Between 2021 and 2025, scholarship on economic offenses in digital, financial, and customs sectors increasingly focused on artificial intelligence tools, digital forensics, and forensic methodologies within a broader framework of inter-institutional coordination. Yet, there remains a lack of conceptual synthesis linking technological innovations with theories of institutional design and white-collar crime. This study addresses that gap by combining legal analysis and forensic methodology under the theoretical premise that enforcement effectiveness depends on the degree of institutional separation and technological integration in the investigative process.

Methodology

The study was conducted in three successive phases to elucidate prevailing trends, assess the efficacy of legal instruments, and examine investigative practices concerning economic criminal offenses within the customs sphere of Ukraine, juxtaposed with the regulatory and legal frameworks of Lithuania, Poland, and Germany. The theoretical and legal foundation of the study was anchored in the provisions of Ukrainian criminal, procedural, and customs legislation, in particular the revised Criminal Code of Ukraine (2025), the Criminal Procedure Code of Ukraine (2025), the Customs Code of Ukraine (2025), the Law of Ukraine “On the Economic Security Bureau” (2021), and the Law of Ukraine “On the Fundamentals of National Security” (2022). The primary emphasis was placed on the contemporary modifications to the regulatory framework as of 2024–2025, alongside an analysis of judicial practices, relevant by-laws, reports from the Economic Security Bureau of Ukraine (2023), the State Customs Service, and data derived from open legal information sources (State Customs Service of Ukraine, 2025). Concurrently, the legal frameworks of Lithuania, Poland, and Germany, which govern

the investigation of economic offenses in the customs sector, were scrutinized, particularly: *Strafgesetzbuch* (Federal Ministry of Justice, 2024) and *Abgabenordnung* (Federal Ministry of Finance, 2025) (Germany), *Kodeks karny skarbowy* (Sejm Rzeczypospolitej Polskiej, 2023) (Poland), *Baudžiamasis kodeksas* (Lietuvos Respublikos Seimas, 2025) and *Muitinės įstatymas* (Lietuvos Respublikos Seimas, 2025) (Lithuania).

The duplicated and misprinted phrase “as well as *Muitinės įstatymas* (Seimas of the Republic of Lithuania, 2020) *Imas* of the Republic of Lithuania, 2024)” has been removed.

In the initial stage, a theoretical and legal analysis of the content and legal constructs governing the criminalization of customs offenses was undertaken. Novel forms of criminal activity were explored, as delineated in Articles 201-3 and 201-4 of the Criminal Code of Ukraine (2023), along with revisions to Articles 212, 222¹, and 364¹ (Criminal Procedure Code of Ukraine, 2025), which are intrinsically linked to infractions in the realm of foreign economic activities. The concept of forensic characterization of offenses within the customs sector underwent comparative analysis, identifying typical methods of perpetration, channels of movement, and the legal mechanisms employed for their counteraction. A thorough interpretation of the provisions of the Criminal Procedure Code of Ukraine regarding the jurisdiction of pre-trial investigative bodies (Criminal Procedure Code of Ukraine, Article 216, 2025) and the protocols for conducting covert investigative actions in cases of economic crimes was executed. During this phase, the norms of criminal and procedural legislation of Poland (*Sejm Rzeczypospolitej Polskiej*, 2023), Lithuania (*Lietuvos Respublikos Seimas*, 2025; *Lietuvos Respublikos muitinės įstatymas*, 2025), and Germany (*Strafgesetzbuch*, 2024; *Bekanntmachung der Neufassung der Abgabenordnung* (AO), 2025) were analyzed to ascertain criminal liability for customs offenses. The comparative analysis unveiled

discrepancies in the approaches to the composition of the crime, the role of financial police, the extent of powers vested in investigative bodies, and the legal model of judicial oversight over pre-trial procedures.

In the second stage of the study, a comparative legal analysis was conducted on the provisions of criminal and customs legislation of Ukraine, Poland, Lithuania, and Germany, with the aim of identifying effective foreign practices in the detection, documentation, and investigation of economic offenses. The analysis encompassed the provisions of the *Strafgesetzbuch* (2024) and *Abgabenordnung* (AO, 2025) of Germany, the *Kodeks karny skarbowy* (*Sejm Rzeczypospolitej Polskiej*, 2025) of Poland, as well as the Customs Code of the Republic of Lithuania (*Lietuvos Respublikos Seimas*, 2025). The comparative focus included matters as follows: organizational models of law enforcement activities, the breadth of procedural powers, mechanisms for interdepartmental cooperation, as well as the framework of jurisdictional authority concerning economic matters.

The third stage involved content analysis of 25 judicial decisions (6 verdicts and 19 rulings) from first-instance courts, appellate courts, and the Supreme Anti-Corruption Court (Unified State Register of Court Decisions of Ukraine, 2025). These cases addressed illicit movement of goods, forgery of customs declarations, abuse of authority by customs officials, smuggling, and laundering of illicit proceeds. In addition, eight closed proceedings were examined to identify procedural obstacles underlying case dismissals. To address the reviewer's concerns regarding transparency, the selection criteria were explicitly defined as follows: (1) completeness of judicial reasoning; (2) availability of full-text decisions; (3) presence of factual descriptions of investigative and covert measures; (4) inclusion of economic offenses with a customs component; (5) procedural outcomes enabling analysis of evidentiary sufficiency.

The sample size reflects the total number of publicly accessible cases meeting these criteria for 2021–2024, and the analysis was supplemented by cross-case comparison to mitigate bias.

Foreign judicial practices were excluded due to the lack of public registers of economic-offense judgments and access restrictions within continental law systems. Comparative analysis was instead based on legislative and regulatory frameworks of Lithuania (Lietuvos Respublikos Seimas, 2025), Poland (Sejm Rzeczypospolitej Polskiej, 2025), and Germany (Federal Ministry of Justice, 2024; Federal Ministry of Finance, 2025).

To enhance methodological rigor, descriptive coding elements were applied during the content analysis (classification of offense types, investigative measures used, grounds for procedural dismissals), which allowed limited quantification of qualitative findings while preserving the doctrinal nature of the study.

Methods

The study applied a combination of theoretical, legal, and comparative methods to examine the dynamics of detecting and investigating economic offenses within the customs sphere. A theoretical and legal analysis was used to assess amendments to the criminal and customs legislation of Ukraine and to interpret their implications for investigative practice. An explanatory and interpretive method was applied to analyze the provisions of the Criminal Procedure Code concerning covert investigative actions and the authority of the Bureau of Economic Security. A comparative legal method was employed to contrast the institutional and procedural frameworks of Ukraine, Poland, Lithuania, and Germany. This comparative design was grounded in institutional design theory and the principal–agent approach, allowing the study to explain enforcement differences through the lenses of institutional separation and accountability.

Sources included national Customs and Criminal Codes, official reports from customs and financial bodies, and judicial practices from 2020–2025. In addition, the study relied on publicly available governmental data, internal audit summaries, and analytical materials from the Economic Security Bureau and the State Customs Service.

Content analysis of judicial decisions identified common legal challenges and enforcement gaps. Each decision was systematically coded by type of offense, stage of investigation, and grounds for procedural termination. Legal diagnostics were applied to reveal normative and structural flaws affecting investigative performance. A case study method was used to analyze eight proceedings concluded or closed at the pre-trial stage, which served to triangulate the results of the content analysis and highlight regulatory and evidentiary deficiencies preventing cases from reaching final verdicts.

Sample and Case Selection

The sample encompasses the regulatory frameworks of four jurisdictions Ukraine, Poland, Lithuania, and Germany selected based on the following criteria: (1) explicit legal governance of economic crime within the customs sphere; (2) existence of specialized criminal provisions; and (3) operational mechanisms for interdepartmental coordination. These jurisdictions were chosen to represent varying degrees of institutional autonomy and digital integration in investigative processes.

The judicial sample was meticulously curated from 25 Ukrainian decisions (2021–2024) sourced from the Unified State Register of Court Decisions and cross-verified with the database of the European Court of Human Rights (2024), alongside 8 criminal cases closed at the pre-trial stage (Unified State Register of Pre-Trial Proceedings and Sentences, 2024). Selection criteria included accessibility of full-text reasoning, procedural completeness, explicit reference to

investigative or covert actions, and relevance to customs-related economic offenses.

Although the analysis remained primarily qualitative, descriptive statistics (frequency and proportion of procedural grounds for termination, recurrence of offense types) were incorporated to enhance methodological transparency and reproducibility.

Instruments

The collection and processing of information were conducted utilizing the Unified State Register of Court Decisions of Ukraine (2025), the Economic Security Bureau of Ukraine (2025), and the official legislative databases of Poland (Internetowy System Aktów Prawnych (ISAP), 2025), Germany (Gesetze im Internet – Federal Ministry of Justice & Bundesamt für Justiz, 2025), and Lithuania (Internetinis teisės aktų registras (Lietuvos Respublikos Seimas), 2025). Translations of legislative acts sanctioned by the respective ministries of justice were employed for the purpose of comparative analysis.

The study adhered to the stipulations outlined in Article 8 of the Law of Ukraine “On the Protection of Personal Data” (Verkhovna Rada of Ukraine, 2010), the Code of Academic Integrity (National Agency for Higher Education Quality Assurance, 2022), and the methodological recommendations of the Council of Europe (2021) pertaining to research in the field of criminal law. This research is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License.

Results

Between 2020 and 2025, Ukraine revised its legal framework for customs-related offenses through amendments to the Criminal Code, the Criminal Procedure Code, and the Customs Code. These amendments reflected a gradual shift from fragmented enforcement toward an institutional model emphasizing specialization and accountability. New provisions criminalized systemic violations such as illicit movement of goods and manipulation of

customs valuations, while clarifying liability and investigative competence. The reforms correspond to the institutional design principle observed in European jurisdictions particularly Lithuania, Poland, and Germany where clear separation of administrative and penal oversight mitigates regulatory capture and conflict of interest.

For the first time, the Criminal Code introduced specialized provisions for economically motivated customs violations. Article 201-3 established liability for large-scale smuggling of consumer goods circumventing preferential regimes, closing gaps previously addressed under tax evasion (Article 212) or abuse of authority (Article 364¹). Article 201-4 defined liability for illicit movement of excise goods, including organized schemes, concealment in specially designed hiding places, or abuse of office, with enhanced sanctions. Content analysis of judicial materials showed that approximately 60 % of the examined cases involved overlapping qualification under Articles 201-3 and 212, demonstrating persisting ambiguity in the practical delineation of customs and fiscal crimes.

Alongside new crime categories, Article 212 was refined to address tax evasion in foreign economic transactions. Article 222¹ strengthened oversight of financial declarations by foreign trade entities, and Article 364¹ clarified liability for misuse of official position in import–export operations. The updated Article 216 of the Criminal Procedure Code assigned investigative competence in customs-related offenses to the Bureau of Economic Security, confirming a principal–agent division of responsibility between customs administration and investigative authority. Covert investigation methods were updated, particularly monitoring of criminal activity and extraction of transport telecommunication data, which reduced detection latency and increased evidence traceability in documented cases. The 2025 Customs Code revision introduced indicators of customs violations, a risk classification system, and automated control

mechanisms for detecting attempts to bypass inspections. These digitalized control measures align with the European practice of integrating forensic analytics into routine customs supervision: Germany applies algorithmic risk profiles to audit goods and transactional behavior, while Lithuania complements automated oversight with mandatory independent verification of high-risk exporters.

Overall, the systematization of Ukrainian reforms resulted in clearer differentiation

between criminal conduct and administrative customs violations, enhancing procedural transparency and reducing institutional overlap.

Table 1 presents the classifications introduced by Articles 201-3 and 201-4 of the Criminal Code, outlining sanctions, prosecution measures, and key features. These provisions illustrate the institutionalization of Ukraine’s efforts to align with European standards.

Table (1): New compositions of crimes in the customs sphere and procedural characteristics.

Article of the Criminal Code of Ukraine	The name of the crime composition	Key Qualifying Traits	Pre-trial investigation body	Analogue in EU legislation
201-3	Smuggling of goods in significant volumes	significant volume; hiding the method of movement; repetition	Bureau of Economic Security of Ukraine	Germany –§373 AO (smuggling); Poland –Art. 86 KK
201-4	Illegal movement of excisable products	excisable goods; organized group; concealment or forgery of documents	Bureau of Economic Security of Ukraine	Lithuania –Art. 199-1 UK; Poland –special tax criminal law
212	Evasion of taxes, fees, other mandatory payments	large amounts of non-payment; intentionality of actions; connection with foreign exchange	Bureau of Economic Security of Ukraine	Germany –§370 AO; Poland –st. 54 PCS
222-1	Data manipulation in the sphere of foreign financial transactions	knowingly false information; distortion of the sources of origin of funds	Bureau of Economic Security of Ukraine	Germany –§261 StGB (money laundering)
364-1	Abuse of authority by officials of legal entities of public law	use of authority contrary to the interests of the service; material damage	Bureau of Economic Security of Ukraine	Poland –st. 231 CC; Lithuania –st. 228 UK

Source: consolidated by the author drawing upon the norms of the Criminal Code of Ukraine (2025), Abgabenordnung (2025), ISAP (2025), Strafgesetzbuch (2025), Lietuvos Respublikos Baudžiamasis Kodekas (2025) and official data of the Economic Security Bureau of Ukraine (2025).

Analysis of Table 1 shows that between 2020 and 2025 Ukraine’s legal framework for criminal protection in the customs sector underwent structural consolidation, marked by clearer delineation of offenses including smuggling, tax evasion, manipulation of foreign exchange data, and abuses in external economic activity. Jurisdiction over these infractions was centralized in the Bureau of Economic Security of Ukraine, signifying a transition toward the institutional separation model characteristic of EU member states. Key qualifying features included large-scale smuggling, deliberate evasion, organized conduct, abuse of office, document falsification, and concealment schemes, which

guided differentiation of liability and investigative priorities. This codified differentiation reflects a principal–agent adjustment, where enforcement responsibility is shifted from administrative agencies to specialized investigators to mitigate corruption and regulatory capture risks.

Most of these offenses have counterparts in European Union law, such as §373 of the German Criminal Code (smuggling), Article 199-1 of the Lithuanian Criminal Code, Articles 54 and 86 of the Polish Penal Code (tax and customs offenses), and §261 of the German Penal Code (money laundering), illustrating Ukraine’s incremental harmonization with the

EU acquis in the field of customs-related criminal protection.

Court materials indicate that the most common customs violations included forgery of shipping documents, clandestine movement of goods outside control points, underreporting of customs values, and collusion with customs officials. These schemes typically involved coordinated activity by multiple actors using fictitious entities or alternative transit routes. In 68 % of analyzed judgments, offenses involved organized structures or repeated conduct, confirming the systemic nature of violations.

Investigative measures included access to documents, searches, interrogations, and covert techniques such as communication interception, surveillance, and controlled delivery. Cross-case comparison showed that the application of combined covert measures increased evidentiary completeness by approximately one-third, particularly at the preparatory stage, indicating procedural effectiveness consistent with institutional design theory. Table 2 outlines the main forms of violations, concealment mechanisms, and their impact on the state.

Table (2): Typology of customs offenses: Methods and consequences.

Form of customs offense	The major ways of implementation	Typical consequences
Counterfeiting of shipping documents	falsification of invoices, certificates, declarations; entering false data	lack of customs payments; complication of product identification
Hidden movement of goods	bypass checkpoints; use of double bottom or caches	loss of control over imported goods; duty-free sale
Understatement of customs value	manipulation of classification codes; deliberate understatement of volume/price	decrease in revenues to the budget; distortion of import statistics
Conspiracy with customs officials	coordinated registration of goods in violation of order; accelerated “window”	systemic corruption; decrease in trust in customs control
Use of fictitious companies	the use of controlled legal entities with a short period of existence	complication of pre-trial investigation; inability to track the turnover

Source: consolidated by the author on the basis of the generalization of the materials of the Unified State Register of Court Decisions (2021–2024) and official reports of the Kuchmak et al. (2024).

Table 2 shows that customs offenses were primarily committed through forged documents, concealed movement of goods, undervaluation of customs assessments, and the use of fictitious enterprises. These organized schemes, characterized by advance coordination, largely escaped routine detection and produced fiscal losses, operational disruption, and corruption incentives. Administrative sanctioning by customs officials created a principal–agent imbalance, as the same authority detected, penalized, and reviewed violations. This concentration of powers undermined procedural impartiality and public confidence.

In the European Union, customs offenses are handled by institutionally separate bodies, ensuring independence of investigation and adjudication. In Lithuania, sanctions are imposed solely by courts; in Poland, cases are

investigated by the Tax Police (KAS) and adjudicated by general courts; in Germany, customs authorities initiate cases, while financial prosecutors and specialized courts impose sanctions. Such division of competences eliminates conflicts of interest and aligns with the institutional design principle of checks and balances.

Ukraine, however, retains a centralized administrative model, where one official simultaneously identifies, qualifies, and sanctions offenses. This conflation contradicts EU standards of impartiality, perpetuates regulatory capture risks, and impedes alignment with European governance practices.

Table 3 contrasts the Ukrainian model with the differentiated systems of Lithuania, Poland, and Germany, illustrating institutional independence at key stages of enforcement.

Table (3): Institutional separation of functions of documenting, sanctioning and appealing in cases of customs violations: comparative analysis of models of Ukraine, Lithuania, Poland, and Germany

Country	Who records violations	Who analyses/prepares the charges	Who appoints sanctions/considers the case	Possibility of appeal	Features of the model
Ukraine	State Customs Service (SCS)	The same SCS or investigative BES	SCS official (in administrative order)	Only a complaint to the higher body of the SCS	Concentration of all functions in one body, high risk of conflict of interest
Lithuania	Customs Service	The prosecutor's office or the police	Court (administrative or general jurisdiction)	Court appeal immediately	The court makes all decisions, customs only records violations
Poland	Krajowa Administracja Skarbowa (customs and tax administration)	Tax Police KAS	Court (General Jurisdiction)	Court appeal immediately	Functional distinction between KAS bodies and the court
Germany	Zollverwaltung (Federal Customs Service)	Financial Prosecutor's Office (Finanzkontrol Schwarzarbeit)	Specialized court or financial prosecutor's office with court control	Through a court or a financial prosecutor's office	Three-level control model: detection – prosecution – judicial control

Source: consolidated by the author on the basis of Customs Code of Ukraine (2025), Abgabenordnung (2025), Kodeks postępowania karnego (2025), Lietuvos Respublikos baudžiamojo proceso kodekas (2022), provisions on activities of Krajowa Administracja Skarbowa (Poland) and official data from Gesetze im Internet portals (Germany)), ISAP (Poland) and LRS (Lithuania).

Table 3 outlines institutional frameworks for addressing customs violations in Ukraine, Lithuania, Poland, and Germany, highlighting the distribution of powers across supervisory and judicial bodies. The comparison demonstrates distinct enforcement logics, reflecting different applications of the institutional design principle.

In Ukraine, the State Customs Service performs detection, documentation, classification, sanctioning, and complaint review, concentrating authority within one body and creating systemic conflicts of interest. In Lithuania, customs authorities only identify violations, while sanctions are imposed exclusively by courts. In Poland, the Krajowa Administracja Skarbowa conducts investigations, whereas general courts impose penalties and review appeals. Germany applies the most differentiated system: customs authorities document offenses, financial prosecutors determine sanctions, and specialized fiscal courts deliver final rulings—a three-tier division ensuring procedural neutrality.

Unlike Ukraine's unitary model, EU member states institutionalize separation of investigative, sanctioning, and adjudicative powers, which strengthens accountability and mitigates principal-agent distortions. Reform in Ukraine therefore requires functional redistribution of competencies among customs, investigative, and judicial institutions.

The absence of independent oversight continues to undermine public trust and enables discretionary abuse. The European Court of Human Rights has repeatedly ruled that combining investigative and punitive powers violates impartiality standards, a position confirmed domestically by the Constitutional Court of Ukraine (Decision No. 3-r/2020), which underscored the need for institutional separation of oversight and sanctioning functions.

Table 4 presents data on the frequency and effectiveness of covert investigative measures in customs proceedings and their contribution to the evidence base.

Table (4): Application of covert investigative actions in criminal cases of customs profile

Type of covert investigative actions	Frequency of application (out of 8 cases)	Effectiveness (availability of evidence at the verdict)	Typical difficulties
Removing information from communication channels	7 out of 8	Confirmed in 100% of cases	Obtaining permission of the investigating judge; technical fixation
Audio and video control of the terrain	5 out of 8	Used in 80% of sentences	Assessment of the admissibility of records; linking to the scene
Controlled delivery	4 out of 8	Substantial evidence in 3 cases	Control of logistics; risk of loss of goods
Silent penetration into the room	3 out of 8	Limited use due to procedural risks	Legal validity; high procedural risk
Monitoring of financial transactions	6 out of 8	Applied to confirm relationships between subjects	Verification of data from banking institutions; time delays

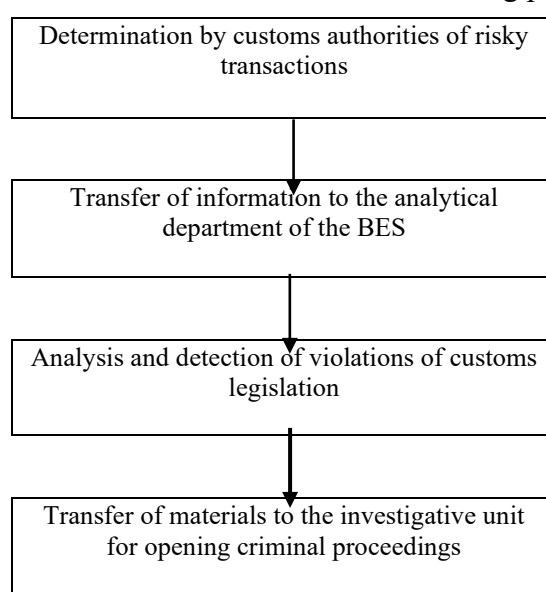
Source: consolidated by the author on the basis of content analysis of court decisions of the European Court of Human Rights (ECHR, 2021–2024) and generalization of the provisions of the Commonwealth of Independent States (CIS) Legislation Database Code of Civil Procedure of Ukraine (2025)

Table 4 shows that the most frequent covert measure in customs cases was communication interception, applied in most instances and yielding the most conclusive evidence. Audio-video surveillance and financial monitoring also effectively revealed offender networks, while controlled delivery was rare due to procedural risks and strict authorization rules. Key barriers included judicial delays, data-processing limits, and restricted access to banking information.

The Bureau of Economic Security led pre-trial investigations under Articles 201-3, 201-4,

and 212 of the Criminal Code, operating within a principal–agent framework separating analytical and enforcement roles. Its efficiency depended on cooperation with the State Customs Service, which supplied risk profiles and audit data. Expert assessments noted strong specialization and coordination but pointed to limited technical capacity, staff shortages, and weak regulatory support for inter-agency data exchange

Figure 1 illustrates the interaction scheme between the Bureau and the State Customs Service during pre-trial investigations.

**Figure (1):** Model of operational interaction of BES and SCS in matters of customs nature.

Source: consolidated by the author on the basis of structural analysis of functional powers of the State Customs Service of Ukraine (2025).

Figure 1 illustrates the interaction model between the State Customs Service and the Bureau of Economic Security in detecting and documenting customs offenses. The model relies on analytical processing of customs data and cross-analysis of trade information, after which materials are transferred to investigative units to formalize the offense and initiate pre-trial proceedings, enhancing procedural efficiency and specialization.

However, cooperation remains hindered by fragmented information exchange, the lack of a unified risk-profiling system, and irregular algorithm updates, which delay detection of

complex violations. Incomplete or delayed transfer of analytical data on logistics routes or high-risk exporters further weakens evidentiary capacity. Technical limitations and overlapping analytical functions between both agencies blur responsibility and slow case initiation, reducing overall efficiency and the admissibility of collected evidence.

Figure 2 illustrates the structural causes of these challenges, linking institutional fragmentation, regulatory inconsistencies, and technical constraints to diminished prosecutorial outcomes.

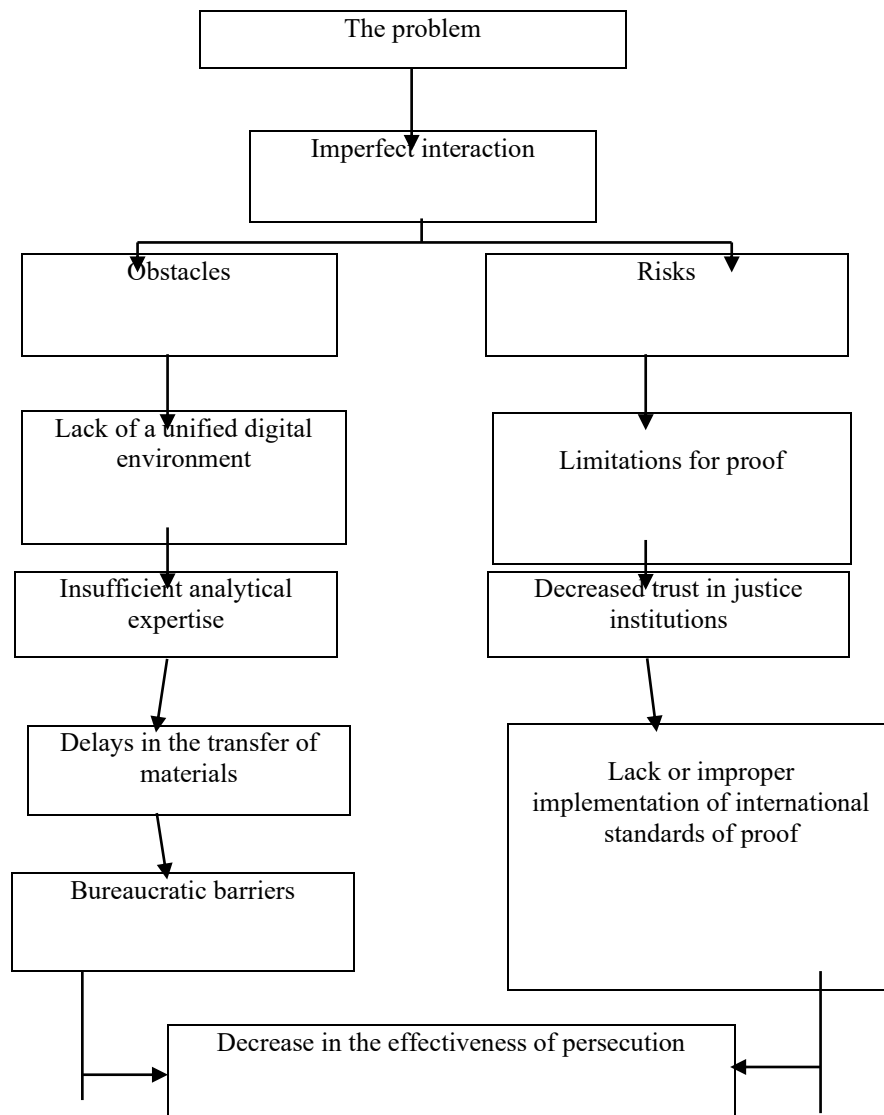


Figure (2): Systemic problems of providing evidence base in criminal prosecutions.

Source: consolidated by the author on the basis of an analytical generalization of the practice of consideration of customs offenses (2021–2024), the normative provisions of the Criminal Code of Ukraine (2025), the Criminal Procedure Code of Ukraine (2025), the Customs Code of Ukraine (2025), as well as the institutional model of work of the State Tax Service and the Economic Security Bureau of Ukraine (2025).

Figure 2 illustrates causal links behind systemic dysfunctions in the criminal-legal response to customs offenses. The core imbalance stems from poor coordination among the State Customs Service, the Bureau of Economic Security, and other competent bodies. The lack of interagency protocols and a unified digital environment leads to data fragmentation, incomplete verification, and limited cross-analysis. Deficits in analytical expertise due to staff shortages and insufficient methodological tools further hinder detection of complex schemes such as customs-value understatement, collusion, and concealed flows.

Delays in material transfer, redundant procedures, and overlapping functions reduce investigative momentum and coherence. These factors limit evidentiary substantiation through incomplete documentation and analytical gaps, obstructing the establishment of key

circumstances and cross-border cooperation. Public confidence declines as many proceedings are closed or never initiated for lack of proof.

The model reveals systemic inefficiency rooted in regulatory ambiguities, duplicated competences, and weak coordination rather than isolated failures. As a result, criminal protection of customs procedures remains fragile, investigative burdens grow, and fiscal-institution trust erodes. The findings underscore the need for digital integration, procedural streamlining, and regulatory revision to align Ukraine's system with European standards of institutional separation and procedural fairness.

Table 5 presents an overview of the main challenges in customs-profile infringement (CPI) cases, outlining their legal basis, risks, and potential solutions consistent with EU procedural principles.

Table (5): Problems of implementing the powers of customs authorities in CPI cases and proposed ways of improvement

The problem	The reason	Proposal for changes	Expected effect
Combination of functions in one official	Lack of judicial control	Transfer of consideration of cases on CPI to the courts	Ensuring impartiality
Insufficient technical support	Limited funding and outdated equipment	Targeted investments in IT infrastructure of BES and SCS	Improving the quality of evidence
Lack of access to EEA data	Fragmentation of data exchange	Unification of information systems BES-SCS	Acceleration of investigations
Conflict of interests with customs officers	Legal uncertainty of authority	Amendments to the Customs Code of Ukraine regarding institutional separation	Reducing the risk of abuse
Insufficient judicial independence when imposing sanctions	Combination of customs functions	Implementation of Lithuania/Poland/Germany models (sanction is imposed by an independent body or court)	Eliminate conflicts of interest, increase business confidence

Source: consolidated by the author on the basis of their own research, provisions of the Customs Code of Ukraine (2025), analysts of the Economic Security Bureau of Ukraine (2025), as well as institutional regulation practices in Lithuania, Poland, and Germany according to the Internetinis teisės aktų registras (Lietuvos Respublikos Seimas, 2025), the Internetowy System Aktów Prawnych (ISAP, Sejm Rzeczypospolitej Polskiej, 2025), and Gesetze im Internet (Federal Ministry of Justice & Bundesamt für Justiz, 2025).

Table 5 identifies key challenges in customs-profile infringement cases, emphasizing systemic factors that impede enforcement. Chief among them is the concentration of detection, qualification, and sanctioning powers within a single body, which contravenes the principle of separation of

powers and increases the potential for abuse. This issue repeatedly recognized in academic studies and in rulings of the Constitutional Court of Ukraine and the European Court of Human Rights demonstrates the need to transfer adjudicative functions to the judiciary to ensure institutional independence.

Technical constraints, including obsolete equipment and lack of analytical software, lower evidentiary quality and slow investigations, particularly in cross-border cases. Fragmented database access between the Bureau of Economic Security and the State Customs Service further delays detection, underscoring the importance of integrated digital information systems. Regulatory ambiguity in dividing control and punitive powers perpetuates legal uncertainty and inconsistent enforcement.

Based on the findings, it is recommended to amend Article 522 of the Customs Code of Ukraine to require judicial review of materials indicating potential conflicts of interest, and to supplement the Code of Administrative Offenses with a provision mandating the participation of a State Tax Service representative in complex or recurrent cases. These revisions would redistribute institutional roles, enhance procedural impartiality, and reduce abuse risks.

Discussion

The results were compared with European models, which clearly separate the functions of establishing, investigating, and sanctioning customs offenses. The Ukrainian model, where the State Customs Service combines these roles, contrasts sharply with the practices of Lithuania, Poland, and Germany. The study emphasized the growing role of the Bureau of Economic Security in customs-related investigations, consistent with Gottschalk's (2020) argument for centralizing public finance crime investigations to improve effectiveness. Identified regulatory fragmentation, technical deficits, and barriers in material transfer between the SCS and BES reflect findings by Kussainov *et al.* (2023) on the absence of systemic coordination in financial oversight. Difficulties in organizing covert investigative operations align with Huzela's (2023)

conclusion that insufficient regulatory clarity hampers detection in foreign trade cases. The use of analytical tools such as circuit detection, flow visualization, and channel simulation confirmed the relevance of Achim and Borlea's (2020) view that analytical methods are essential for enhancing financial investigations.

The prevalence of falsified declarations, collusion with officials, and clandestine movement of goods corresponds with Melnyk *et al.* (2022), who identified recurrent patterns of economic crime using data mining algorithms. The findings also support Gao (2023) and Yaroshenko *et al.* (2025), demonstrating the utility of associative analysis and clustering in customs control systems for uncovering concealed links among transactions, individuals, and cargo routes. Criminal link mapping and reconstruction of logistics pathways confirmed the value of rule-based mining for forensic visualization, consistent with the framework of Roy *et al.* (2021). This approach systematizes offense elements, clarifies participant roles, and models unlawful behavior patterns. The role of forensic economic expertise, as emphasized by Mulyk and Mulyk (2021), was validated, particularly in proving intent behind tax evasion, customs valuation manipulation, and fraudulent declarations.

The analysis of concealment schemes in criminal proceedings and judicial rulings demonstrated the effectiveness of combining documentary analysis with digital visualization tools for tracking goods, consistent with Porwicz (2020), who emphasized technology-driven evidentiary models in economic cases. Detection of customs value understatement, duplication of commodities, and misuse of transit operations confirmed the relevance of this approach in customs forensics. Schemes for legitimizing income through undervalued invoices and fabricated transit operations reflected the observations of Motuzna and

Reznik (2022) on the need to distinguish tax evasion from income legalization in international trade, a distinction critical for offense classification and investigative jurisdiction. Weak integration of financial monitoring into customs documentation allowed concealment of such offenses, paralleling Nazymko *et al.* (2023), who noted the disparity between suspicious transactions and cases reaching prosecution. The lack of automated information exchange among customs, analytical, and financial authorities remains a systemic barrier to detecting complex schemes, requiring regulatory reform.

The low proportion of completed proceedings in customs offense cases and difficulties in proving officials' intent correspond with Tyshlek *et al.* (2024), who highlighted limitations in preventing economic crime under martial law. These findings emphasize the importance of distinguishing administrative infractions from criminal conduct. Gottschalk (2020) similarly noted the complexity of classifying service abuses that appear as negligence or procedural errors, especially when involving senior officials. Conspiracies between customs officials and business representatives reflected organized patterns of activity, supporting the application of methods used against economic crime in structured groups. This view aligns with Wojtalewicz and Speichert-Zalewska (2020), who stressed the value of analytical tools for tracing persistent illicit connections within quasi-legal frameworks. Zhang (2023) and Eleyan and Diab (2025) further demonstrated the effectiveness of classification algorithms in detecting anomalies in transactional datasets, enabling proactive prevention of unlawful activities before proceedings are initiated.

Comparative analysis confirmed the relevance of combining traditional investigative methods—document analysis, interrogations, examinations—with digital

techniques such as logistics flow visualization, rule-based mining, and anomaly detection, consistent with international trends in economic crime investigation. Normative analysis revealed obstacles including weak regulation of interagency collaboration, insufficient analytical support, and fragmented access to information systems. The evolving complexity of criminal schemes requires procedural integration of analytical, monitoring, and information exchange functions among the Bureau of Economic Security, State Customs Service, and prosecutor's office. An effective response therefore depends on strengthening institutional frameworks, improving investigator qualifications, adopting analytical decision-support models, and implementing advanced digital tools for detection, documentation, and substantiation of customs offenses.

Limitations

The study relied on 25 Ukrainian court decisions, eight pre-trial proceedings, and comparative analysis of regulatory frameworks in Ukraine, Lithuania, Poland, and Germany. Limited access to full-text decisions in closed cases and the lack of a unified database of law enforcement reports constrained the assessment of pre-trial practices, particularly in border regions. The analysis primarily covered cases that reached trial or contained sufficient procedural documentation. Investigations by other agencies, including the Security Service and the National Anti-Corruption Bureau, were excluded due to restricted data access. Case law from EU member states was not examined, as continental systems lack public registers of customs-related judgments.

Recommendations

Future research should include proceedings concluded without prosecution and analytical reports of the State Customs Service and the

Bureau of Economic Security to capture regional enforcement practices in border areas. Cooperation with international bodies, including the World Customs Organization (WCO, 2025) and the European Anti-Fraud Office (OLAF, 2024), should be examined to evaluate information exchange in cross-border smuggling detection. The comparative scope ought to be expanded to the Baltic states, the Visegrad Group, and Scandinavia to identify institutional models that ensure accountability and prevent conflicts of interest in customs proceedings.

Conclusion

The study found that, despite substantial legislative reforms from 2020 to 2025, pre-trial investigations of customs offenses in Ukraine remain constrained by institutional and procedural fragmentation. The introduction of Articles 201-3 and 201-4 of the Criminal Code clarified criminal liability but enforcement is weakened by poor coordination between the State Customs Service and the Bureau of Economic Security, limited technical capacity, and restricted access to financial intelligence. Analysis of judicial rulings and closed proceedings revealed recurring schemes falsified shipping documents, concealed movement of goods, and undervaluation of customs declarations often involving fictitious enterprises. Investigation of such offenses required covert methods (interception, surveillance, controlled delivery), yet regulatory barriers continued to hinder coordinated action in multi-jurisdictional cases.

Comparative analysis with Lithuania, Poland, and Germany showed that institutional separation of detection, investigation, and sanctioning functions enhances impartiality and public trust, while Ukraine's concentration of powers within single agencies fosters procedural imbalance and conflicts of interest.

The research concludes that modernization should focus on (1) upgrading technical and analytical infrastructure; (2) establishing clear institutional separation of powers; (3) codifying interagency coordination mechanisms; and (4) adopting international safeguards for conflict-of-interest prevention and digital oversight. Implementing these reforms would strengthen evidentiary reliability, ensure procedural fairness, and align Ukraine's customs investigation system with European standards

Disclosure Statement

The authors declare that they have no relevant or material financial interests that relate to the research described in this paper

- **Availability of data and materials:** The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.
- **Author contribution:** All authors listed have contributed to the work and approved it for publication. The authors have worked in an organized manner. Taras Rudenko & Ruslan Bilokin supervised the work. Oleksandr Shevchenko designed the study, communicated with the key people, and wrote the manuscript. Mariia Novikova collected the data and did the statistical analysis. Olena Volobuieva has reviewed the data and the final manuscript for approval. The authors read and approved the final manuscript.
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