

Investigation of International Transport Crimes

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Abstract

Investigating international transport crimes is a challenging issue for current global security, law and order, as well as economic stability. The aim of the article is a detailed analysis of international measures to combat illegal transportation, the crime rate, and security at customs. The data on the number of open violations at the European Union (EU) customs are provided, and the use of advanced technologies and international cooperation is described based on statistical analysis and a graphical method. As a result, the relationship between the effectiveness of customs control and the reduction of illegal transportation is established. The results indicate a low level of violations of the organisation of illegal transportation at a minimum level of 82 and a maximum of 106 cases in Europe. There is a need for an integrated approach that includes legal, technological, and international measures to combat this problem. The research opens up new opportunities for understanding the effectiveness of various strategies to combat illegal transportation. Prospects for further research in this area include the development of new international legal initiatives, improvements in monitoring technologies and a deepening understanding of the relationship between law and order, the economy, and global security.

Keywords: smuggling, investigation of crimes, organisations of illegal activities, international trafficking, transnational crimes, customs control.

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Introduction

The issue of illegal organisation of international transportation is one of the main global challenges, as this issue is closely related to international security, economic stability and legality. Trafficking crimes include a wide range of activities, from drug and arms smuggling to human trafficking and illegal migration, that violate the law and threaten the security of countries and their citizens. Solving existing problems (Prifti et al., 2023) requires a comprehensive approach that combines the efforts of international organisations, national governments, law enforcement agencies, and customs services of European countries. Despite the significant international-level efforts, the problem of illegal transportation remains urgent and requires constant attention and innovative solutions.

In the modern world, international transportation is characterised by high complexity and dynamism, which creates favourable conditions for illegal actions. Because of globalisation and the growth of international trade by Ritten et al. (2021), smugglers use increasingly sophisticated methods to move illegal goods across borders. For this reason, the effective investigation of international transport crimes requires thorough knowledge of international legislation and customs procedures and the use of advanced technologies and analytical methods, including analysis of transport routes, monitoring of vehicles, risk assessment, and identification of suspicious cargo. Digital integration shall play an important role, including international cooperation and information exchange between countries.

The organisation of illegal international transportation is closely related to economic and social factors. Smuggling contributes to financing organised crime, which has serious consequences for countries' economic stability and security. According to Yang et al. (2022), illegal transportation can lead to a loss of tax revenue for the state, damage to the reputation of legitimate businesses, and an increased negative impact on global markets. Therefore, solving this problem requires law enforcement activities, the development of innovative economic strategies and balanced policies to reduce illegal activity and improve the effectiveness of customs control.

A significant role of international cooperation and exchange of experience in the fight against illegal international transportation between European countries shall be noted, as it has a transnational character. An effective solution is possible only with close cooperation and coordination between countries and international organisations and through the development of global standards and procedures. Crespo-Gascón et al. (2023)

emphasise modern cooperation should include exchanging information and intelligence and using resources and expertise to develop effective strategies and measures for creating more sustainable and effective mechanisms to prevent and combat this complex and multifaceted problem. The aim of the study is to determine the effectiveness of combating the organisation of illegal international transportation.

Research objectives

The aim involved the fulfilment of the following research objectives:

1. Determine the effectiveness of the legal and customs systems of countries and the level of illegal transportation based on a statistical analysis of the experience of European countries.
2. Assess the impact of variable international and national customs control strategies on reducing illegal transportation, focusing on a comparative analysis.
3. Based on the study results, develop recommendations for improving customs procedures and international cooperation for a more effective fight against illegal transportation.

Materials and methods

The procedural approach to investigating international transport crimes focuses on a comprehensive review of sources and statistics related to customs activities and cases of violations. This approach involves the analysis of reports of law enforcement agencies and European international institutions dealing with this issue. The key task is to identify trends in data on illegal shipments and identify potential gaps in customs procedures that criminals can use. An important aspect is the study of changes in the number of detected violations during recent years.

The sample of the conducted research includes EU countries with an emphasis on the experience of Western European countries. This region was chosen because of its significant role in international trade and the high level of integration of customs and law enforcement systems, which makes its experience in combating illegal traffic particularly valuable. The analysis covers the dynamics of the Crime Index during 2023, changes in the number of detected customs violations for 2018-2022, and the effectiveness of the implemented measures. Studying the experience of the countries of Western Europe for 2022 gives an insight into different approaches to detecting and preventing the illegal organisation of transportation routes (Leheza et al., 2023).

The methods of analysis include the processing of statistics and their graphical representation. A graphical method is central for building a histogram showing the dynamics of violations over different years and comparisons between countries. The method visualises trends and identifies prospects for further combating illegal activity. Critical analysis also determines the relationships between different variables, the Country Index, and the number of detected violations. The proposed methodology makes it possible to identify potential cause-and-effect relationships and identify key factors affecting the effectiveness of the fight against illegal transportation.

Excel was used as the main research tool for data processing and analysis. The tools are used to calculate basic statistical indicators and build graphs and histograms to effectively visualise and analyse large data volumes. An important component is the use of open sources of information, such as reports of international organisations, statistics of law enforcement agencies and reports of European customs authorities, which ensure the reliability and relevance of information for analysis.

The research takes into account several ethical criteria that play an important role. The information is provided to ensure the confidentiality and protection of personal data from open sources. All data must be used exclusively for research purposes without violating the rights of the institutions whose information is used. All conclusions and recommendations are based on the conducted research from the perspective of further effective development of countermeasures for the organisation of international transportation.

Literature Review

In the study, Crespo-Gascón et al. (2023) indicated that a comprehensive investigation of international transport crimes is critical for global security and the fight against transnational crime. A careful study of smuggling methods and analysis of criminals' routes and logistical schemes (Narozhna, 2023) can help law enforcement agencies better understand and prevent these crimes. According to Devine et al. (2021), combating illegal transportation depends on integrating different approaches: from technological monitoring and data analysis to international cooperation and information exchange between different countries. The importance of the proposed approach is emphasised by Formentão et al. (2021), who notes that the development of innovative technologies and investigative methods is a factor in the detection and prevention of international transport crimes.

Ritten et al. (2021) and Mmakwena et al. (2023) state that the analysis of statistics on open customs violations and changes in these indicators in different years shows the effectiveness of actions taken in European countries.

Hildebrand et al. (2018) emphasise the importance of ethical aspects in conducting such investigations, particularly the need to protect personal data, objectivity and impartiality during the analysis and interpretation of information. This hypothesis is confirmed in the study Prifti et al. (2023), which indicates a significant decrease in the level of illegal international transportation due to the implementation of targeted anti-smuggling programmes. Merry (2017) emphasises the importance of the adequacy of customs procedures and legislation, which must be fair, meet the real conditions of international trade and consider the specifics of individual cases. Akgünay (2018) describes a comprehensive approach, which includes customs legislation, law enforcement activities and international cooperation, as the most effective in reducing the volume of illegal transportation. Ladd and Jones (2022) propose an important thesis: the need to improve international legal acts of the law enforcement industry, as its quality directly affects the success of the fight against international smuggling.

The investigation of international transport crimes is increasingly complex and important. Yu (2023) highlights the crucial role of ethical considerations in these investigations, emphasising the need to safeguard personal data and uphold objectivity and impartiality. This ethical focus is pivotal in ensuring the integrity of the investigative process. Complementing this perspective, Ismail et al. (2023) document a notable decline in illegal international transportation, attributing this trend to the effective implementation of targeted anti-smuggling programs. These programs play a significant role in deterring and reducing transport crimes. Basu (2013) underscores the necessity for customs procedures and legislation that are fair and reflective of the actual conditions of international trade. This approach necessitates a nuanced understanding of each unique case, promoting justice and efficiency in handling transport crimes. Sundling and Ceccato (2022) advocate for a holistic strategy encompassing customs laws, law enforcement activities, and international collaboration. This comprehensive approach is deemed most effective in curbing illegal transportation activities.

Kuznietsov (2022) analyses that the modern legal system of European countries faces the challenge of ensuring efficiency in the fight against illegal transportation while maintaining a balance between the need to protect

global security and the promotion of legitimate international trade. According to Shapovalov and Samorodov (2023), flexibility and individualisation in customs procedures can contribute to a more effective solution to problems related to illegal international transportation. Lietuvnikė et al. (2018) consider the impact of technological innovations on the effectiveness of international transportation monitoring, where special attention is paid to the application of accounting systems and the interpretation of big data in detecting illegal transportation schemes.

van Uhm et al. (2021) emphasise the importance of international legal cooperation and harmonisation of legislation in the fight against transnational crimes related to smuggling and illegal transportation. Yang et al. (2022) found that integrating modern intelligence and analytics techniques can significantly improve the success of investigations. According to Junyu et al. (2021), developing specialised education and training programmes for customs and law enforcement officers is a key direction for improving the overall efficiency of customs procedures. Therefore, the constant development and adaptation of legal mechanisms and control methods remain key challenges for combating the illegal organisation of international transportation. This practice requires further research into the impact of international norms and procedures on the effectiveness of combating transnational crimes involving the organisation of illegal transportation.

Results

Investigating international transport crimes is a complex and multifaceted task that requires a deep understanding of global logistics networks and knowledge of international law and law enforcement procedures. Criminal networks engaged in illegal transportation in Europe use variable schemes to move goods and people across borders, evading customs and law enforcement authorities. Those activities include the smuggling of drugs, weapons, illegal migration, human trafficking, and transportation of counterfeit or prohibited goods. Effective investigation of such crimes requires knowledge of international transport routes and an understanding how criminals conceal their activities. These may include the analysis of transport documents, cargo tracking, intelligence, and electronic data. International cooperation is a key aspect, as criminal networks operate transnationally, which requires coordinated actions by law enforcement agencies of different countries. Table 1 is created for an effective analysis,

which includes structuring the crime rate and security in Western Europe's countries as one of Europe's most developed regions.

Table 1. Crime Index by Country 2023, Western Europe

Rank	Country	Crime Index	Safety Index
1	France	55.3	44.7
2	Belgium	49.1	50.9
3	Germany	37.6	62.4
4	Luxembourg	35.1	64.9
5	Netherlands	27.3	72.7
6	Austria	27.3	72.7
7	Monaco	24.6	75.4
8	Switzerland	23.6	76.4

Source: compiled by the author based on World Population Review (2024)

The data in the table are presented to help understand the general crime rate in the countries of Western Europe. High crime rates are observed in France and relatively low in Switzerland, indicating potential problem areas for migration policy where international criminal networks may be more active because of their transnational nature. France's highest Crime Index indicates the development of organised crime related to smuggling through international ports and transport hubs with neighbouring countries, which includes illegal importation of goods, drug smuggling, human trafficking, and other forms of crime.

In countries with a lower crime index, such as Switzerland and Monaco, law enforcement agencies' efforts have been used more effectively through advanced analytics and verification technologies. In particular, they have a more developed monitoring and security system and strict customs procedures that make it difficult for criminals to use the territory for illegal transportation. The level of security indicates the effectiveness of international cooperation in the fight against transnational crime through coordinating activities between countries. Economic conditions, the level of poverty, social inequalities, and the quality of legal systems affect the quality of the fight against the organisation of international transportation because Austria and the Netherlands have a low crime rate. They have more stable economies and effective social protection systems, which may reduce the motivation for criminal activity, including illegal international traffic. Cooperation at the level of the EU and other international organisations, such

as OLAF (European Anti-Fraud Office), plays a crucial role in developing common approaches to investigating and preventing cross-border crimes. Table 2 presents the results in more detail.

Table 2. Characteristics of the investigation of the organisation of illegal transportation by crime category, 2022

Category	Results of the OLAF actions	Additional notes
Cigarette smuggling	531 million illegal cigarettes were seized	199 million cigarettes were seized at the EU borders
Tobacco smuggling	209 tons of raw tobacco were seized	Intended for illegal cigarette production
Pipe tobacco	66 tons of suspicious tobacco were found	20,000 kg truckload of pipe tobacco from Turkey to Denmark
The Lake Operation	1,255 kg of glass eels were seized, 49 people were arrested	27,701 checks across Europe
Counterfeit semiconductors	Focus on fighting counterfeiting and fraud	Importance of semiconductors in many fields
Illegal wood	Preventing the placement of illegally harvested timber	EU regulation on combating trade in illegally harvested timber
Illegal pesticides	Detection of illegal factories and abuses of customs procedures	Disjointing of products into components for illegal import

Source: European Anti-Fraud Office (2022)

Table 2 shows that the smuggling of cigarettes and tobacco is one of the main areas where the problem of illegal transportation is revealed. The illegal movement of large volumes of smuggled goods indicates highly organised criminal networks that use international transport routes to transport their goods. A key element in combating such crimes is international coordination and information sharing between law enforcement agencies, as illustrated by the successful seizure of 209 tons of raw tobacco.

The driving aspect of international transportation is the smuggling of specific goods, which has intensified because of the geopolitical crisis since 2022 and the war in Ukraine. The detection of suspicious consignments of more than 66 tons and the case of a truck carrying 20,000 kg of pipe tobacco from Turkey to Denmark testify to the difficulty of detecting such crimes. Smugglers use legitimate commercial channels and complex logistical schemes to hide their activities due to the weakness of the legal mechanism of

the EU countries. An important role of the OLAF organisation is to coordinate the surveillance of such cargo at the international level, use intelligence data, and cooperate with customs and police authorities of different countries. The Lake Operation is a vivid example of an international investigation using coordinated actions of European law enforcement agencies.

Illegal imports of timber and pesticides often occur through abuse of customs procedures and the disjoining of products into components, which requires complex investigative methods and international coordination. The problem of identifying the organisation of schemes requires law enforcement agencies to understand supply chains to know modern technologies and trade routes. The number of open cases of illegal smuggling organisations in Europe is shown in Figure 1, practical cases.

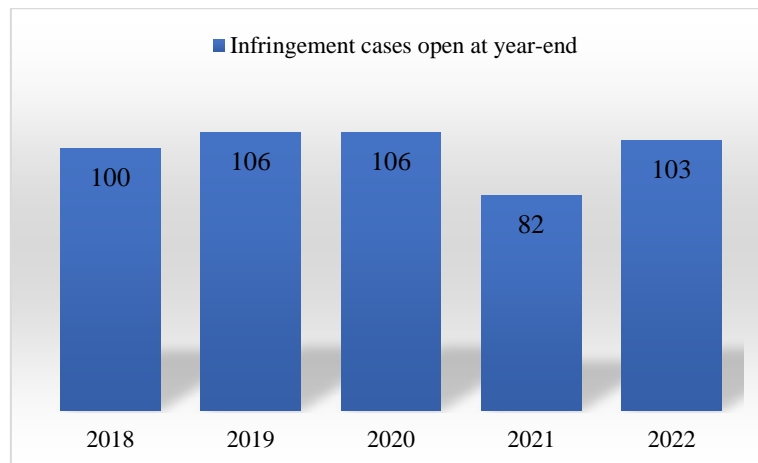


Figure 1. Infringement cases open at year-end 2018-2022 in EU

Source: European Commission (2023)

The analysis of the given data on the number of open customs violations during international transportation from 2018 to 2022 gave grounds for several important observations and conclusions. The dynamics remain stable, except for 2021, which coincides with the active development of the COVID-19 pandemic, which had a significant impact on international transport because of border closures, travel restrictions, and changes in trade flows. The stability of the number of violations in the current period indicates a general decrease in the volume of international transportation and illegal activity.

In 2022, the number of detected violations increased again to 103, a manifestation of the recovery of international transportation volumes after the pandemic and the adaptation of criminal systems to new conditions and control methods. In general, the dynamics of the number of violations emphasises the need for constant improvement of the crime investigation methods related to the illegal organisation of international transportation and adaptation to the changing patterns of criminal activity in European countries. The involvement of international cooperation and information exchange between customs and law enforcement agencies to effectively combat these crimes should be emphasised. Table 3 illustrates effective methods for investigating the organisation of illegal transportation.

Table 3. Modern approaches to the investigation of international transport crimes

Approach	Characteristic	Technologies	Tools
Cyber intelligence	Analysis of digital data to detect illegal networks	Internet monitoring, social media analytics	Maltego, IBM i2 Analyst's Notebook.
Financial monitoring	Tracking of financial transactions that may be related to illegal transportation	Analysis of bank transactions, money laundering monitoring systems	ACAMS (Association of Certified Anti-Money Laundering Specialists), FICO Falcon.
Satellite observation	Use of satellite images to monitor places of possible illegal transportation	High-resolution satellite images, GIS analytics	Maxar Technologies, Sentinel-2.
Undercover work	The use of agents who infiltrate criminal groups	Secret agents, audio-video recordings	Body Worn Cameras, LawMate Audio and Video Surveillance.
Analysis of routes	Study of standard and non-standard transportation routes	Logistic modelling, analysis of transport databases	Freight Analysis Framework (FAF), TransCAD.
International cooperation	Joint international operations and information exchange	International law enforcement databases, joint operational groups	INTERPOL's I-24/7, EUROPOL Information System (EIS).

Source: created by the author

Modern technologies significantly expand the possibilities of investigating international transport crimes. Advanced methods of cyber

intelligence and big data analysis make it possible to effectively detect complex criminal networks and their methods of operation. Using transnational law enforcement agencies provides in-depth analysis of communications, financial transactions, and logistical routes, helping to uncover hidden connections and predict potential criminal schemes. Satellite surveillance and modern surveillance methods make tracking movements in real time possible, greatly increasing the chances of timely intervention. The process of detecting crimes through the technological aspect, combined with international cooperation, is shaping a new era in investigating international crimes, providing law enforcement agencies with the necessary tools to fight global challenges in this area.

The problem of investigating crimes related to the illegal organisation of international transportation requires a multidimensional approach, which primarily covers improving operational activities. In the low-crime countries — Switzerland and Austria — the effectiveness of the criminal investigation system is based on a strong law enforcement sector, a high level of social and economic stability, advanced technological and innovative approaches to law enforcement. Countries have well-funded and well-equipped police forces, efficient judicial systems, and highly educated populations with strict migration policies. European countries with the highest crime rate, France and Belgium have faced challenges related to higher levels of social inequality, urbanisation and integration problems of migration, which contributes to the growth of crime, including the illegal organisation of international transportation. The implementation of Sweden's and Austria's experiences includes the strengthening of law enforcement agencies, the development of technological means of investigation, the improvement of social stability, and the integration of displaced persons.

Discussion

The impact of international activities aimed at combating illegal transportation on global security and the economy is an important factor in international law and order. The research (Devine et al., 2021) indicates a significant impact of effective customs regulations and controls on reducing the volume of illegal shipments, which is consistent with the findings of this study based on stable case statistics. According to data (Formentão et al., 2021), increasing the level of international coordination and exchange of information between countries contributes to more effective detection and prevention of smuggling, which is confirmed by the results of OLAF. The

researcher in the study (Hildebrand et al., 2018) points to the improvement of the international legal framework and cooperation between Western European countries, which increases the effectiveness of detecting and preventing illegal transportation.

These statements correspond to our observations regarding the level of security and international integration in this area. According to Prifti et al. (2023), introducing advanced technologies and analytical methods significantly increases the probability of identifying illegal cargo, confirming the results of the analysis of technological development trends in Sweden and Austria. At the same time, as the study (Crespo-Gascón et al., 2022) noted, the need for a balanced approach that combines legal measures and technological innovation is most important to achieve sustainable success in the fight against complex and multidimensional crimes. The study supports the proposed hypothesis of improving digital technologies and law to combat illegal transportation (Ladd & Jones, 2022), who states that implementing joint legal and technological mechanisms is much more effective in the fight against transnational crime than the isolated efforts of individual countries.

Fernández-Bedoya et al. (2021) introduce a pivotal thesis regarding enhancing international legal frameworks within the law enforcement sector. The quality of these legal acts is directly linked to the success in combating international smuggling, suggesting a need for ongoing refinement and adaptation of these frameworks. Nikiforenko and Vihtiuk (2022) examine the challenges faced by the modern legal systems in European countries in balancing the need for effective illegal transportation combat strategies with the promotion of legitimate international trade. This balance is crucial in maintaining both security and economic vitality. Ioniță (2020) argues that flexibility and individualisation in customs procedures can significantly improve handling issues related to illegal international transportation. This approach suggests a move away from one-size-fits-all solutions towards more tailored and responsive strategies. Ávila-Zúáiga-Nordfeld and Dalaklis (2018) delve into the impact of technological advancements on the monitoring of international transportation. The research (Valijonov, 2022) presents a multifaceted view of the investigation of international transport crimes, emphasising the importance of ethical practices, comprehensive strategies, legal framework improvements, balance between security and trade, and the incorporation of technological innovations. These aspects contribute to a more effective and just approach to combating international transport crimes (Warchol, 2017).

The problem of illegal international transportation, according to Narozhna (2023), indicates that illegal transportation has a direct impact on the loss of state tax revenues, damage to market structures, and the creation of an uncompetitive environment. These theses are considered through the prism of the migration policy of countries with a relatively high level of crime because they encourage discussion of the need to increase the effectiveness of customs control and the implementation of additional economic measures to protect migration, social policy, and legal trade. The statements in Formentão et al. (2021) refer to solving the problem by considering the needs and rights of legal participants in international trade. However, this research emphasises the need for a balance between the strictness of control and the development of social policy based on the experience of Austria and Switzerland. According to Junyu et al. (2021), the debatable issue is the methods and strategies for combating illegal international transportation, which is reduced to applying tough measures and developing more flexible, adaptive approaches. However, as Yang et al. (2022) pointed out, the most modern technologies will not be able to fully solve the problem of illegal transportation without appropriate legislative and institutional support. So, it is important to consider technological innovation and legislative measures as complementary elements of an overall strategy.

Conclusion

So, the issue of investigating crimes related to the illegal organisation of international transportation is extremely important in the globalised world. Illegal activities cover a wide range of smuggling of tobacco, drugs, transportation of counterfeit goods and illegal migration. The complexity of crimes is in their transnational nature and the constant adaptation of criminals to changing conditions and control methods. The variable crime indices of Western European countries reflect the level of threats and challenges law enforcement agencies face. The significant fluctuation in open customs violations from 2018 to 2022 indicates the need for further in-depth analysis and transformation to new methods of combating illegal transportation. Crimes negatively affect the economic stability of countries and the safety and well-being of their citizens. Developing effective methods of combating crime and strengthening international cooperation and information sharing are critical to guaranteeing global security.

An important component in the fight against the illegal organisation of international transportation is the use of modern technologies and

innovative approaches. The application of monitoring systems and technology implementation to analyse large data volumes can help identify suspicious connections between various participants of logistics chains and routes. Using advanced investigative methods, geospatial analysis, vessel tracking through satellite systems and social network analysis can allow law enforcement officers to better understand the mechanisms of criminal systems and identify key actors. An important role is also played by the training and professional development of law enforcement officers, which involves training in the latest methods of investigation and international law. These measures help to form a comprehensive approach to combating international transport crime, which is constantly evolving and adapting to the changing conditions of the global world.

Recommendations

To effectively combat illegal international transportation networks and enhance global security and stability, the following strategies are paramount:

- Refine and emphasise the legal framework governing international agreements to create a robust foundation for international cooperation.
- Establish standards for information exchange and coordination among law enforcement agencies across various European countries to streamline operations and enhance effectiveness.
- Invest in technology and innovative projects to monitor and analyse international logistics routes to identify and address vulnerabilities in global transportation networks.
- Leverage satellite technologies to improve the detection and investigation of illicit transportation activities, enhancing the capacity to prevent and combat transnational crime.

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