

DOI: <https://doi.org/10.57125/FEL.2022.09.25.01>

How to cite: Zakharchuk, A. (2022). Legal Mechanisms for Arms Control in Ukraine Amid Emerging Security Threats. *Futurity Economics&Law*, 2(3), 4–24. <https://doi.org/10.57125/FEL.2022.09.25.01>

Legal Mechanisms for Arms Control in Ukraine Amid Emerging Security Threats

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Received: May 13, 2022 | **Accepted:** August 16, 2022 | **Available online:** September 25, 2022

Abstract: The research aim is to explain the future challenges of legal regulation in the field of arms control in the Ukrainian context. The authors addressed the following research objectives: to analyse citizens' attitudes towards weapons and its legalization; to present the acceptance of existing legal acts and provide possible amendments; to describe the approaches to adapt legal structures in the field of arms control; to investigate the future challenges of legal regulation of arms control and suggestions for their contractions. The research targeted a diverse sample of the Ukrainian population which included 1215 respondents of voting age. The study was conducted between March and August, 2022 through structured questionnaires, semi-structured interviews, and focus groups. To analyse the data quantitative and qualitative analysis, and integration methods were applied. The findings showed that weapons are essential for national security and protecting against external threats but they rise some concerns. It was revealed that in Ukraine, the legalization of firearms is characterized by a highly regulated framework aimed at balancing civilian access with public safety. It was proved there is significant support among citizens for the strict weapons legalization, reflecting a desire for accurate regulations that ensure responsible ownership while addressing security concerns. It was studied certain amendments to the existing legislation, such as access for self-defense, streamlined licensing, enhanced training, focus on mental health, improved public awareness, modernized safe storage requirements, expanded categories for firearm use, and enhanced data processing. The survey revealed the following future challenges in arms control legislation in Ukraine: technological advancements, cybersecurity threats, cross-border proliferation, geopolitical dynamics, public opinion changes, legislation harmonization, ethical considerations, adapting to new threats. The authors conducted the

detailed analysis of possible counteractions to these future challenges. The findings can be implied for the development and adaptation of arms control policies at the national and international level.

Keywords: weapons, legislation, amendments, public opinion, counteractions, attitudes.

Introduction

Today weapons play a multifaceted role in the contemporary society, serving both protective and offensive purposes (Szpakowska, 2019). On one hand, weapons are essential tools for national defense and security since they allow countries to deter aggression and maintain stability. Modern military technologies, including advanced missile systems, cybersecurity measures, and precision-guided munitions, enable nations to protect their sovereignty, support peacekeeping missions, and respond to various threats more effectively. However, weapons also pose significant dangers if not managed carefully (Florquin, 2021). The proliferation of advanced weaponry increases the risk of conflicts escalating and leads to arms races. Additionally, the misuse of weapons can result in catastrophic consequences for global security and human life. The dual nature of weapons underscores the need for accurate arms control measures and international cooperation to balance their benefits against their potentials for harm.

According to scientific literature (Wisotzki & Kühn, 2021), arms control refers to efforts and agreements aimed at regulating or reducing the number and types of weapons possessed by nations, particularly those with the potential for mass destruction. The goal is to enhance global security and stability by preventing an arms race, reducing the likelihood of armed conflict, and promoting transparency and trust among countries (Sossai, 2021). Arms control agreements often involve measures such as limiting weapon production, instituting verification procedures, and fostering diplomatic dialogues to address and resolve disputes peacefully. Arms control is necessary because it helps mitigate the risks associated with the proliferation of advanced weaponry, particularly nuclear and cyber weapons, which can lead to catastrophic consequences if tensions escalate. At the same time, national arms control law refers to legislation enacted by a country to regulate and control the development, production, possession, and use of weapons within its borders (Siegel & Blocher, 2020). These laws are designed to manage and mitigate the risks associated with armaments, including firearms, and explosives. National laws typically deal with the procedures for licensing and registration, restrictions on the types and quantities of weapons individuals or organizations can possess, and penalties for violations. They also often include measures to prevent illegal trafficking of weapons.

As a rule, arms control laws comply with international treaties to ensure cohesive and effective regulation of weapons globally (Klomp & Beeres, 2022). International treaties, such as the Treaty on the Non-Proliferation of Nuclear Weapons (1970) and the Arms Trade Treaty (2014), establish universally recognized standards and norms that help prevent the proliferation of weapons and minimize global security risks. When national laws align with these treaties, they contribute to a unified approach that enhances international cooperation, and strengthens verification mechanisms. Ukraine, being a member of international community, recognizes several key international legal documents in the field of arms control, reflecting its commitment to global security and disarmament (Buhaichuk, 2021). As a party to the Treaty on the Non-Proliferation of Nuclear Weapons, Ukraine is dedicated to preventing nuclear proliferation, promoting disarmament, and encouraging peaceful nuclear cooperation. The country also adheres to the Arms Trade Treaty, which regulates international arms transfers to prevent illicit trade. Additionally, Ukraine is a signatory to the Convention on Certain Conventional Weapons, the Chemical Weapons Convention, and the Biological and Toxin Weapons Convention, thereby contributing to global efforts in arms control and non-proliferation.

During the Russian-Ukrainian war, the issue of arms control regulation has gained a special significance for Ukraine. The conflict has led to an increased influx of weapons into the region, making

it imperative to enforce strict controls to prevent the proliferation and misuse of arms. This is particularly important because there arises the risk of advanced weaponry being used in ways that could escalate the conflict or cause further civilian harm. Therefore, effective arms control regulation is essential to ensure that arms transfers are conducted transparently and responsibly, in accordance with international standards (Buhaichuk, 2021; Siegel & Blocher, 2020). Besides, it is necessary to admit that the challenge of arms control regulation is complicated by the dynamic nature of the ongoing conflict. With both sides engaging in rapid and intense military operations, maintaining arms control agreements becomes difficult. The conflict emphasizes the need for international cooperation and monitoring mechanisms to support Ukraine in managing arms flows and eliminating the risks associated with the conflict. At the same time, it is obvious that strengthening arms control measures not only contributes to immediate security concerns but also supports long-term stability and peace efforts in the country.

Research Problem

The issue of legal regulation of arms control is widely presented in the scientific literature (Klomp & Beeres, 2022; Siegel et al., 2020). It was found that the recent works relate to a number of problems and reveal the research topic in different aspects. For example, some scholars examine how international treaties and agreements (such as the Non-Proliferation Treaty, the Chemical Weapons Convention, and the Biological Weapons Convention) are implemented and enforced across different nations (Edwards et al., 2022; Lee & Nacht, 2020). Some findings describe the challenges which include discrepancies in national regulations, enforcement mechanisms, and compliance verification (Wisotzki & Kühn, 2021). Koch, Scheber, Guthe, and Joseph (2019) address the effectiveness and reliability of verification systems to ensure compliance with arms control agreements. The studies are devoted to the development of methodologies for monitoring weapon development and use, as well as creating reliable inspection regimes. The special attention is paid towards technological advancements in weaponry (Billing et al., 2021; Chin, 2019; Zilincik, 2021). The rapid development of new technologies, such as autonomous weapons and cyber capabilities, poses a number of challenges for existing arms control frameworks. The research often focuses on how legal regimes adapt to these technological changes and ensure that new technologies do not undermine the existing controls (Szpak, 2020).

It is worth stressing that some authors study legal and ethical considerations of arms control (Christensen, 2019; Maas, 2019). This usually includes the balance between national security interests and international obligations. Szpak (2020) explores how legal frameworks address the ethical concerns related to the development and use of certain types of weapons. In Ukraine, the legal and ethical considerations of arms control are influenced by the ongoing conflict and geopolitical tensions with neighboring countries. The impact of international politics and power dynamics on arms control agreements was studied by Graef (2021) and Wisotzki and Kühn (2021). These scholars investigated how political interests and conflicts influence the negotiation, implementation, and adherence to arms control laws. The effectiveness of enforcement mechanisms and the imposition of sanctions on non-compliant states is a topic of Erickson (2020). These studies explored the improvement of enforcement strategies and the role of international organizations in the development of arms control regulation. Besides, some works focus on studying public opinion on arms control and its future perspectives.

In the Ukrainian context, a number of scientists in different field studied the issue of arms control regulation. For example, Shumeiko (2021) attempted to form a relevant scientific understanding of the current state of affairs in the regulatory framework for making public policy on firearm circulation in Ukraine. Buhaichuk (2021) studied the current state of legal regulation of civilian firearms turnover in Ukraine. Aso, the author analyzed the existing legislation of Ukraine, particularly «On the circulation of civil firearms and ammunition for them», «On civilian weapons and ammunition», and the Amendments to the Code of Ukraine on Administrative Offenses and the Criminal Code of Ukraine, in details.

Khavroniuk, Krasnytskyi, and Lashchuk (2020) examined the problems with regulating the trafficking of weapons and ammunition emerged in Ukraine after the collapse of the Soviet Union and

proposed the basics for harmonisation of national legislation with the United Nations Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition. Some findings reveal the legal aspects of using western weapons in Ukraine.

Research Focus

Forecasting future challenges in arms control is an important topic in scientific discourse as it allows to address the potential issues before they escalate (Neuneck, 2019). As the global security landscape evolves with a number of technological advancements and emerging threats, understanding how these factors influence arms control frameworks becomes essential (Billing et al., 2021). The predictive analysis in this field may help in refining the existing treaties and developing new regulations that can effectively manage future risks and ensure compliance with international legislation. The research focuses on providing a proactive approach to adapting legal structures to changing realities as well. Integrating public opinion into the discussion on future arms control challenges is equally vital (Crifasi et al., 2022). Public attitudes towards arms control policies can significantly influence legislative processes and the implementation of international agreements. When public perspectives are examined and further incorporated, researchers can better understand concerns and values in the society and present more effective arms control measures at the national level. The recent findings demonstrate that the engagement with public opinion helps eliminate the gap between legal frameworks and citizens' expectations, fostering a more comprehensive and responsive arms control strategy in the country (Jouet, 2019; Lodgaard, 2019). Moreover, the study of future challenges in arms control in Ukraine needs the special attention, given the country's current security situation and geopolitical position. As the country faces ongoing conflicts and regional instability, understanding potential future challenges in arms control becomes essential for the establishment effective policies (Cohen & Ewing, 2022). Obviously, this research helps Ukraine address emerging threats, such as the proliferation of weapons or new forms of warfare, and ensures that its arms control measures remain relevant in the face of evolving risks.

Research Aim and Research Questions

The **research aims** to explain the possible future challenges of legal regulation in the field of arms control in the Ukrainian context.

The following **research questions** are to be addressed:

RQ1: What are citizens' attitudes towards weapons and its legalization in Ukraine?

RQ2: What aspects of the existing legal acts are acceptable in the society and what amendments should be introduced based on public opinion?

RQ3: What approaches can be implemented to adapt legal structures to changing realities in the field of arms control in the Ukrainian society?

RQ4: What challenges of legal regulation in the field of arms control can appear in future? How to counteract them?

Literature Review

To explain the possible future challenges of legal regulation in the field of arms control in the Ukrainian context, it is necessary to study international experience to analyse how individual countries implement and enforce arms control agreements and policies within their legal frameworks (Kühn, 2021). Firstly, many countries integrate international arms control treaties into their national laws (Müller & Wunderlich, 2020). For instance, the United States incorporates international agreements like the Non-Proliferation Treaty and the Chemical Weapons Convention through specific federal legislation and executive orders. This process often involves passing new laws or amending existing ones to align with international obligations. Additionally, executive orders and regulations issued by federal agencies, such as the Department of State or the Department of Defense, provide detailed guidelines for enforcing

treaty provisions, ensuring that US arms control policies align with international commitments while addressing national security interests (Spieller, 2020). Frequently, countries frequently create national bodies or agencies to oversee arms control implementation (Dinshak, 2020). The United Kingdom has established the Defense and Security Organisation to manage arms control compliance, while the Organization for the Prohibition of Chemical Weapons works with national authorities to verify adherence to the Chemical Weapons Convention (Hirsch Ballin, Dijstelbloem, & de Goede, 2020; Koch et al., 2019). These agencies are responsible for monitoring, inspection, and reporting on compliance with arms control regulations.

Secondly, the specific national laws are developed to regulate the production, distribution, and use of weapons (Post et al., 2021). Germany's War Weapons Control Act, for example, regulates the manufacture, trade, and export of war weapons and military equipment (Wisotzki, 2020). In Australia, the Strategic Goods Control Act was established to regulate the export and import of controlled goods and technologies that could contribute to the proliferation of weapons of mass destruction (Warren, 2019). Enforced by the Royal Canadian Mounted Police, the Firearms Act regulates the acquisition, possession, and use of firearms in Canada (Langmann, 2020). It includes provisions for licensing firearm owners, registration of firearms, and control of firearms exports, all of which support Canada's compliance with international arms control agreements and domestic security objectives. In Ukraine, several laws and regulations govern arms control. The Law of Ukraine "On National Security", enacted in 2018, establishes the legal foundation for Ukraine's national security policies, including arms control and military preparedness. It outlines the structure of the national security system and incorporates provisions related to arms control and defense (Kobko, 2022). The Law of Ukraine "On Export Control" regulates the export of military goods, dual-use items, and technologies (Kravchenko et al., 2019). The Law of Ukraine "On Weapons" focuses on the ownership, use, and control of various types of weapons, including firearms and ammunition. It includes regulations on the registration, storage, and handling of weapons (Shumeiko et al., 2021). Some legal acts prohibit the production and use of chemical weapons and establishes measures for their destruction and control in Ukraine as well (Dvurechenska & Ishchenko, 2019).

Thirdly, as new threats and technologies emerge, many countries update their legislative frameworks to address these challenges. For instance, the rise of autonomous weapons and cyber warfare has prompted nations to revise their arms control laws and policies to cover these new domains, ensuring that national regulations remain effective in managing modern security risks (Rosert & Sauer, 2019). The findings show that the European Parliament adopted several resolutions addressing the issue of autonomous weapons (Barbé & Badell, 2020). For example, in 2018, the Parliament called for a ban on fully autonomous lethal weapons. These resolutions influence EU policy by shaping legislative and regulatory approaches to autonomous weapons. Besides, the Horizon Europe research program funds projects that explore the ethical, legal, and technical aspects of autonomous weapons (Ricciardiello, Leja, & Ollivier, 2021). In this context it is necessary to explain certain cybersecurity measures in arms control. In the UK, these measures reflect a strategic response to the increasing integration of digital technologies in defense systems and the growing threat of cyber attacks (Veale & Brown, 2020). They include the UK National Cyber Security Strategy which outlines the government's approach to protecting critical infrastructure, including defense systems, from cyber threats and the Cybersecurity Regulations for Defense Technology which ensure that defense technologies, including those related to arms control, meet high cybersecurity standards (Allison, 2022).

Currently, according to the scientific literature, the legal nature of regulation in the field of arms control faces several complex problems that impact its effectiveness and implementation (Neuneck, 2019). One major issue is the enforcement and compliance challenge. Wisotzki and Kühn (2021) indicate that, despite the existence of international treaties and agreements, the adherence of different states to their arms control commitments remains difficult. This is because states prioritize their own security needs and geopolitical goals over international commitments, leading to selective compliance.

Another significant problem is the uncertainty and interpretation of legal obligations (Klomp & Beeres, 2022). Arms control treaties and agreements can be complex and open to various interpretations, leading to disagreements among states about their obligations. This uncertainty creates some challenges in achieving uniformity in how arms control measures are applied and enforced (Graef, 2021). This lack of clarity can undermine the effectiveness of arms control frameworks and hinder efforts to address new and emerging threats. And lastly, the influence of geopolitical dynamics poses a considerable challenge to the legal nature of arms control regulation (Coe & Vayman, 2020; McCormack & Gilbert, 2022). The shifting landscape of international relations and power dynamics affect the commitment of states with arms control agreements.

In recent years, several notable tendencies have emerged in legal regulation in the field of arms control. It was found that one major tendency is the increased emphasis on multilateral agreements and frameworks (Peczeli, 2021). Recognizing that arms control challenges are global in nature, states are increasingly engaging in multilateral treaties and agreements to create comprehensive regulatory systems. This approach aims to enhance global cooperation and establish a unified view on arms control issues (Grimes, 2020). Vaynman (2021) shows that the integration of advanced verification and monitoring technologies into arms control regimes is important nowadays. Technologies such as satellite imagery, remote sensing, and digital monitoring systems are being increasingly incorporated into arms control frameworks to provide more accurate and reliable verification processes. These advancements help address the complexities of modern arms control challenges by improving the ability to detect and prevent violations (Bauer, 2020). Besides, the expansion of arms control frameworks to address emerging and non-traditional threats is described by Rudy (2021). Traditional arms control agreements have primarily focused on state-based military capabilities, but there is a growing recognition of the need to address new and evolving threats such as cyber warfare, autonomous weapons systems, and the proliferation of dual-use technologies (Szpak, 2020). It reflects an adaptive response to the changing nature of global security threats and aims to ensure that arms control measures remain relevant and effective in the face of technological advancements. Graef (2021) mentions the increased involvement of non-state actors and international organizations in arms control efforts as a key tendency in legal regulation in the field of arms control. Their involvement helps to enhance transparency, raise awareness, and drive international pressure for more accurate arms control measures.

Considering these findings, the research requires to explain citizens' attitudes towards weapons and its legalization in Ukraine. In addition, the description of future challenges of legal regulation in the field of arms control must be based on the analysis of the existing legal acts in the society and their possible amendments. The special attention must be paid towards public opinion since it influences both the development and implementation of arms control policies. Citizens' attitudes and perceptions can drive political will and shape the priorities of policymakers, making it essential to consider the views of the general population when designing arms control measures. Importantly, the investigation of future challenges of legal regulation in the field of arms control may contribute to creation of relevant and adaptable legal frameworks as well as management of the existing risks in the society effectively.

Materials and Methods

Public choice theory became a theoretical basis for researching the legal regulation in the field of arms control since it outlined the principles and practices to conduct the examination of influence of individual preferences and political behavior on policy outcomes (Torgler, 2022). According to Post, Mason, Singh, Wleklinski, Moss, Mohammad, Issa, Akhetuamhen, Brandt, Welch, and Oehmke (2021), in the context of arms control, public choice theory posits that government decisions on arms regulation are shaped by the need to adjust to voters' preferences, interests, and political pressures. Using the theory, researchers analysed how public opinion can change arms control policies and they were able to draw future challenges of legal regulation in the field of arms control. Additionally, public choice theory highlighted the role of information asymmetry and the influence of special interest groups in

studying arms control regulations (Jouet, 2019). Researchers explored how these dynamics may affect policy decisions in future and the extent to which public opinion is represented in regulatory outcomes. This approach helped to uncover the complexities of the policy-making process, providing a detailed understanding of how public preferences shape arms control regulation.

Using public choice theory, researchers first gathered data on public opinion related to arms control in Ukraine through surveys, polls, and focus groups. This data provided insights into the Ukrainian citizen's attitudes towards various arms control measures. Researchers also assessed whether arms control measures align with public opinion and how effectively these policies address public concerns in the country. They compared the existing legal acts with the preferences expressed in public opinion surveys and other data sources. Based on their findings, researchers provided the recommendations for improving the alignment between public opinion and arms control regulations in Ukraine. These recommendations aim to ensure that arms control policies are more responsive to citizens' needs and revealing future challenges may contribute to creation of relevant and adaptable legal frameworks in the field of arms control.

Sample and Participants

The research targeted a diverse sample of the Ukrainian population to ensure representative data into public opinion on arms control. The sample included various demographic groups, such as age, gender, education level, and geographic location, to capture a comprehensive view of citizens' attitudes. A stratified random sampling method was used to ensure that different segments of the population are adequately represented. The study aimed for a sample size of 1215 respondents. This size was chosen to provide statistically significant results and ensure that the findings can be generalized to the broader population. Participants included Ukrainian citizens of voting age (18 and older), reflecting various political views, educational levels, and regional backgrounds. Data was collected through multiple channels, such as online surveys, telephone interviews, and face-to-face interactions, to reach participants across different regions and socio-economic status.

Instruments and Procedures

The study was conducted between March and August, 2022 through structured questionnaires, semi-structured interviews, and focus groups. A structured questionnaire was developed to gather quantitative data on public opinion regarding attitudes towards weapons legalization in Ukraine and the existing legislation on arms control. The questionnaire includes 12 closed and open-ended questions and covered opinions on existing arms control agreements, views on future challenges and what amendments should be introduced. The questionnaire was designed to be concise and clear to ensure high response rates and reliable data.

For qualitative data, semi-structured interviews with selected participants were organized. These interviews included open-ended questions that explored participants' detailed opinions, concerns, and suggestions regarding arms control regulations. Interviews were conducted with a diverse group of respondents, including experts in arms control, and members of non-governmental organizations, representatives of military units and law-enforcement agencies. Besides, focus groups were organized to gather qualitative data on public attitudes and discussions about arms control. Protocols for focus group discussions were prepared to ensure that conversations cover a range of topics, including public perceptions, concerns about arms control policies, and suggestions for improvements.

Data Analysis

To analyse the data the following instruments were used: quantitative and qualitative analysis, and integration methods. Firstly, the survey data was analyzed using statistical methods to identify trends, correlations, and patterns in public opinion. Descriptive statistics provided an overview of general attitudes and opinions on legal regulation in the field of arms control. The data was presented through tables and graphic materials to illustrate main outcomes. Secondly, the data from interviews

and focus groups was analyzed using qualitative analysis to identify common themes and patterns. This involved coding responses into categories and interpreting the content to understand deeper citizens' attitudes. The quantitative and qualitative findings were integrated to provide a comprehensive analysis of public opinion on arms control regulations and possible future challenges. The combined results offer a detailed understanding of how public attitudes influence and are influenced by arms control policies, and what improvement should be made to create relevant legislation in the country considering the existing threats.

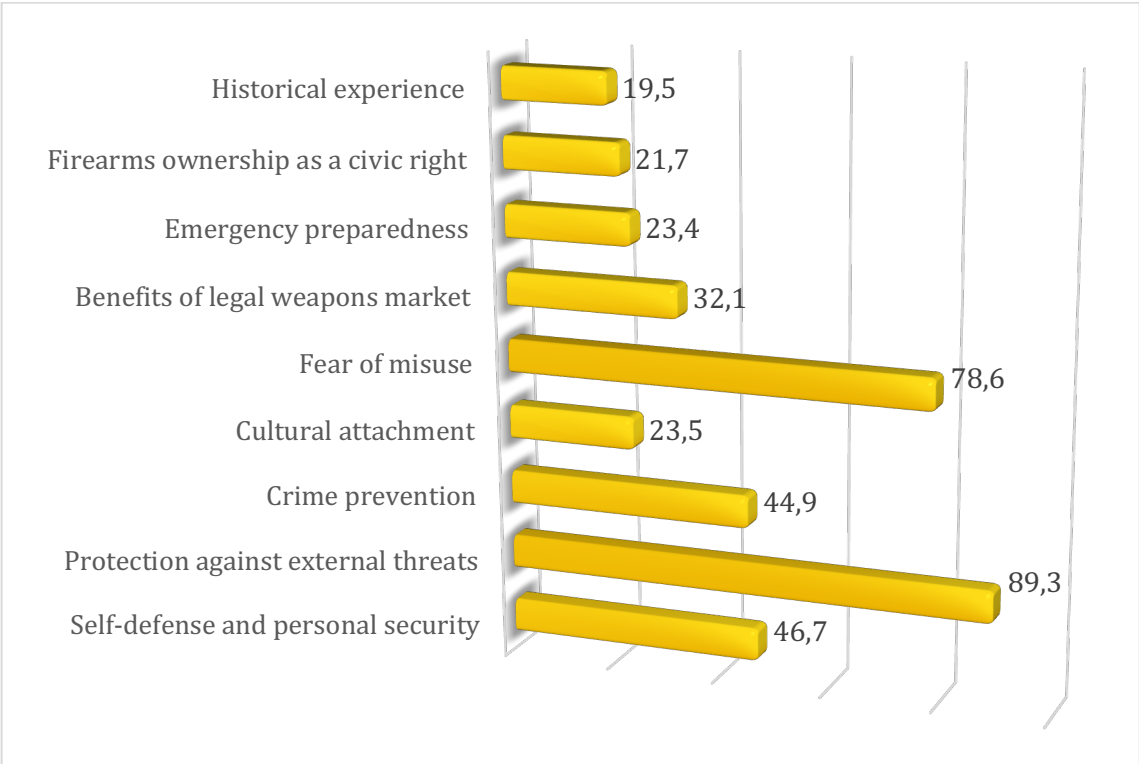
Results

RQ1: What are citizens' attitudes towards weapons and its legalization in Ukraine?

Analyzing citizens' attitudes towards weapons in Ukraine, researchers found that they reflect a range of perspectives influenced by personal experiences, cultural factors, and the current security environment. The results showed that Ukrainian citizens treat weapons differently. 89,3 % of respondents believe that weapons are essential for national security and protecting against external threats. 78,6 % of individuals admitted that they have concerns about the potential for increased gun ownership to lead to accidents or violence. At the same time, 46,7 % of people support for increased civilian access to weapons for self-defense and personal security. 44,9 % of survey participants consider weapons as a deterrent to crime and violence. Also, it was found that a number of people (32,1 %) are interested in in the economic benefits of a legal weapons market, including jobs and business opportunities. Almost a quarter of respondents (23,5 %) appreciate weapons as a part of Ukrainian heritage and tradition. 23,4 % of people support weapons as a means of being prepared for emergencies or unforeseen situations that is very important in war-affected society. 21,7 % of people believe that firearm ownership is a fundamental civic right and personal freedom. And comparatively small number of survey participants demonstrate that their attitudes towards weapons are shaped by historical experiences with firearms, including Soviet-era restrictions and recent conflicts. Figure 1 presents the analysis of citizens' attitudes towards weapons in Ukraine.

Figure 1

The analysis of citizens' attitudes towards weapons in Ukraine

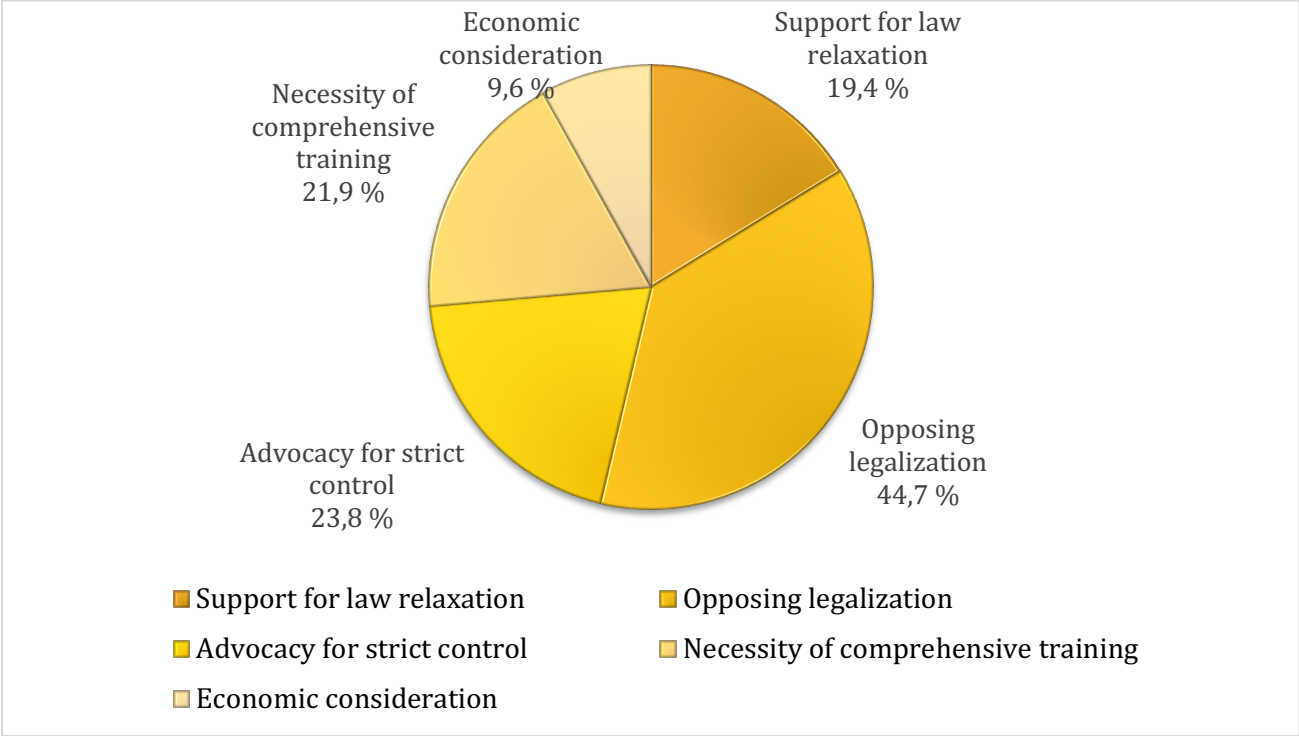


Source: Author's development.

In Ukraine, the legalization of firearms is characterized by a highly regulated framework aimed at balancing civilian access with public safety. The Law of Ukraine “On Weapons” mandates strict procedures for purchasing and handling firearms, including obtaining licenses and permits, undergoing comprehensive background checks, psychological evaluations, and completing mandatory training. Civilian firearms are primarily categorized into hunting and sporting weapons, with strict regulations governing their use. At the same time, the study was oriented at the analysis of citizens’ attitudes towards weapons legalization. And it was found that 44,7 % of individual oppose weapons legalization due to fears that it could lead to increased violence and accidents. 23,8 % of people support weapons legalization but with strict regulations, including thorough background checks. 21,9% of citizens consider that weapons owners should undergo comprehensive training and be aware of weapons legal regulations in the country. 19,4 % of citizens support for law relaxation. They consider that relaxed laws allow easier access to firearms for personal defense and enhanced security. Also, 9,6 % of survey participants support weapons legalization for its potential economic benefits. Figure 2 analyses citizens’ attitudes towards weapons legalization in Ukraine

Figure 2

The analysis of citizens’ attitudes towards weapons legalization in Ukraine



Source: Author’s development.

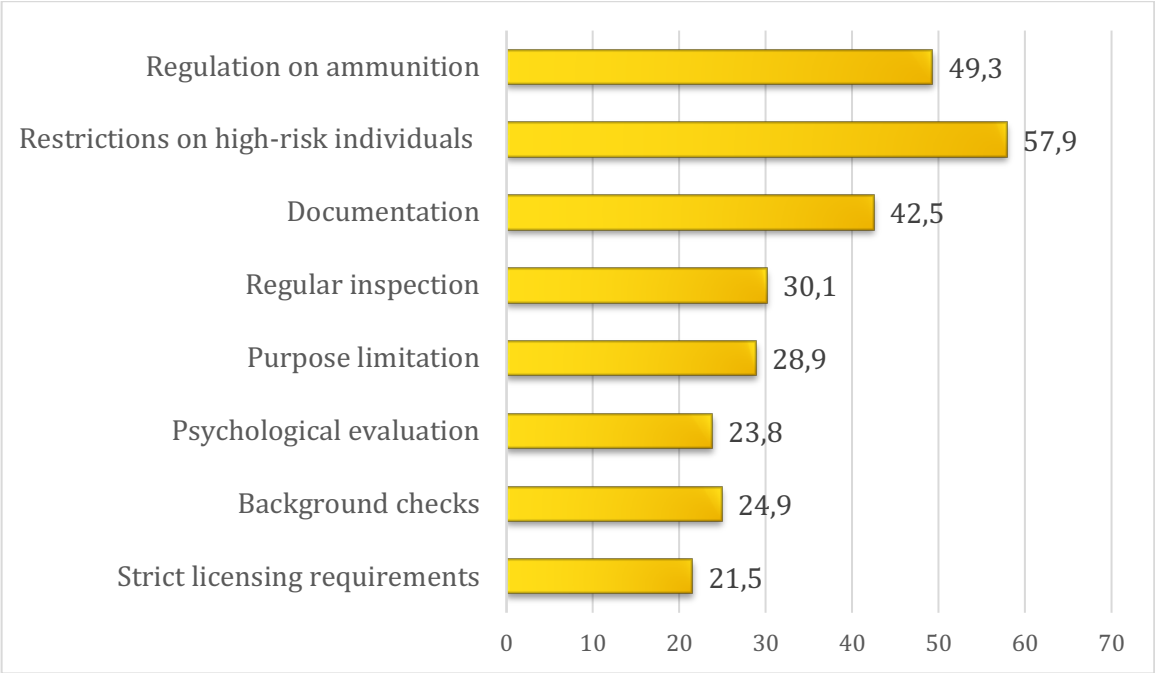
RQ2: What aspects of the existing legal acts are acceptable in the society and what amendments should be introduced based on public opinion?

Based on public opinion in Ukraine, it was revealed that 21,5 % of individuals support strict licensing requirements for obtaining a license before owning a firearm. 24,9 % of citizens agree that the process of conducting thorough background checks on prospective gun owners is essential for preventing firearms from falling into the wrong hands. 23,8 % of individuals support obligatory psychological evaluations for weapons owners. Some people (28,9 %) consider that different categories of firearms (e.g., hunting vs. self-defense) should be regulated differently according to the specific uses and needs. Besides, 30,1 % citizens agree on the necessity for periodic renewal of licenses and inspections. Similarly, 42,5 % of survey participants stress on the necessary of documentation of firearm sales and transfers to track ownership and prevent illegal trade. Relatively large portion of individuals (57,9 %) support legal provisions that restrict firearm access for individuals with criminal records or a

history of violent behavior. At the same time, 49,3 % of citizens admitted the important of controls on the purchase and possession of ammunition, including limits on quantities and requirements for secure storage. Figure 3 shows the acceptance of the existing legal acts in the society

Figure 3

Acceptance of the existing legal acts in the society



Source: Author’s development.

The survey shows, In Ukraine, there is significant support among citizens for the strict legalization of weapons, reflecting a desire for accurate regulations that ensure responsible ownership while addressing security concerns. However, this support comes with a recognition of the need for certain amendments to the existing legislation. Many Ukrainians advocate eased access for self-defense (9,1 % and 11,2 %), streamlined licensing process (8,9 % and 13,4 %), enhanced training for weapons owners (19,6 % and 23,8 %), increased focus on mental health (21,3 % and 26,7 %), improved public awareness campaigns (19,8 % and 28,9 %), modernized safe storage requirements (21,3 % and 22,8 %), expanded categories for firearm use (32,1 % and 29,7 %), and enhanced data sharing and tracking (30,7 % and 23,4 %). Table 1 shows the analysis of suggested amendments of arms control legislation in Ukraine based on public opinion.

Table 1

Suggested amendments of arms control legislation

Suggested amendments	Purpose	Attitudes				
		Completely agree	Agree	Neutral	Disagree	Completely agree
Eased access for self-defense	to make it easier for individuals to obtain firearms for personal self-defense, reflecting growing concerns about personal safety	9,1 %	11,2 %	27,8 %	34,5 %	17,4 %

Streamlined licensing process	to reduce bureaucracy and improve efficiency	8,9 %	13,4 %	34,9 %	29,5 %	13,3 %
Enhanced training	to ensure responsible ownership	19,6 %	23,8 %	24,0 %	21,6 %	11,0 %
Increased focus on mental health	to better address mental health issues among weapons owners	21,3 %	26,7 %	38,9 %	12,8 %	0,3 %
Improved public awareness campaigns	to raise awareness about firearm safety, responsible use, and legal obligations	19,8 %	28,9 %	34,5 %	15,6 %	1,2 %
Modernized safe storage requirements	to reflect modern technology and practices, ensuring that firearms are securely stored and less accessible to unauthorized individuals	21,3 %	22,8 %	20,5 %	22,5 %	12,9 %
Expanded categories for firearm use	to reassess and potentially expand the categories of firearms allowed for various activities	32,1 %	29,7 %	25,1 %	9,6 %	3,5 %
Enhanced data sharing and tracking	to reduce illegal sales and enhance law enforcement capabilities	30,7 %	23,4 %	21,8 %	11,7 %	12,4 %

Source: Author's development.

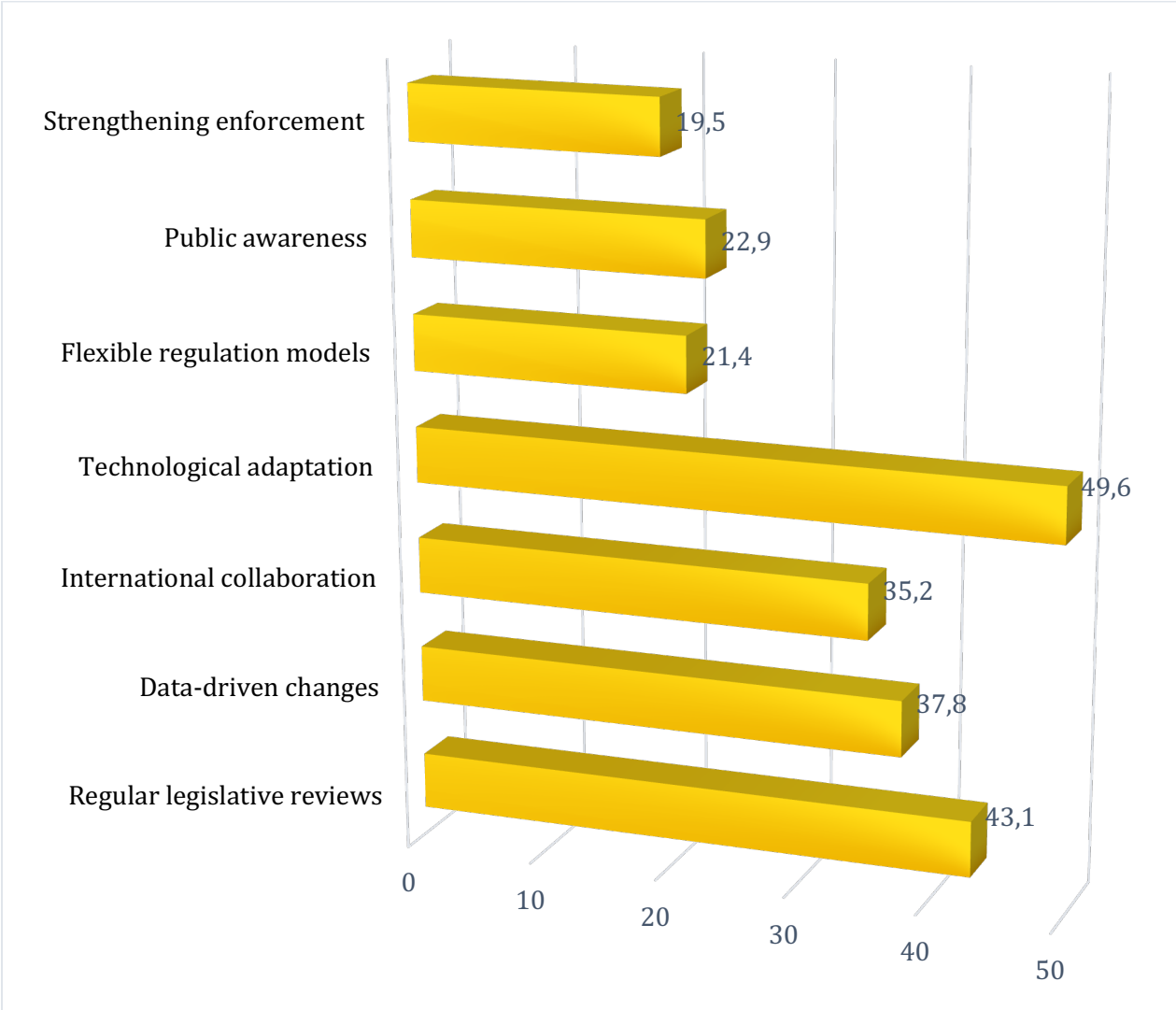
RQ3: What approaches can be implemented to adapt legal structures to changing realities in the field of arms control in the Ukrainian society?

To adapt legal structures to changing realities in the field of arms control in the Ukrainian society, the researchers differentiated 7 approaches on the basis of public opinion. The findings showed that 49,6 % of individuals stress upon updating the legal frameworks to address new technologies and methods in arms manufacturing, distribution, and tracking, ensuring that regulations correspond with innovations in the field. 43,1 % consider that it is necessary to establish a system for periodic reviews and updates of arms control laws to ensure they remain relevant and effective in response to evolving security dynamics and technological advancements. 37,8 % of citizens support utilizing data and research to inform legislative changes, including crime statistics, trends in arms proliferation, and the effectiveness of existing regulations. Other approaches include international collaboration to align

national arms control regulations with global standards and address cross-border issues effectively (35,2 %), adopting flexible regulatory models that can quickly adapt to sudden changes in the security environment (21,4 %), promoting public understanding of arms control laws and their implications through education campaigns (22,9 %), and strengthened enforcement mechanisms by providing law enforcement agencies with the necessary resources, training, and tools to effectively implement and monitor arms control laws (19,5 %). Figure 4 demonstrates possible approaches to adapt legal structures in the field of arms control in the Ukrainian society.

Figure 4

Possible approaches to adapt legal structures in the field of arms control in the Ukrainian society



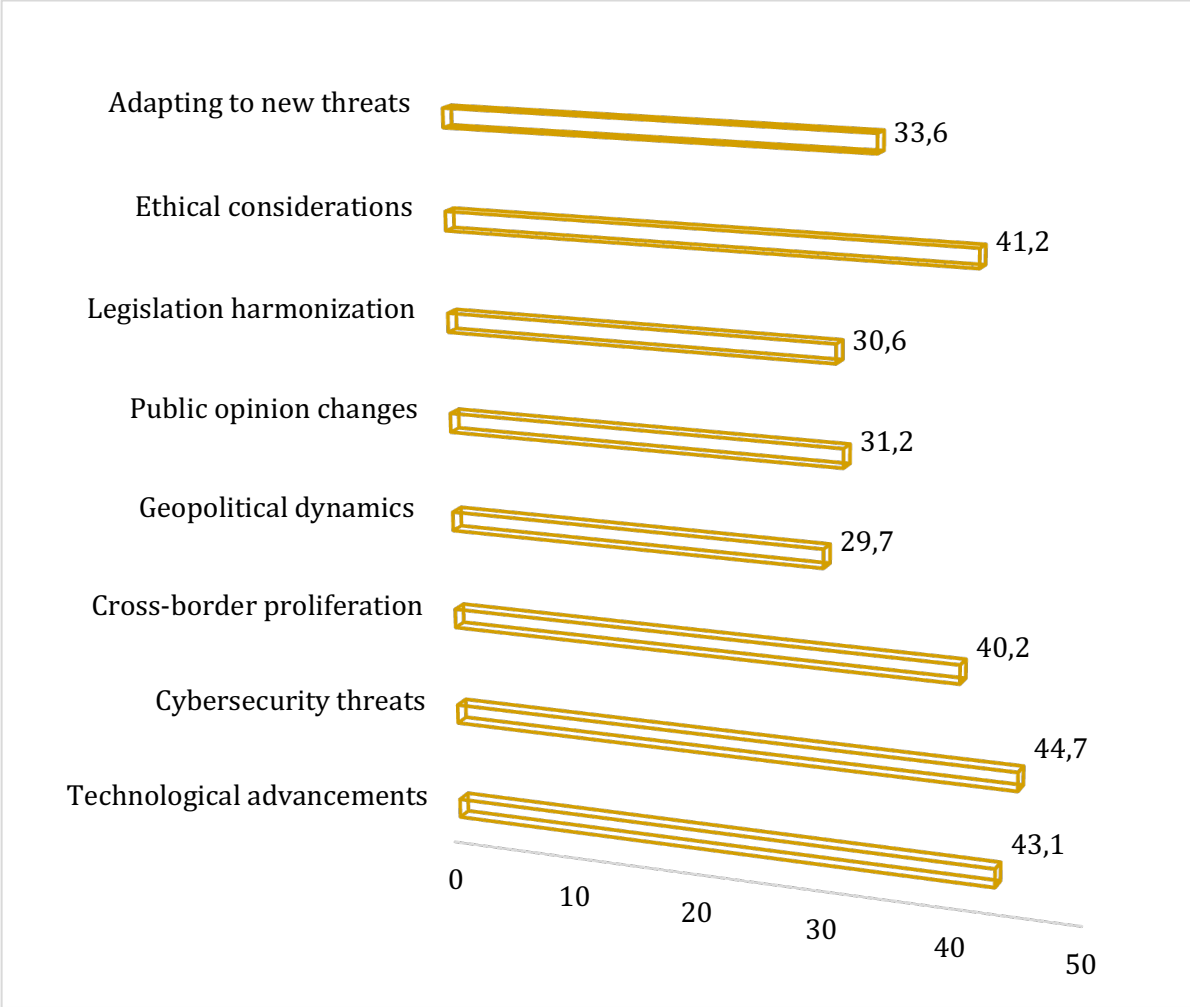
Source: Author’s development.

RQ4: What challenges of legal regulation in the field of arms control can appear in future? How to counteract them?

Studying future challenges in arms control legislation in Ukraine, the survey revealed the following: technological advancements (43,1 %), cybersecurity threats (44,7 %), cross-border proliferation (40,2 %), geopolitical dynamics (29,7 %), public opinion changes (31,2 %), legislation harmonization (30,6 %), ethical considerations (41,2 %), adapting to new threats (33,6 %). Figure 5 shows possible future challenges in arms control legislation in Ukraine according to participants’ responses.

Figure 5

Possible future challenges in arms control legislation in Ukraine



Source: Author's development

They outlined that the rapid development of new technologies, such as 3D printing and smart weapons, can outpace existing regulations, making it difficult to control and monitor their proliferation effectively. At the same time, increasing reliance on digital systems for arms control and tracking can expose vulnerabilities to cyberattacks, potentially compromising sensitive information. The survey showed that managing and regulating arms that cross international borders poses significant challenges, particularly in regions with porous borders or conflict zones where arms can be smuggled easily. The respondents, particularly arms control experts, admitted that shifts in global and regional political landscapes can lead to changes in arms control priorities, making it challenging to maintain effective regulations across different jurisdictions. In addition, the rise of non-state actors, including terrorist groups and organized crime, can complicate arms control efforts, as these groups may seek to acquire and use weapons in ways that are difficult to anticipate and regulate. The survey proved that the special attention must be paid towards public opinion changes towards arms control and personal firearm ownership and achieving consistency in arms control regulations across different countries. Moreover, balancing arms control measures with respect for human rights and ethical considerations can present challenges, especially in regions where arms are integral to security and self-defense. It is necessary to admit that adapting to new types of threats, such as unconventional or hybrid warfare, requires continuous updates to legal frameworks and regulatory practices to remain effective in a changing security environment. Table 2 shows the analysis of possible counteractions to future challenges in the field of arms control.

Table 2*Possible counteractions to future challenges in the field of arms control*

Future challenges	Possible counteractions
Technological advancements	Development and deployment advanced monitoring and tracking technologies; Creation of flexible and adaptive legal frameworks that can quickly incorporate new technological developments; Strengthening international cooperation and agreements to harmonize arms control regulations globally.
Cybersecurity threats	Enhancement of the security of digital systems used for arms control; Establishment of comprehensive incident response plans to quickly and effectively address cybersecurity issues; Fostering international cooperation to share information, best practices, and resources related to cybersecurity threats; Conducting frequent security assessments of arms control systems and infrastructure to identify vulnerabilities; Implementation of ongoing training and awareness programs for personnel involved in arms control.
Cross-border proliferation	Enhancement of international treaties and agreements focused on arms control and non-proliferation; Implementation of advanced technologies and methodologies for border control and customs inspections to detect and prevent illegal arms trafficking; Fostering international cooperation and information sharing among intelligence agencies, law enforcement, and customs authorities; Development accurate national laws and regulations that align with international standards.
Geopolitical dynamics	Support of multilateral arms control agreements and forums; Promotion of regional arms control initiatives and cooperation among neighboring countries.
Public opinion changes	Development of comprehensive public education campaigns to increase awareness and understanding of arms control issues; Implementation of effective communication strategies to address shifting public opinions; Creation of mechanisms for collecting and incorporating public feedback into arms control policy development; Development of flexible policy frameworks that can adapt to changing public attitudes.
Legislation harmonization	Engagement in bilateral and multilateral dialogues to discuss and align arms control regulations; Implementation of mechanisms for the regular review and updating of arms control legislation.
Ethical considerations	Establishment of comprehensive ethical guidelines and frameworks for arms control that address issues such as human rights, humanitarian impact, and the responsible use of weapons; Engagement of human rights organizations and advocacy groups in the arms control policymaking process; Ensuring transparency in the arms control process.
Adapting to new threats	Development of arms control policies that are flexible and adaptable to emerging threats; Strengthening intelligence and surveillance systems to better identify and monitor new threats, improved data collection; Increasing collaboration and information sharing among international partners; Conducting regular scenario planning and risk assessments.

Source: Author's development

Therefore, the findings on future challenges of legal regulations in the field of arms control in the Ukrainian context proves the importance of the topic and its significance among the citizens, particularly when the country faces a number of security threats. The outcomes provide possible counteractions to future challenges in the field of arms control that can be used by military experts and policymakers to improve the legislation and maintain balanced interaction between authorities and citizens.

Discussion

The research explained the possible future challenges of legal regulation in the field of arms control in the Ukrainian context. Importantly, the findings proved the importance of considering public opinion in the discussion on future arms control challenges (Crifasi, et al., 2022). Analysing the problem, it was revealed that arms control phenomenon refers to a number of efforts aimed at regulating weapons possessed by nations, particularly those with the potential for mass destruction (Blocher & Jacob, 2020). The goal of arms control legislation is to enhance global security and stability by preventing an arms race, reducing the likelihood of armed conflict, and promoting transparency and trust among countries (Sossai, 2021). In comparison, national arms control law is defined as legislation enacted by a country to regulate and control the development, production, possession, and use of weapons within its borders (Siegel & Blocher, 2020).

Based on the analysis of public opinion, citizens' attitudes towards weapons in Ukraine were demonstrated. They show that, according to respondents, weapons are essential for national security and protecting against external threats but they rise some concerns about the potential for increased gun ownership to lead to accidents or violence. At the same time, there must be an increased civilian access to weapons for self-defense and personal security and often weapons are seen as a deterrent to crime and violence. Also, it was found that a number of people are interested in the economic benefits of a legal weapons market or they appreciate weapons as a part of Ukrainian heritage and tradition. Some citizens support weapons as a means of being prepared for emergencies or unforeseen situations that is very important in war-affected society and others believe that firearm ownership is a fundamental civic right and personal freedom. Importantly, the findings showed that in Ukraine, the legalization of firearms is characterized by a highly regulated framework aimed at balancing civilian access with public safety. And most of individual oppose weapons legalization due to fears that it could lead to increased violence and accidents. At the same time, it was found that relaxation of arms control legislation may allow easier access to firearms for personal defense and enhanced security.

The literature review demonstrated that many countries integrate international arms control treaties into their national laws (Müller & Wunderlich, 2020). This relates the development of executive orders and regulations issued by national agencies, ensuring that arms control policies align with international commitments while addressing national security interests (Spieller, 2020). Also, the specific national laws are developed to regulate the production, distribution, and use of weapons (Post et al., 2021). Besides, as new threats and technologies emerge, many countries update their legislative frameworks to address these challenges, particularly concerning autonomous weapons (Rosert & Sauer, 2019), ethical, legal, and technical aspects of weapons (Ricciardiello et al., 2021), and cyber warfare (Veale & Brown, 2020). Additionally, the findings showed that the legal nature of regulation in the field of arms control faces several complex problems that impact its effectiveness and implementation, such as the enforcement and compliance challenge (Wisotzki & Kühn, 2021), uncertainty and interpretation of legal obligations (Klomp & Beeres, 2022), achieving uniformity (Graef, 2021), and shifting landscape of international relations and power dynamics (Erickson, 2020).

In this context, it was revealed there is significant support among citizens for the strict legalization of weapons, reflecting a desire for accurate regulations that ensure responsible ownership while addressing security concerns. However, it was studied that certain amendments to the existing legislation appear, such as eased access for self-defense, streamlined licensing process, enhanced training for weapons owners, increased focus on mental health, improved public awareness campaigns,

modernized safe storage requirements, expanded categories for firearm use, and enhanced data sharing and tracking. At the same time, to adapt legal structures to changing realities in the field of arms control in the Ukrainian society, seven approaches on the basis of public opinion were differentiated. The included the following: updating the legal frameworks to address new technologies and methods in arms manufacturing, distribution, and tracking, ensuring that regulations correspond with innovations in the field; establishment a system for periodic reviews and updates of arms control laws; utilizing data and research to inform legislative changes; international collaboration; adopting flexible regulatory models; promoting public understanding of arms control laws and their implications through education campaigns; and strengthened enforcement mechanisms.

The special attention was paid towards the challenges in the field of arms control legislations. The scientific sources outlined that certain challenges relate on how international treaties and agreements are implemented and enforced across different nations (Edwards et al., 2022; Lee & Nacht, 2020). Also, challenges include discrepancies in national regulations, enforcement mechanisms, and compliance verification (Koch et al., 2019; Wisotzki & Kühn, 2021). Arms control legislation is challenged with recent technological advancements in weaponry (Billing et al., 2021; Chin, 2019; Zilincik, 2021), such as autonomous weapons and cyber capabilities. Some authors differentiate legal and ethical considerations of arms control (Christensen, 2019; Maas, 2019; Szpak, 2020). Importantly, the literature review proved that, in Ukraine, the legal and ethical considerations of arms control are influenced by the ongoing conflict. Other challenges in Ukraine concern the trafficking of weapons and ammunition (Khavroniuk et al., 2020), legal regulations of using western weapons in Ukraine. The survey revealed the following future challenges in arms control legislation in Ukraine: technological advancements, cybersecurity threats, cross-border proliferation, geopolitical dynamics, public opinion changes, legislation harmonization, ethical considerations, adapting to new threats. The authors conducted the detailed analysis of possible counteractions to these future challenges in the field of arms control and outlined the measures that can be conducted by authorities as well as policymakers.

Conclusions and Implications

Arms control refers to efforts and agreements aimed at regulating or reducing the number and types of weapons possessed by nations, particularly those with the potential for mass destruction. Arms control agreements often involve measures such as limiting weapon production, instituting verification procedures, and fostering diplomatic dialogues to address and resolve disputes peacefully. Arms control is necessary because it helps mitigate the risks associated with the proliferation of advanced weaponry, particularly nuclear and cyber weapons, which can lead to catastrophic consequences if tensions escalate. At the same time, national arms control law is designed to manage and mitigate the risks associated with armaments, including firearms, and explosives. They deal with the procedures for licensing and registration, restrictions on the types and quantities of weapons individuals or organizations can possess, and penalties for violations. Arms control laws comply with international treaties to ensure cohesive and effective regulation of weapons globally. During the Russian-Ukrainian war, the issue of arms control regulation has gained a special significance for Ukraine since the conflict has led to an increased influx of weapons into the region, making it imperative to enforce strict controls to prevent the proliferation and misuse of arms.

The recent works relate to a number of problems and reveal the research topic in different aspects. For example, they relate to the implementation of international treaties and agreements, discrepancies in national regulations, enforcement mechanisms, and compliance verification. The effectiveness and reliability of verification systems to ensure compliance with arms control agreements is of special interest among arms control experts as well. It was found that the rapid development of new technologies poses a number of challenges for existing arms control frameworks. Legal and ethical considerations of arms control (are described and they include the balance between national security interests and international obligations, the development and use of certain types of weapons. In the Ukrainian context, the following issues are presented: arms control regulation, understanding of the

current state of the regulatory framework for making public policy on firearm circulation, legal regulation of civilian firearms turnover, and the improvements of the existing legislation.

Forecasting future challenges in arms control, the scholars considered public opinion as well as the global security landscape, technological advancements and emerging threats. The predictive analysis in this field may help in refining the existing treaties and developing new regulations that can effectively manage future risks and ensure compliance with international legislation. The survey revealed the following future challenges in arms control legislation in Ukraine: technological advancements, cybersecurity threats, cross-border proliferation, geopolitical dynamics, public opinion changes, legislation harmonization, ethical considerations, adapting to new threats. The authors conducted the detailed analysis of possible counteractions to these future challenges in the field of arms control and outlined the measures that can be conducted by authorities as well as policymakers.

The findings can be implied for the development and adaptation of arms control policies at the national and international level. When potential future challenges are identified, this research enables to address emerging threats, such as advancements in weapon technology, evolving geopolitical dynamics, and new forms of arms proliferation. The outcomes can lead to the creation of more flexible and responsive legal frameworks that are capable of adapting to changes in the security landscape, ensuring that regulations remain effective and relevant. Also, the research allows to proactively counteract risks and develop comprehensive strategies to mitigate potential issues. This can enhance the effectiveness of arms control measures and improve enforcement mechanisms. Moreover, the findings from this research can contribute to fostering greater international collaboration and harmonization in arms control efforts. It can also facilitate dialogue among nations, encouraging the sharing of best practices of regulatory approaches to ensure an effective global arms control regime. And obviously raising public awareness and informing citizens about potential future challenges, the research can help build informed public support for arms control measures and foster greater engagement in the legislative process.

Suggestions for Future Research

In future, it is essential to focus on the specific context of Ukraine and its ongoing conflict. One key area for exploration is the impact of the ongoing conflict on Ukrainian arms control regulations and enforcement. Future research can investigate how the conflict has influenced the development and implementation of arms control measures within Ukraine, examining both the challenges and adaptations made in response to the dynamic security environment. This analysis would provide valuable data into how armed conflicts shape legal frameworks and what measures can be taken to strengthen arms control under such conditions. Another critical aspect for further study is the role of Ukrainian citizens' opinions in shaping arms control policies amidst the ongoing conflict. Research could investigate how public perceptions and attitudes towards arms control have evolved due to the conflict and what specific concerns or demands citizens have regarding firearms and military regulations. Understanding these opinions can help update regulations to correspond them with public expectations and enhance their effectiveness. Also, it is necessary to study the broader implications of the conflict for regional and international arms control efforts. Future research should focus on Ukraine's experience with arms control during the conflict, involving a detailed analysis of potentials for increased cross-border arms proliferation and the influence of Ukraine's situation on international arms control norms. The study would be crucial in identifying lessons learned and offering recommendations for improving arms control frameworks in conflict zones globally.

Acknowledgements

None.

Conflict of Interest

None.

Funding

The Authors received no funding for this research.

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