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Problems of planning and carrying out commodity expert examinations of property and equipment for military purposes and armaments

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Abstract. In the period from 2014 to 2024, employees of institutions of forensic expertise emphasised the importance of conducting independent, qualified and objective examinations to ensure justice. This created a need to conduct forensic commodity examinations of property and equipment for military purposes and armaments. The purpose of the study was the analysis of the legal and methodological basis for the implementation of forensic commodity examinations property and equipment for military purposes and weapons, for the further development of a single approach to conducting research and guaranteeing the systematicity of expert practice, increasing the reliability of research results, used in the study the following methods: linguistic, system-functional, dialectical, systematisation, monographic, analysis and synthesis. The result of the study, which includes the practical component of forensic commodity examination, was an outline of the problems of planning and carrying out examinations of property and equipment for military purposes and weapons, which consist in: the absence

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of a unified terminological approach to the main concepts; the technical complexity of the investigated objects; limited access to information and documents that contain characteristics of research objects; the need to regulate the mechanism of interaction between expert institutions and entities involved in the production and/or implementation of these objects; the need to develop scientific and practical publications. It was highlighted in the work identification features of the relevant property and equipment, which contain information about the type, species, model, size, tactical and technical characteristics, category of quality (technical) condition, which will allow to systematise the expert's work in this direction. The rationale for choosing a methodical approach to determining market and non-market types of value was presented, taking into account the availability and completeness of the necessary initial data, in particular, the impracticality of using the income methodical approach were argued and the use of cost and/or comparative methodical approaches is recommended. The results of the scientific work are aimed at improving the quality of the performance of the forensic commodification examination on the issues of valuation of property and equipment for military purposes and weapons and will contribute to increasing the validity of the conducted commodification studies. The results of the research can be used for the further development of methodological support, which can be used by forensic experts to conduct research in specialty 12.5 "Evaluation of property and equipment for military purposes and armaments"

Keywords: military aid; munition; dual-use goods; cost; methodological approach; property assessment

Introduction

The military, economic, and political situation that has developed in Ukraine since 2014 has created challenges for the national criminal justice system and law enforcement agencies – to ensure effective counteraction to completely new, for prosecutors and investigators, types of crime, in particular, crimes of the full-scale Russian-Ukrainian war on the territory of Ukraine (war crimes, crimes of genocide; crimes against humanity; crimes of aggression; crimes of large-scale appropriation and destruction of property, committed illegally and intentionally and not justified by military actions; misappropriation, embezzlement of property during the performance of official duties, etc.), the number of which is increasing daily. With the introduction of martial law on February 24, 2022, the provision of a comprehensive, complete and adequate legal response to crimes committed during the armed conflict and war-related criminal offenses, their quality investigation, guaranteeing the effective protection of the state's interests, rights and human and citizen freedoms, Ukrainian society, humanity and the international legal order (Sokurenko, 2023). Achieving these goals puts on the agenda a priority task for the employees of the law enforcement sector of the state, both the detection and timely and complete documentation of criminal offenses related to Russia's armed aggression and their consequences, not only in the framework of a national investigation, but also in view of their further use in international judicial bodies is possible. At the same time, it was stated that in the conditions of the introduction of martial law on the territory of Ukraine, the employees of the prosecutor's office and pre-trial investigation have difficulties during the organisation and investigation of such crimes, which makes it necessary not only to apply a unified approach regarding the organisation of the actions of the employees of law enforcement agencies at the stage of pre-trial investigation, but also the

involvement of judicial experts in the process of confirming the circumstances of the commission of crimes related to the armed aggression of the Russian Federation against Ukraine.

The increase in the level of crime, the discovery of new forms of committing offenses, new types of research objects led to the demand for new types of expert specialties to solve issues for which it is necessary to apply special, technical, scientific and/or other knowledge, methods and methods of research that lead to a more complete satisfaction of the needs of judicial and investigative practice. Among the introduced relatively new expert specialties is 12.5 "Evaluation of property and equipment for military purposes and weapons", which allows solving one of the most difficult tasks of forensic commodity examination (FCE). The problems of formation and development of the theory and methodology of examination of property and equipment for military purposes and weapons (PEMPW) are only gaining momentum. In this area, research was carried out by a small number of scientists, among whom there are specialists with practical experience, employees of forensic research institutions of the Ministry of Justice of Ukraine and the Expert Service of the Ministry of Internal Affairs of Ukraine.

O.O. Buhaiova (2020) in a scientific work investigated the definition of such legal categories as "property of the Armed Forces of Ukraine", "military property", analyses scientific opinions on these definitions, raises the issue of inconsistency of terms and presents the development and explains the author's definition of the concept of "property of the Armed Forces of Ukraine". The work of R.P. Lavronov (2023) aimed at considering key aspects of the legal regime of military property in Ukraine, where, in particular, the conceptual apparatus related to the definition of military property and legislative acts regulating the legal

regime of military property are considered. In the work of I.I. Piskun & M.A. Sokolovsky (2023), the need for systematisation and ordering of military property noted, the authors recommend classifying it by purpose into two categories: military property of general purpose and military property of special purpose. According to the conclusion of these authors, additional research is necessary to resolve issues regarding the composition of military property, which is a key element for establishing the necessary mechanisms for legal regulation of relations regarding the use, possession and disposal of this property.

S.M. Dolynskiy (2023) raised the issue of distinguishing research objects by expert specialties 12.5, 12.2, 12.1, 10.10, 10.6. A.A. Marchuk & V.A. Tkachuk (2022) put forward for consideration the question of the relevance of training specialists in the field of valuation of military property. This need is due to the necessity of carrying out FCE according to direction 12.5, which includes the provision of conclusions of forensic examinations of military property or complex examinations (in cooperation with forensic ballistic experts). These conclusions are used as a source of evidence in criminal, economic, civil cases, as well as in cases of administrative violations.

M.V. Harbuz (2019) considered the problem of the imperfection of the methods of determining the residual value of the property of the Armed Forces of Ukraine and other military entities, in particular focuses attention on the lack of other developments that can be used by forensic experts during the assessment of PEMPW. O.Y. Kapinus (2023) emphasised the importance of strengthening control over military property assessment procedures, examines the algorithms for the assessment of this property and points out shortcomings in the legal regulation of this process. O. Furmanchuk (2023) noted that in general, the supervision of state property is carried out by various bodies, such as the supreme body of control over state finances, which is subordinate to the President of Ukraine, as well as state departments and subdivisions of ministries, which are subordinate to higher bodies of state control.

V.V. Yusupov (2021) examined the issues related to the specifics of the examination of military property in the conditions of Russian aggression, in particular the role of forensic examination in the investigation of

criminal corruption offenses. S.M. Dolynskiy *et al.* (2022) considered the problems that arise when performing forensic examinations of military property. In the analysed scientific works, a number of important problematic issues in the examination of military property were considered, but, despite the completeness of the conducted researches, they did not consider the specifics of planning and implementation of FCE of military property in the context of the application of special knowledge, which require thorough consideration.

The purpose of the study was to systematise the available scientific research on the peculiarities of conducting forensic commodity expert examinations of PEMPW in order to provide a comprehensive perception of their real state, outline unresolved issues and determine the prospects for further research.

Materials and Methods

To ensure the independence, objectivity and completeness of commodity research it is necessary to be guided by the principle of complexity; the principle of problem interconnection carrying out commodity expert examinations of the Ministry of Education and Culture, the number of which has increased in the conditions of the Russian-Ukrainian war since the beginning of 2014; the principle of universality of the main methods of analysis and the combination of different methodological approaches to assessment; principle consistency of regulatory and methodical regulation of PEMPW evaluation issues.

The introduction of a new specialty did not solve the issues related to the evaluation of PEMPW. The only normative legal act that regulates the process of evaluation of PEMPW is the Methodology for determining the residual value of the property of the Armed Forces of Ukraine and other military formations (Resolution of the Cabinet of Ministers of Ukraine No. 759, 1998), however, due to the availability of the latest equipment and weapons, it has lost its relevance. It is worth noting that in the Register of Forensic Methods of the Ministry of Justice of Ukraine (Register of Forensic Examination Methods, 2024) there are no valid methods and methodical recommendations that could be used by forensic experts during the performance of STE in expert specialty 12.5 "Evaluation of property and equipment for military purposes and armaments" (Table 1).

Table 1. Availability in the Register of Forensic Examination Methods of the Ministry of Justice of Ukraine by type "Commodity examination"

Type and subtype of forensic examination	Index and type of expert specialty	The number of methods introduced in the Register	
		Total	Valid on 31.12.2023
Commodity expertise	12.1 "Determination of the value of machines, equipment, raw materials and consumer goods"	22	9
	12.1.1 "Research of gambling equipment"	No research	

Table 1. Continued

Type and subtype of forensic examination	Index and type of expert specialty	The number of methods introduced in the Register	
		Total	Valid on 31.12.2023
Transport and commodity expertise	12.2 "Determination of the value of wheeled vehicles and the amount of damage caused to the owner of the vehicle"	4	2
	12.3 "Evaluation of shipping facilities"	1	1
	12.4 "Evaluation of aircraft"	–	
Examination of military property	"Evaluation of military equipment and equipment"	–	

Source: developed by authors based on Register of Forensic Examination Methods (2024)

According to the official electronic database, which was created to inform subjects of forensic activity about the availability of methods for conducting forensic examinations, only 44% of the total number of available registered methods under the type "Commodity examination" are valid. Scientific and research institutions of forensic examinations that develop these methods belong to the Ministry of Justice of Ukraine. It is worth noting that the decision on state registration of 75% of current methods was made from 2009 to 2016, and 25% – in 2023. As a result of the analysis of the information indicated in Table 1, the problem of the lack of methodical support for the evaluation of PEMPW and the need for updating is clearly observed current methods.

The methodology that was used, when solving the task of this scientific work includes separate methods, which are a system of means and ways of revealing the regularities of establishing the development of planning mechanisms and carrying out commodity examinations of PEMPW. The following methods were used in the study: linguistic – for analysis terminology (analysis of the definition of such key categories as "military aid", "military property", "military goods", "dual-use goods", etc.); system-functional – for planning and carrying out commodity examinations of the Ministry of Education and Culture; dialectical – for the analysis of the practice of carrying out commodity examinations of the Ministry of Education and Culture; systematisation – for accumulation and generalisation of available information about the object FCE research, as well as the selection of criteria and means of identification; monographic – for specification of the expediency of updating the existing methodical support of FCE PEMPW and developing a new one; analysis and synthesis – for substantiating the conclusions formulated during the research and planning the prospects for further research; documentary – to establish the accuracy and completeness of the initial data contained in the documents provided by the initiator of the appointment of the FCE, in particular, indicating the type, species, model, characteristic features and dimensions, tactical and technical characteristics, categories of the quality (technical) state of the PEMPW.

Results and Discussion

The process of appointing and conducting FCE in the Poltava region shows the need for expert research, which was not relevant before. In particular, this can be said about research carried out within expert specialty 12.5 "Evaluation of property and equipment for military purposes and armaments". This type of examination solves tasks related to the assessment of the value of military property, determination of its type and purpose, characteristics according to the Ukrainian classification of goods of foreign economic activity, establishment of the country of origin, manufacturer and year of manufacture of the property (in cooperation with trasological studies), as well as detection changes in property quality indicators (in cooperation with specialists in the exploitation of similar property) and other aspects. However, solving these tasks is rather complicated, first of all (Dolynskiy *et al.*, 2022; Dolynskiy, 2023; Piskun & Sokolovsky, 2023):

- the lack of a unified terminological approach to the interpretation and clear demarcation of the concepts "military property", "property of the Armed Forces of Ukraine", "military goods", "dual-use goods" during the FCE;
- the absence of any scientific and practical publication that would contain rules, instructions, extracts from instructions, norms and other official documents and little algorithm carrying out a commodity study of evaluation of PEMPW;
- the technical complexity of PEMPW, the identification of which requires special knowledge from the technology of production, operation and maintenance;
- limited access to information regarding the type, species, model, characteristics, dimensions, tactical and technical characteristics that allow identification of PEMPW, both of Ukrainian production and of countries that provide humanitarian and international technical assistance to Ukraine;
- the lack of necessary documents that contain information about the object of research for its unique identification in connection with their destruction or loss through hostilities;
- the specifics of entering into agreements/sales contracts, which consists in the fact that the price per

unit of measurement of the product usually includes the price for additional services (transportation, assembly, installation, maintenance, etc.);

- the lack of access to price information of PEMPW imported to the territory of Ukraine in the customs regime of import;
- the absence of a legally justified mechanism for the interaction of expert institutions and entities that carry out the production and/or implementation of PEMPW on the issues of providing price information to relevant requests.

It is worth noting that, as part of supporting the defense capability of the Ukrainian people, since the beginning of martial law, on February 24, 2022, a large number of PEMPW was imported to the territory of Ukraine as part of the comprehensive partnership assistance of a wide range of democratic countries. The main types of military assistance provided to Ukraine by international partners include actual and necessary consultations, educating and training of military personnel; non-lethal military aid, such as medical supplies, personal protective equipment, communications, fuel, food, vehicles, and others; provision of weapons, including military equipment, various types of weapons and ammunition; as well as the provision of transport and communication services, intelligence and logistics, etc. (Prypolova, 2023). In turn, O.V. Kozlov (2017) considered the task and developed methods of forensic military examination based on the research of missile and artillery weapons.

International aid is provided mostly in the form of humanitarian and international technical assistance to the Armed Forces of Ukraine and other military formations for the timely additional provision of necessary vital material and technical means. In addition, Ukrainian business entities that have reoriented their production to the production of military products are not left out. In general, both international and Ukrainian partners supply a diverse range of military equipment (weapons, military equipment, missiles and ammunition, personal protective equipment, medical equipment, other materials and equipment).

It is worth noting that in accordance with the Resolution of the Cabinet of Ministers of Ukraine "On Amending the Resolution of the Cabinet of Ministers of Ukraine dated December 9, 2022 No. 1378" dated March 30, 2023 No. 290 (2022) the list of goods that can be used as civilian and military means imported into the customs territory of Ukraine during martial law without the need to obtain permission documents from the State Export Control Service of Ukraine has been expanded. These changes add to the list of dual-use items, including body armour, unmanned aerial vehicles, unmanned airships, defense and detection equipment, communications systems, television and night vision equipment, telemetry and telemetry control equipment, optical weapons sights, technologies for the development, production,

repair of PEMPW, etc. However, during the use of such assistance in the field of security and defense, there are problems of legal regulation, namely the potential abuse and inefficiency of the use of military property, which significantly reduces the effectiveness of receiving such assistance, and accordingly, the risks of illegal appropriation and resale of military property and goods appear in the future military purpose. In the conditions of martial law, the problem of involving judicial experts to assess PEMPW in order to ensure a full, comprehensive and effective pre-trial investigation and preventing the loss of evidence in the pre-trial investigation on the grounds of criminal offenses.

The problems of uncertainty during the FCE regarding the assessment of PEMPW are predetermined lack of a clear interpretation of the terms in the normative legal acts of Ukraine. According to Scientific and methodical recommendations on preparation and appointment of forensic examinations and expert studies (Order of the Ministry of Justice of Ukraine No. 53/5, 1998) the list of objects of commodity expert examinations according to the types and subtypes of forensic examinations is defined:

- 12.1 "Determination of the cost of machines, equipment, raw materials and consumer goods" – goods for personal use, raw materials and equipment, and it is also determined that the object of research may be other goods;
- 12.5 "Evaluation of property and equipment for military purposes and armaments" – military property, military equipment and armaments.

The norms of Article 1 of the Law of Ukraine "On the Legal Regime of Property in the Armed Forces of Ukraine" (Law of Ukraine No. 1075-XIV, 1999) define the official interpretation of the term "military property", which means the state property complex belonging to institutions, organisations, military units and institutions of the Armed Forces of Ukraine. According to the provisions of the mentioned Law of Ukraine (Law of Ukraine No. 1075-XIV, 1999), military property includes buildings, houses, transmission devices, weapons, combat equipment, ammunition, technical, chemical, engineering, airfield, material, skipper, medical, veterinary, cultural and educational, household property, fuel and lubricants, communication property, food etc.

It should be noted that Article 1 of the Law of Ukraine "On State Control of International Transfers of Military and Dual-Use Goods" (Law of Ukraine No. 549-IV, 2003) defines the interpretation of the term "goods of military purpose as a whole or separately" as products of military use, such as special and military equipment, components for their production, weapons, ammunition, explosive materials, as well as equipment and materials used in the process of development, production and use of these products. The text of the Law of Ukraine "On State Control of International Transfers of Military and Dual-Use Goods" (Law of Ukraine No. 549-IV, 2003)

defines the term “dual-use goods” as specific types of equipment, products, materials, software and technologies, which are not specifically intended for military use. However, together with the civilian purpose, they can be used for military or terrorist purposes, or for the creation, production and use of weapons of mass destruction, goods for military use, or means of delivery of such weapons, including certain types of nuclear materials, chemical substances, biological, bacteriological and toxic substances.

Therefore, there is a need to distinguish the legally established concepts of “military property”, “war materials” or “military products”, which, in particular, the property that can be restricted in circulation or withdrawn from it belongs. Taking into account the by-laws and scientific publications of the authors V.Y. Kysil (2006), E.G. Boichenko (2015), O.O. Buhaiova (2020), the term “military property” has different terminological definitions, therefore it is advisable to distinguish the concept of “military property”, i.e. “products of military purpose” and property that is military, taking into account only the fact that it is on the balance sheet of military units, institutions, organisations and institutions of the Armed Forces of Ukraine and, due to its consumer properties and purpose, can be used not only with military, but also for civilian purposes. V.S. Kozadaiev (2017) investigated that the elimination of contradictions in the designation of this concept should consist in the harmonisation of terminology at the legislative level, which will contribute to the effectiveness of legal regulation. P.M. Kondyk (2002), in addition to defining the concept of “military property”, defined its types and characteristics, the powers of state structures to manage this property. V.S. Shcherbyna (2012) considered the peculiarities of the legal regime of military property, characterises its individual elements. One of the ways of distinguishing these concepts is consideration purpose of the property and its most effective use. Along with this, in this case, there is a need for identical presentation of information regarding property characteristics in different reference sources.

Article 3 of the Law of Ukraine “On the Legal Regime of Property in the Armed Forces of Ukraine” (Law of Ukraine No. 1075-XIV, 1999) regulates that PEMPW becomes military from the moment of its acceptance into the Armed Forces of Ukraine and official attachment to a specific military unit of the Armed Forces of Ukraine. In particular, it should be noted that a clear explanation is needed to resolve the issue of equipment, weapons and property belonging to the military, if it is at the stage of registration in the customs import regime, and there is a need to determine its classification characteristics in order to assign it to a certain grouping.

In expert practice, a single approach to solving typical tasks that are set before forensic experts should be fixed in the methods of conducting forensic

examinations. To form an information database of available methods and methodological recommendations for conducting forensic examinations, which are recommended for use in expert practice and have passed certification in accordance with the Procedure for Attestation and State Registration of Methods of Conducting Forensic Examinations (Resolution of the Cabinet of Ministers of Ukraine No. 595, 2008) operates the Register of Forensic Examination Methods (2024). As of the beginning of 2024, in this register (Register of Forensic Examination Methods, 2024) there are no methods for conducting forensic examinations, and the type of expert specialty “Commodity examination” does not contain details at the level of subtype 12.5 “Evaluation of property and equipment for military purposes and weapons”.

Methodological support for the implementation of STE in the specialty 12.5 “Evaluation of property and equipment for military purposes and armaments” should be aimed at creating a comprehensive unified approach to conducting expert studies to determine the value of PEMPW; ensuring methodical uniformity and systematisation of expert activity; optimisation of time spent and reduction of labour intensity during execution commodity studies; improving the effectiveness of research; guarantee necessary conditions to protect the expert’s professional competence in the event of an appeal results of expert research. The methodology for carrying out FCE in specialty 12.5 “Evaluation of property and equipment for military purposes and armaments” should include certain elements (provisions) (Fig. 1).

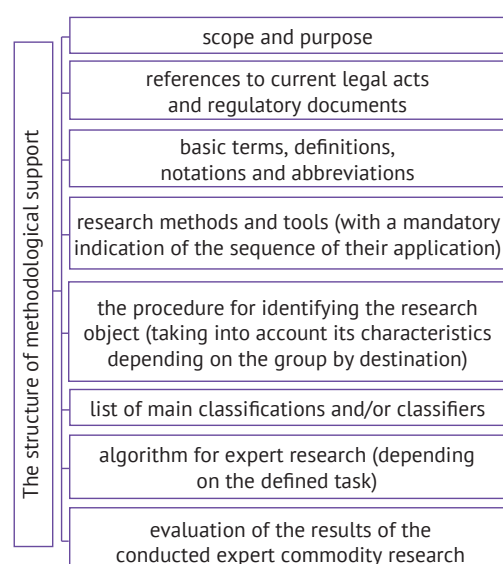


Figure 1. Structure diagram of the methodological support of STE in the specialty 12.5 “Evaluation of property and equipment for military purposes and armaments” (authors’ own development)

Source: developed by the authors

As a result of the analysis of the tasks presented for the solution of the FCE of PEMPW, the purpose of the commodity research was to establish the market value or determine the amount of material losses due to damage or complete destruction of such property. Determining the value of property and property rights is regulated by the Law of Ukraine "On Valuation of Property, Property Rights and Professional Appraisal Activity in Ukraine" (Law of Ukraine No. 2658-III, 2001) and is carried out in accordance with the requirements of current normative legal acts on property valuation, such as national property valuation standards approved by the Cabinet of Ministers of Ukraine, as well as methods, methodological recommendations and other valid normative legal acts. These acts are developed taking into account the requirements of national standards and are confirmed by the Cabinet of Ministers of Ukraine or the State Property Fund of Ukraine. At the same time, the direct activity of forensic experts, including commodity experts, which is related to the evaluation of PEMPW, is carried out in the manner and under the conditions provided for by the Law of Ukraine "On Forensic Expertise" (Law of Ukraine No. 4038-XII, 1994), at the same time, the peculiarities determined by the Law of Ukraine "On Valuation of Property, Property Rights and Professional Valuation Activity in Ukraine" regarding methodical regulation of valuation of such property (Law of Ukraine No. 2658-III, 2001) are taken into account. The research part of the opinion of the forensic expert-commodity expert described in detail all the procedures related to the evaluation of PEMPW, established by the current normative legal acts on the evaluation of property (Law of Ukraine No. 2658-III, 2001; Resolution of the Cabinet of Ministers of Ukraine No. 1440, 2003). In addition, the forensic commodity expert must comply with the requirements of the national property valuation standards during the FCE, which is aimed at establishing the value of the property. The general requirements for the performance of tasks for determining the market and non-market types of the value of PEMPW, including the definition of the purpose and tasks of evaluation, type of value, methodical approaches and methods of evaluation, are regulated by National Standard No. 1 "General Principles of Valuation of Property and Property Rights" (Resolution of the Cabinet of Ministers of Ukraine No. 1440, 2003).

The planning and implementation of commodity expert examinations of PEMPW is based on a comprehensive understanding of the state of the object of evaluation not only at the time of the research, but also on a separate date from the current one, which is the result of unambiguous identification. Object identification in this case means establishing the identity between the object assessment that exists in reality and documentation for it. The complexity of the implementation of this stage of the expert product research consists in providing the forensic expert with documents that contain

information about the type, species, model, characteristic features, dimensions, tactical and technical characteristics, conditions and term of operation, maintenance procedures, categories of quality (technical) the state of PEMPW, both of Ukrainian production and of countries that provide humanitarian and international technical assistance to Ukraine.

It should be noted that the initiators of the appointment of examinations often cannot provide the initial data necessary for conducting such studies, due to their complete or partial loss and/or destruction as a result of active military operations on the territory of Ukraine. It is important not to ignore the fact that record-keeping, documentary movement, receipt, storage, delivery to the unit from warehouses, recording of technical condition, organisation of technical maintenance and repair are complicated by actions necessary to eliminate the threat of danger to territorial integrity, as well as danger to the state independence of Ukraine as a whole, cessation of armed aggression and guarantee of national security.

In addition, the expert product research involved an examination of the damaged objects of the examination. At this stage, taking into account the tasks assigned to the expert, the damage caused by negative factors and the actual condition of the objects are fixed using organoleptic research methods, the degree of damage, the change in consumption properties and the possibility of their further use for the intended purpose are taken into account. A mandatory condition for conducting an inspection of the PEMPW is the involvement of a specialist with specialised knowledge in the field of military equipment and weapons. It's should be noted that the study of objects damaged by negative influences should take into account regime restrictions, provided access to them is provided, and be carried out in the shortest possible time to avoid changes in the object's condition.

V.M. Bondar (2016) investigated the sources of information and raw data necessary for carrying out FCE PEMPW, and also considered possible methodical approaches to determining the market and non-market value of these objects. The author also noted that during cost and comparative methodical approaches can be used to determine the cost of PEMPW. The income methodical approach cannot be applied, as it involves the assessment of the current value of future income, taking into account the principle of a direct relationship between the value of the assessed object and the income that will be received as a result of its intended use or possible resale.

The cost-methodical approach means determining the current cost of costs for replacement or reproduction of the STE object with subsequent adjustment to the amount of wear and tear (depreciation) (Resolution of the Cabinet of Ministers of Ukraine No. 1440, 2003). In practice for the Methodology for determining the

residual value of the property of the Armed Forces of Ukraine and other military formations (Resolution of the Cabinet of Ministers of Ukraine No. 759, 1998) is used to solve issues related to the assessment of the PEMPW, which provided for the use of a cost methodical approach. But the research was complicated by the fact that the specified Methodology (Resolution of the Cabinet of Ministers of Ukraine No. 759, 1998) was focused more on equipment and weapons, which stands on the balance of military formations, and in order to solve the assigned task, the expert needs to have at his disposal a whole series of initial data, which in the conditions of modern reality is practically cannot be provided. If the comparative approach is used, the situation does not improve, since there are no offers on the market for the sale of identical and/or similar property in public access; the selection of identical and/or similar property is complicated by its specificity and the need to take into account the terms of contracts (in particular, the terms of price formation), etc.

V.M. Bondar (2016) in his work emphasised the fact that the determination of the market value of PEMPW and the amount of material damage caused to the owner of the damaged (destroyed) property is possible with the use of combined, comparative and cost approaches in combination, according to the following algorithm of actions:

- with the application of a cost-methodical approach, the residual value of the PEMPW is determined, which involves taking into account the technical and commercial condition, the terms of operation, resources, and working hours as of the date of the assessment and the subsequent deduction of the amount of wear and tear;
- with the application of a comparative methodical approach, on the basis of initial data obtained from reliable sources, similar objects on foreign sales markets are selected.

After that, the average market value of the sale is calculated and a property offer is provided. Since the average market value of sales is a reflection of indirect factors, such as the technical condition, product appearance, resources and operational experience of the objects of comparison, their parameters are taken as average values. For further calculations, an appropriate adjustment is made between the object of research and the object of comparison.

In order to implement the specified methodical approaches for determining the value of PEMPW, it is necessary to have price information, taking into account the specific expert situation, determined by the research objects and the questions posed to the experts on the specific date of the assessment, taking into account the actual state of the appearance of the object and packaging, the presence or absence of damage and defects (provided the objects are provided for research), as well as information contained in the documents about the state of the objects during the purchase and sale of

goods, or other situations that provide sufficient information about the research object (provided non-provision object for research).

Taking into account the provisions of National Standard No. 1 "General Principles of Valuation of Property and Property Rights" (Resolution of the Cabinet of Ministers of Ukraine No. 1440, 2003), which relate to the object of assessment, in particular PEMPW, and trends in the market of similar or similar property are also analysed, information on purchase and sale agreements of similar property, necessary for the application of a comparative methodical approach, and other important information. On the basis of this analysis, the formation of substantiated conclusions concerning the results of the conducted FCE is carried out, with the participation of a forensic expert-commodity expert.

In addition, in case of insufficient price information or its absence, in accordance with the provisions of paragraph 2.2 of the "Instructions on the appointment and conduct of forensic examinations and expert studies" (Order of the Ministry of Justice of Ukraine No. 53/5, 1998), the judicial the commodity expert must independently conduct a comprehensive commodity research and draw up a well-founded and objective written conclusion, which includes answers to the questions posed by the initiator of the FCE. Considering the specifics of the objects of research, in particular PEMPW, there is mostly no publicly available open price information on the Internet, which forces the forensic expert-commodity expert to turn to specialised enterprises of the relevant industries, which can provide the information necessary to determine the value of PEMPW. However, the available practical experience of carrying out STE shows that business entities that are owners of commercial information ignore such appeals or, in response to them, refer to the norms of the legislation of Ukraine (Law of Ukraine No. 436-IV, 2003), indicate that this information has potential commercial value and cannot be made available to third parties without legal grounds. The owner of the information is obliged to take appropriate measures to ensure the confidentiality of this information.

At the same time, the list and content of information that may constitute a commercial secret, as well as the procedure for their protection, are determined by its owner independently. In turn, it is worth noting that the information possessed by the specified business entities is extremely important for conducting the STE of the PEMPW, therefore it is necessary to regulate at the legislative level the mechanism of cooperation between expert institutions and economic organisations engaged in the manufacture or sale of goods for military purposes and dual-use goods.

It is worth noting that if there is no price information on the Internet it is possible to use the price data of the contract/agreement under which the delivery took place. However, the use of price data from contracts/

agreements requires a detailed study of the terms of the agreement for its compliance with the concept of market value, the inclusion of additional services (transportation, assembly, installation, maintenance, etc.) in the price per unit of product measurement and the implementation of the price update procedure in accordance with modern price level using adjustment indices (deflator indices) (Hokhberh, 2014). At the same time, the greatest difficulty lies in separating the cost of additional services from the price per unit of product measurement (due to the lack of clear calculations in the specification), in order to determine the objective market value.

Conclusions

According to the results of the analytical studies, the need to agree on the terminology related to the evaluation of PEMPW has been established, in particular, there is a need for a clear definition of terms and concepts that will not have different definitions. The work presents the main criteria and means of identifying PEMPW, which will allow the forensic expert to assign the research object to the appropriate classification group and determine the main characteristics that affect their value. In connection with the insufficient and ambiguous information about the PEMPW, it is advisable to collect and update the database regarding this property and create unhindered access to it. The authors justified the choice of a methodical approach to the assessment of PEMPW, which should be based on the principles of supply and demand, usefulness, substitution, the most effective use, taking into account the initial data, which contain complete, unambiguous and reliable information about the object of research. Operating with the practical experience of forensic experts-commodity experts who work in completely

different conditions, often with research objects made of using the latest technologies, in conditions with limited access to information data and in an unsettled regulatory and legal field, it is worth noting the need to develop methodical support, which can be used by forensic experts-commodity experts when solving issues related to the evaluation of PEMPW when conducting commodity research in expert specialty 12.5 "Evaluation of property and equipment for military purposes and weapons".

The prospect of further research is the development of methodological recommendations for the conduct of FCE of PEMPW, which should include the following main elements (provisions): scope and purpose; basic terms and definitions of concepts, designations and abbreviations; references to means and methods of research with a mandatory indication of the sequence of their application; a description of the procedure for identifying the object of research with a mandatory indication of the means and criteria for identifying PEMPW; analysis of modern classifications and/or classifiers; algorithm of expert PEMPW; evaluation of the results of the conducted commodity research. Further research in the field of PEMPW evaluation will provide an opportunity to ensure the complexity, focus and comprehensiveness of the product research in order to achieve the logic and consistency of the expert's actions when solving specific expert tasks, which will contribute to the validity of his conclusions.

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Conflict of interest

None.

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Проблеми планування та здійснення товарознавчих експертиз майна і техніки військового призначення та озброєння

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Анотація. У період з 2014 по 2024 рік працівники установ судово-експертної діяльності підкреслювали важливість проведення незалежних, кваліфікованих та об'єктивних експертиз для забезпечення правосуддя. Це створювало потребу в проведенні судових товарознавчих експертиз майна та техніки військового призначення та озброєння. Метою дослідження був аналіз нормативно-правової та методичної бази здійснення судових товарознавчих експертиз майна і техніки військового призначення та озброєння, задля подальшої розробки єдиного підходу до проведення досліджень та гарантування систематичності експертної практики, підвищення достовірності отриманих результатів досліджень. У дослідженні використані такі методи: лінгвістичний, системно-функціональний, діалектичний, систематизації, монографічний, аналізу та синтезу. Результатом дослідження, який включав практичну складову судової товарознавчої експертизи було окреслення проблем планування та здійснення експертиз майна і техніки військового призначення та озброєння, які полягають у: відсутності єдиного термінологічного підходу до основних понять; технічній складності досліджуваних об'єктів; обмеженості доступу до інформації і документів, які містять характеристики об'єктів дослідження; необхідності врегулювання механізму взаємодії експертних установ і суб'єктів, що здійснюють виготовлення та/або реалізацію даних об'єктів; необхідності розробки науково-практичних видань. У роботі було виокремлено ідентифікаційні ознаки відповідного майна та техніки, які містять інформацію щодо виду, типу, моделі, розміру, тактико-технічних характеристик, категорії якісного (технічного) стану, які дозволять систематизувати роботу експерта у цьому напрямку. Наведено обґрунтування вибору методичного підходу до визначення ринкових та неринкових видів вартості, враховуючи наявність та повноту необхідних вихідних даних, зокрема аргументовано недоцільність застосування дохідного методичного підходу та рекомендовано використання витратного та/або порівняльного методичних підходів. Результати наукової роботи спрямовані на удосконалення якості виконання судової товарознавчої експертизи з питань оцінки майна та техніки військового призначення та озброєння і сприятимуть підвищенню обґрунтованості проведених товарознавчих досліджень. Результати дослідження можуть бути використані для подальшого розроблення методичного забезпечення, яке може бути використано судовими експертами для проведення досліджень за спеціальністю 12.5 «Оцінка майна і техніки військового призначення та озброєння»

Ключові слова: воєнна допомога; військове майно; товари подвійного використання; вартість; методичний підхід; оцінка майна