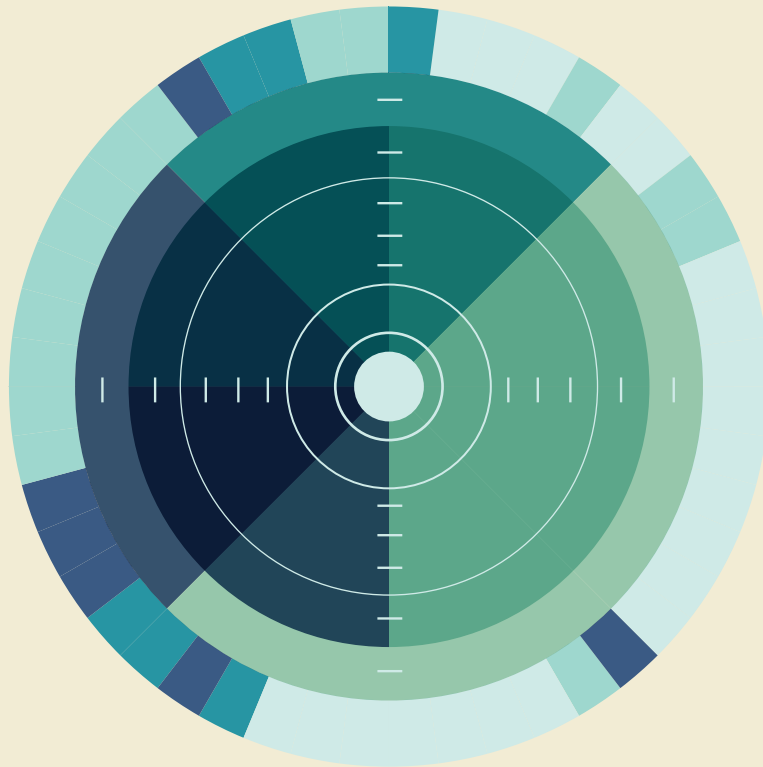




Fighting Illicit Firearms Trafficking Routes and Actors at European Level

**Final Report of
Project FIRE**



 **transcrime**
Joint Research Centre on Transnational Crime



UNIVERSITÀ
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del Sacro Cuore



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Final Report of Project FIRE – Fighting Illicit firearms trafficking Routes and actors at European level
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List of acronyms and abbreviations

1991 Firearms Directive	Council Directive 91/477/EEC of 18 June 1991 on control of the acquisition and possession of weapons
2000 Commission Report on the Firearms Directive	Report from the Commission to the European Parliament and the Council on “The implementation of Council Directive 91/477/EEC, of 18 June 1991, on control of the acquisition and possession of weapons”—COM (2000) 837 final – adopted by the Commission on 15 December 2000
2008 amendment of the Firearms Directive	Directive 2008/51/EC of the European Parliament and of the Council of 21 May 2008 amending Council Directive 91/477/EEC on control of the acquisition and possession of weapons
2014 REFIT evaluation of the Firearms Directive	Annex to the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions—Regulatory Fitness and Performance (refit): results and next steps—COM(2013) 685 final
2015 Commission Report on the Firearms Directive	Report from the Commission to the European Parliament and the Council, “Evaluation of Council Directive 91/477/EC of 18 June 1991, as amended by Directive 2008/51/EC of 21 May 2008, on control of the acquisition and possession of weapons”—COM(2015) 751 final
2015 EC Proposal for amending the Firearms Directive	Proposal for a Directive of the European Parliament and of the Council amending Council Directive 91/477/EEC on control of the acquisition and possession of weapons – COM(2015) 750 final – 2015/0269 (COD)
2015 EU Deactivation Regulation	Commission Implementing Regulation (EU) 2015/2403 of 15 December 2015 establishing common guidelines on deactivation standards and techniques for ensuring that deactivated firearms are rendered irreversibly inoperable
CAD	Computer-aided design
CEPOL	European Union Agency for Law Enforcement Training
CP	Crime Proofing
CRA	Crime Risk Assessment
CSES	Centre for Strategy & Evaluation Services
DG HOME	European Commission Directorate General on Migration and Home Affairs
DNA	Direzione Nazionale Antimafia (Italy)
ECRA	Extended Crime Risk Assessment
EMPACT	European Multidisciplinary Platform Against Criminal Threats
EU	European Union
FIRE	Fighting Illicit firearms trafficking Routes and actors at European level
Firearms Directive	The consolidated version of Council Directive 91/477/EEC of 18 June 1991 on control of the acquisition and possession of weapons, as amended by Directive 2008/51/EC of the European Parliament and of the Council of 21 May 2008
ICVS	International Crime Victimization Survey
IS	Initial Screening
ITF	Illicit trafficking in firearms

LEAs	Law Enforcement Authorities / Agencies
MSs	Member States
NATO	The North Atlantic Treaty Organization
NUTS	Nomenclature of Units for Territorial Statistics
OCGs	Organised criminal groups
PCRA	Preliminary Crime Risk Assessment
PSSM	Physical Security and Stockpile Management
Regulation No 258/2012	Regulation (EU) No 258/2012 of the European Parliament and of the Council of 14 March 2012 implementing Article 10 of the United Nations' Protocol against the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition, supplementing the United Nations Convention against Transnational Organised Crime (UNFP), and establishing export authorization, and import and transit measures for firearms, their parts and components and ammunition
SALW	Small Arms and Light Weapons
Schengen Agreement	It includes: (i) the Schengen Agreement, signed on 14 June 1985; and (ii) the Schengen Convention, both aiming at gradually removing internal control of borders and at establishing free movement for all nationals of signatory countries
SOCTA	Serious and Organised Crime Threat Assessment
TOC	Transnational Organised Crime
UN	United Nations
UNFP	United Nations Firearms Protocol – Protocol against the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition, supplementing the United Nations Convention against transnational organised crime – adopted by resolution 55/255 of 31 May 2001, entered into force on 3 July 2005
UK	United Kingdom
UNODC	United Nations Office on Drugs and Crime
USA	United States of America
USSR	Union of Soviet Socialist Republics
WHO	World Health Organisation

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Executive summary

Project FIRE – Fighting Illicit firearms trafficking Routes and actors at European level (www.fireproject.eu) – was carried out with the financial support of the European Commission, DG Home Affairs, within the Prevention of and the Fight against Crime (ISEC) Programme.

The research is an exploratory study on the illicit trafficking of firearms (ITF) in the EU. Based on the results obtained, it also provides recommendations on how to improve the fight against and the prevention of ITF. For the purposes of the study, ITF has been defined as every case in which the illicit acquisition, sale, delivery, movement or transfer of firearms, their parts or ammunition occur from, to, or within the territory of the EU.

Background

The availability of firearms is recognised as an increasingly pressing issue because of the lethal impact that firearms can have in terms of violence and terrorism. For this reason, the EU is currently revising its Firearms Directive, and the fight against organised crime and terrorism ranks high on the European security agenda. However, the role that ITF plays in feeding into violence within the EU has long been disregarded. This has been mirrored by a lack of priority given to rigorous investigation of the origins of firearms involved in the commission of crimes—and a lack of scientific research in the field. In addition, there is a lack of public official data on ITF.

Approach

Project FIRE adopts an integrated market perspective to address these difficulties and to study ITF within a wider framework of illicit markets. This approach makes it possible to combine analysis of both the various stages within the illicit supply chain of ITF and the demand for illicit firearms. It develops a methodology based on the collection and analysis of data from online news and law enforcement agencies (LEAs) and custom press releases, providing high level of detail and a large number of variables. For this purpose, firearm seizures have

been considered as a proxy for the ITF, and deadly and non-deadly shootings as proxies for the demand for illicit firearms.

This study represents a first step towards better understanding of the ITF in the EU. It is accordingly an important resource for both public and private institutions and researchers.

The results from the project have been grouped into three parts:

- ITF in the EU (Part I)
- The EU's regulatory framework to counter ITF (Part II)
- Recommendations on how to improve the prevention of and fight against ITF (Part III).

Part I. ITF in the EU¹

Supply of illicit firearms. Unlike other illicitly trafficked goods, firearms are durable. As such they may circulate in the illicit firearms market for decades and be sold and re-sold repeatedly. Most illicit firearms stem from licit production and have subsequently been diverted to the illicit market. Licit firearms can be diverted during transportation, by leakage from factories or surplus stocks, theft from stockpiles, dealers, or individual owners, or converted to illicit firearms. This last operation includes: (i) reactivation of deactivated firearms, (ii) modification of semi-automatic firearms into automatic ones, (iii) conversion of replicas, and (iv) conversion of blank-firing firearms.

1. The findings set out in this part are based on a computational analysis of cases of firearm seizures and shootings that occurred in the EU between 2010 and 2015. They have been supplemented by expert evaluations and findings from previous research in the field. With regard to the dark web, the results derive from the monitoring of some illicit websites selling firearms. For more details see the Methodological Annex.

Actors involved in the illicit supply are:

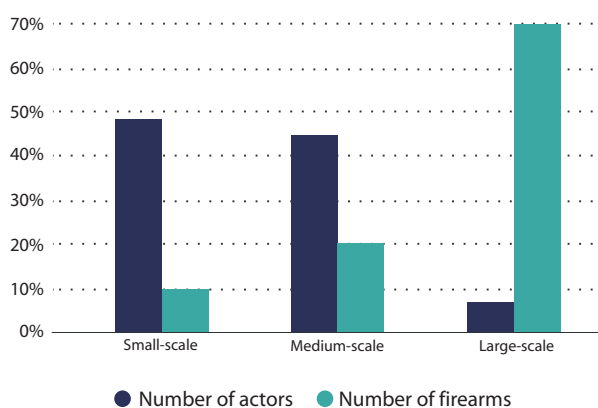
- Organised criminal groups. They usually engage in ITF in addition to other illicit activities and take advantage of their strong expertise in illicit trafficking, thus relying on well-established routes and contacts;
- Corrupted officials and professionals. They support ITF by exercising scant control on firearms and the requisite documents;
- Hobbyists and amateurs. They may participate in ITF by making use of their wide expertise in altering firearms.

Number and type of firearms trafficked in the EU.

The results on seizures are based on the analysis of 3,875 cases that occurred in the EU between 2010 and 2015 and could be identified from open sources on the internet. These seizures account for a total of 19,246 firearms.

The majority of cases regard small-scale shipments, sometimes referred to as “ant-trade”. However, large-scale seizures account for a significant portion of the number of firearms, with only few actors involved (Figure a).² This means that few actors are responsible for a large number of firearms seized.

Figure a. Number of actors and firearms per scale of seizure in the EU (2010-2015)*



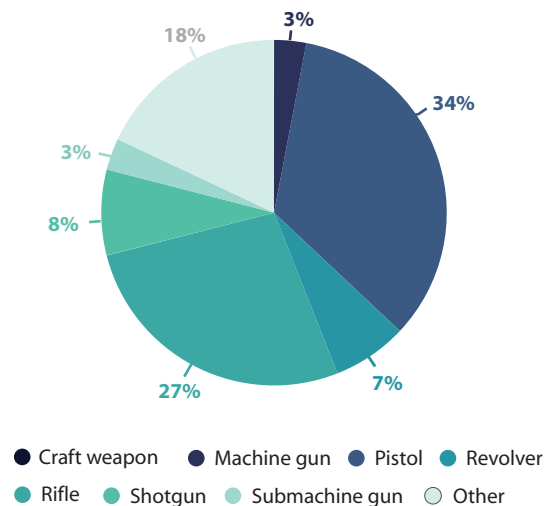
* N=2,895. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

2. Small-scale seizures involve 1 firearm, medium-scale seizures from 2 to 9 firearms, and large-scale seizures 10 or more firearms (more details in the Methodological Annex).

Firearm seizures mostly concern pistols (34%), followed by rifles (27%) (Figure b).³ These types of firearms are easier to carry, conceal, and use than other types.

Figure b. Types of firearms seized in the EU (2010-2015)*



* N=11,671. For 2015, only first three months

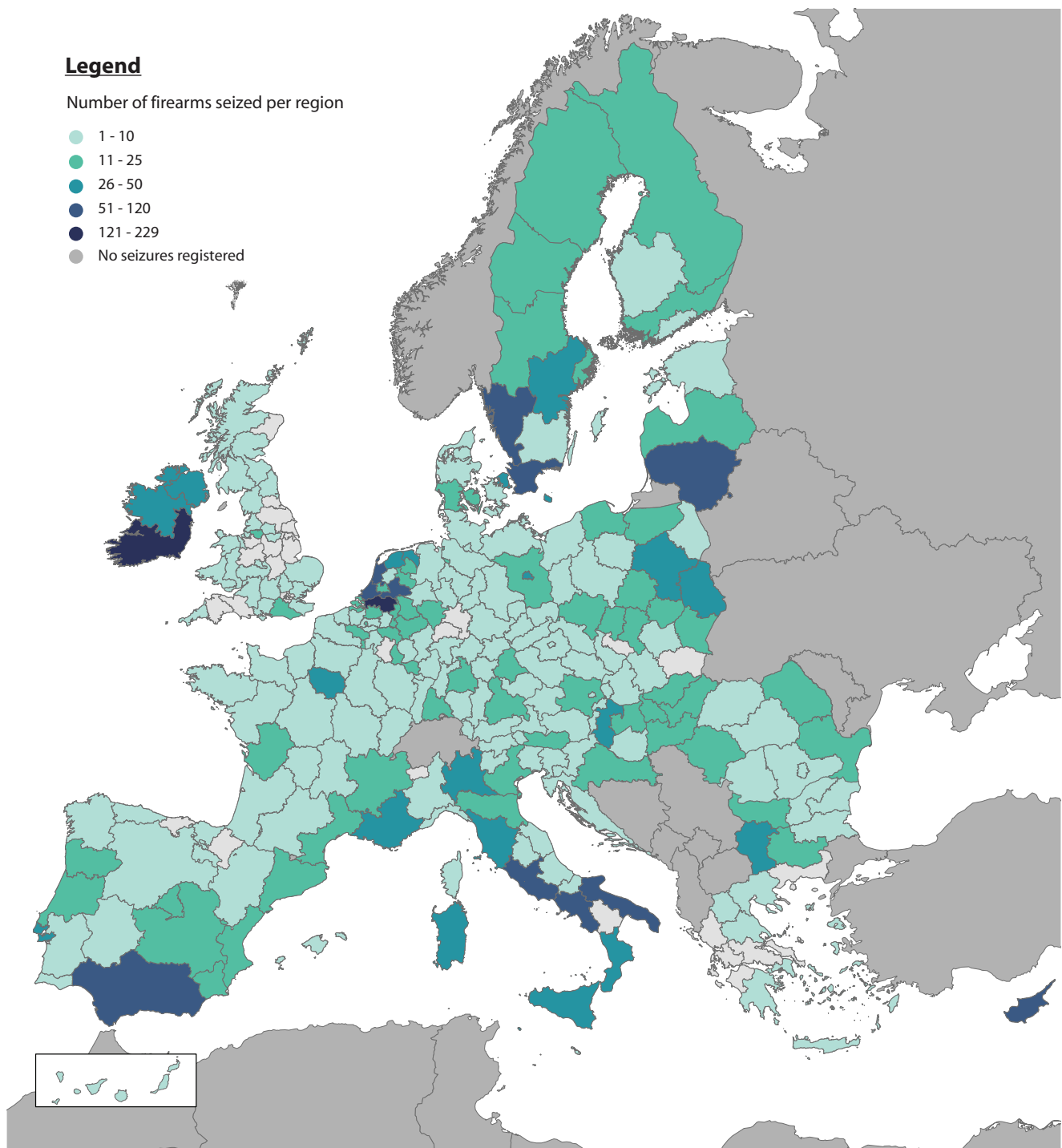
Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Most seizures take place in Western Europe (35%), followed by Southern Europe (26%), Northern Europe (21%), and Eastern Europe (18%).⁴ Seizures mostly occur along borders, especially in regions close to third countries with stockpiles, in the proximity of large ports, and in regions with a strong presence of organised crime groups (OCGs) (Figure c).

3. The classification of firearm types is based on the Study on Firearms by UNODC (2015). The other category includes: replicas, air guns, gas pistols, and antique firearms (more details in the Methodological Annex).

4. Throughout Project FIRE, the aggregation of macro-regions and of geographic origins is based on the grouping scheme of European sub-regions used by the UN Statistics Division (more details in the Methodological Annex).

Figure c. Number of firearms seized in the EU per region (NUTS 2) (2010-2015)*



* For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

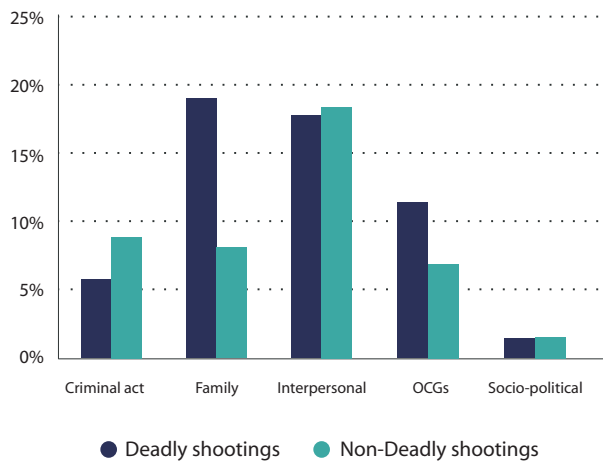
Demand for illicit firearms. The purchasers of illicit firearms are mainly:

- Criminal groups. They need illicit firearms mostly for criminal and instrumental purposes. Possessing firearms has also a symbolic value within the criminal milieu;

- Terrorist groups. Some terrorist groups have significant amounts of firearms and are often connected to criminal groups;
- Individual gun owners. They possess illicit firearms mainly for collection purposes, and self-protection.

According to online articles, the bulk of the demand can be attributed to purposes other than criminal, organised-criminal or terrorist ones (Figure d).

Figure d. Types of deadly and non-deadly shootings in the EU (2010-2015)*



* N=2,892 (only shootings with illicit firearms). For 2015, only first three months

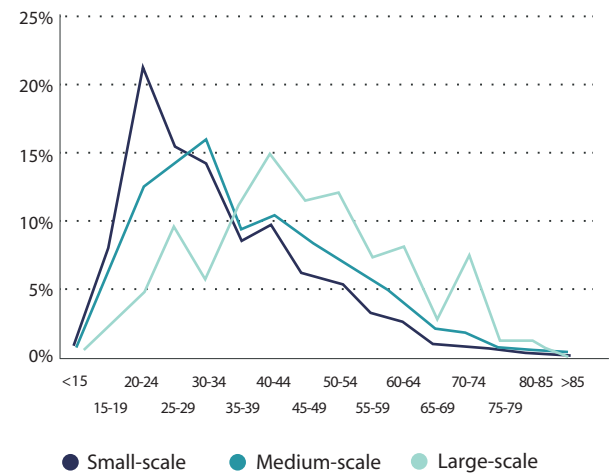
Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Characteristic of actors. Data from open sources show that both the supply of and demand for illicit firearms are dominated by males. It is overwhelmingly men, not women, who buy, sell, and use illicit firearms in the EU. Men also represent the majority of victims from gun violence.

According to the analysis of firearm seizures, the age of actors typically peaks at around 20-24. The age increases with the scale of the seizure, however, indicating that large-scale ITF may require certain levels of seniority and criminal professionalization (Figure e).

ITF routes. Many illicit firearms entered the EU market after the end of the Cold War from stockpiles in neighbouring regions, especially former Soviet and Yugoslavian states. The recent eruption of conflicts close to the EU, for example the Ukraine or the Middle East and North Africa (MENA), has raised concerns about the emergence of new sources of ITF to the EU.

Figure e. Age of actors per scale of seizure in the EU (2010-2015)*



* N=3,513. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

After leaving their places of origin, firearms transit along various routes. Their transit takes different forms, e.g. direct shipments or gradual ones over years and decades before eventually reaching a more permanent destination. Within the EU, the main destination countries for illicit firearms are France, Germany, Greece, Ireland, Italy, the Netherlands, the Scandinavian countries, Spain, and the UK.

The dark web. Project FIRE provides the first study that addresses the emerging role of darknet marketplaces with regard to ITF. The findings indicate that the size of darknet marketplaces is still limited and reflects the trends recorded in firearm seizures with respect to the types of firearms most sold. Moreover, both the (i) variety of firearms on offer and the (ii) potential emergence of new trafficking routes (e.g. from USA to Europe) raise serious concerns.

Part II. The EU's regulatory framework to counter ITF

After an overview of the EU regulatory framework, Part II of the report focuses on the 2015 EC Proposal for amending the Firearms Directive. It provides the first ex-ante crime risk assessment of all the proposed fourteen policy options in order to evaluate whether the measures envisaged may create unintended criminal opportunities.

Crime proofing analysis is the three-step scientific approach used to carry out this analysis. It is based on the assumption that legislation may have criminogenic effects. Its application yielded the following results.

Initial Screening. Thirteen of the fourteen policy options fall under one of the seven risk indicators, especially risk indicators no. 1 (fee and obligation) and no. 7 (regulatory power). The introduction of new or more burdensome obligations increases the risk of non-compliant behaviours and illicit activities, and may be an incentive to choose illegal channels for the acquisition of firearms.

Preliminary Crime Risk Assessment. The firearms market is likely to be vulnerable to crime throughout a firearm's lifecycle. All the thirteen policy options record a medium or high crime risk. Among the most risky ones, the inclusion of certain deactivated weapons under Category A or under Category C (policy option 11) is likely to establish a new obligation that may restrict the current availability of those weapons. As a consequence, there is the possibility that users may resort to illicit channels to maintain and/or obtain deactivated firearms. The same may occur if the specific ban on certain semi-automatic firearms, moving them from Category B to Category A (policy option 13), enters into force.

Extended Crime Risk Assessment. The assessment highlights that:

- The level of crime is likely to increase in most of the policy options under analysis, due to the provision of new or more burdensome obligations, the availability restrictions, and the conferral of additional regulatory powers. The sudden introduction of restrictions and prohibitions on highly demanded firearms could foster a new black market to supply the demand;

- The number of perpetrators/authors is variable. It increases or decreases depending on the specific policy options considered. As a general comment, if the provisions proposed require additional skills and qualified knowledge, the number of perpetrators/authors is likely to decrease;
- The number and characteristics of victims is closely related to the amount of crime and the number of perpetrators/authors: if the latter increase, the number of victims increases as well. Victims are here considered to be all those who suffer economic damage;
- The amount and quality of costs and harms are influenced by the level of crime: if it increases, the amount of costs increases as well.

Part III. Recommendations on how to improve the prevention of and fight against ITF

Project FIRE identifies eleven recommendations to improve the prevention of and fight against ITF in the EU. The recommendations relate to issues that have emerged from the findings of the previous parts of this report. All issues have been assessed with regard to their origin and impact at different levels, i.e. at those of policy, legislation, enforcement, and research. They are:

1. The EU and MSs should continue to prioritize ITF and acknowledge that it is an internal security threat in its own right, besides its relation to violent crime and violent extremism.
2. EU legislation on ITF should aim at reaching a high degree of harmonization; loopholes resulting from a lack of legislative harmonization and insufficiently coordinated implementation of EU law should be closed.
3. The EU and MSs should commit to a harmonised implementation of the definition of convertible and converted firearms, and establish best practices in countering firearms conversion.
4. The EU and MSs should commit to a harmonised implementation of the common deactivation guidelines.

5. On the basis of a unique marking system, the EU should develop a comprehensive tracing and record-keeping system accessible to, shared by, and properly used by MS LEAs and beyond.
6. The EU and its MSs should aim for a high level of coordination and coherence across all relevant policy areas (including the EU's neighbourhood policy, foreign policy instruments, and security-related development cooperation).
7. At both European and national levels, instruments for police and judicial cooperation should be developed further, and their more frequent use should be encouraged.
8. The EU should promote the development of common standards and continuous exchange among MSs on training policemen, forensic personnel, and prosecutors in matters relevant to ITF and other firearm-related crimes.
9. The EU should continue to address the security and safety of firearm stockpiles in third countries as part of its neighbourhood and foreign policy, and it should consider committing to common standards among its own MSs.
10. The EU should increase the control of its external borders and foster effective MSs' control over their territories.
11. Police forces should be trained and empowered to actively investigate and constantly monitor the illicit firearms trade dynamic, including local demand, and the nascent exchange of firearms on marketplaces in the dark web.

1. Introduction

1.1 Project FIRE

This report presents the final results of Project FIRE – Fighting Illicit firearms trafficking Routes and actors at European level (www.fireproject.eu). The Project was carried out with the financial support of the European Commission, DG Home Affairs, within the Prevention of and Fight against Crime (ISEC) Programme.

Project FIRE was carried out by a consortium of three partners from European universities and research centres:

- Università Cattolica del Sacro Cuore-Transcrime, Italy (project coordinator)
- Stockholm International Peace Research Institute, Sweden
- Politecnico of Milan, Density Design Lab, Italy.

Four associate partners cooperated in the Project:

- Small Arms Survey (SAS), Switzerland
- The South Eastern and Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (SEESAC), Serbia
- Association of European Manufacturers of Sporting Ammunition (AFEMS), Belgium
- Institut Européen des Armes de Chasse et de Sport (IEACS), Belgium.

Project FIRE has aimed to analyse illicit trafficking in firearms (ITF) in the 28 EU MSs. In particular, the project has pursued three objectives:

- To analyse the main dimensions of ITF in the EU, i.e. supply of and demand for illicit firearms, products illicitly trafficked, actors involved in this market, routes used to smuggle firearms, and several cross-cutting issues. The analysis was conducted adopting a market perspective;

- To present and analyse the EU regulatory framework with a specific focus on the 2015 EC Proposal for amending the Firearms Directive, its loopholes, and the unintended criminal opportunities that it could produce;
- To develop a set of recommendations to fight and prevent ITF at European level.

1.2 Background and contribution of Project FIRE

Background

Fighting illicit trafficking in Small Arms and Light Weapons (SALW) has been on the European agenda for many years. Firearms are understood to feed into violent crime and on-going conflict and facilitate the escalation from political dispute to violence. Pertinent international action thus aims to regulate legal trade, for example from Europe, the United States, and other gun-exporting countries, to conflict regions. Given that conflict is largely concentrated in areas outside the Western world, the focus of international gun control has been largely on reducing flows to and within regions vulnerable to collective violence. This relates to a nexus between development and security (Alvazzi del Frate and De Martino 2016), and it especially regards Africa and the Middle East, but also parts of Latin America.

As regards the internal security of Europe, ITF has long been treated as a side issue incidental to other forms of crime. This lack of attention has been present among policy-makers and police forces – and also in the research community, with the resulting general scarcity of scientific knowledge on ITF, but also on other forms of gun-related crimes in Europe. The aim of Project FIRE is to contribute to remedying this scarcity.

As opposed to more conflict-driven forms of firearm flows, ITF within the EU is closely related to the attractiveness of firearms for criminal purposes, but also for collection, personal protection, or symbolic value. Firearms are concealable, portable, available,

cheap, and simple to use. Due to their durability, they do not require regular updates to preserve their attractiveness, and they can be easily sold among end-users (Arsovska and Zabyelina 2014; Greene 2000b; Grillot 2011; Hillier and Wood 2003; Joseph and Susiluoto 2002; Spapens 2007). They therefore remain within, or re-enter, the illicit market over extended periods of time. Thus, rather than being characterised by a constant inflow of new firearms, the illicit firearms market can be described in terms of episodic transactions (UNODC 2010). Nevertheless, given the deadly impact of firearms when they are used for criminal or terrorist purposes, ITF poses a severe threat to European security. Examples are provided by recent terrorist attacks, other types of high-profile shootings, but also the less visible forms of gun violence that have produced the majority of gun-related casualties in the EU. The EU recognizes this threat and has stated that the fight against ITF and gun-related violence is one of its law enforcement priorities within the 2014-2017 policy cycle against serious international and organised crime.

Relatively little is known about the structure of the threat that firearms pose to European security. This regards both gun-related violence and even more so ITF. These two issues are bound up with each other through the effects of gun possession and availability as explanatory factors for homicide and violence (Duquet and Van Alstein 2015a; Killias and Markwalder 2012). Measurements of gun possession, however, are generally impaired by a lack of data, and almost no attention has been paid to how ITF affects the availability of guns in the EU. Previous research has mainly resorted to general estimates (Karp 2011), surveys, especially the International Crime Victimization Survey (ICVS) (Duquet and Van Alstein 2015a), and a recent flash barometer by the EU (EU Commission 2013a). Unfortunately, such surveys are not conducted regularly, and they do not draw any distinction between legal and illegal firearms.

Previous studies in the field provide only a partial understanding of the dynamics of ITF. Usually, they either focus on cases of limited geographic scope, thereby neglecting the transnational nature of the crime, or on small segments of the illicit firearms market, thus disregarding all stages of the crime. This lack of scientific knowledge feeds into the general difficulties of the European institutions and LEAs in obtaining an overall picture of ITF, and defining efficient strategies to prevent and fight it.

Regarding the EU's regulatory framework on civilian firearms, no impact assessment on the 2015 EC Proposal for amending the Firearms Directive has been presented to date. This hinders a comprehensive evaluation of the overall impact that the proposed policy options may have on the firearms market within the EU.

Contribution of Project FIRE

Project FIRE provides the first comprehensive analysis of ITF in the 28 EU MSs. It analyses ITF from a market perspective (see Part I). Most scholars agree that ITF is driven by market forces, but little research has been carried out on this basis. From a market perspective, ITF can be described in economic terms as consisting of a supply chain that enables the exchange of illicit firearms among buyers and suppliers in the illegal firearms market, and a demand side as indicated by the use of illicit firearms. This allows for comprehensive understanding of both the different stages and processes that drive ITF (see Chapters from 2 to 5) and the harm that illicit firearms provoke (see Chapter 6).

In order to achieve its aim, Project FIRE relies on a wide range of sources, including academic and grey literature, interviews with experts at European and national level, investigative and judicial case files, and Web content. With specific regard to this last source, Project FIRE has developed an innovative methodology with which to produce results in the absence of public and official data on ITF. The approach is based on: a systematic collection of online news articles and press releases from customs and LEAs in 28 EU MSs published between January 2010 and March 2015; the cleaning of the data collection (e.g. removal of duplicates and data related to non-EU countries); the manual data entry of all relevant information contained in the articles/press releases and their systematisation into two databases – 1) Database of Firearm Seizures in the EU (DFS-EU) and 2) Database of Shootings in the EU (DSH-EU); and the analysis of the data (Box 1). The findings provide the first comprehensive analysis at sub-national level of firearm seizures (used as proxies for ITF) and shootings conducted with illicit firearms (used as proxies for the demand for illicit firearms) in the EU (more details in the Methodological Annex).

Box 1. Open source data disclaimer

Data collected from open sources are strongly influenced by the newsworthiness of events. They consequently do not provide the same level of reliability as data from official sources. Moreover, data on firearm seizures furnish only a partial picture of the phenomenon, which is likely to lead to an underestimation of the real extent of ITF. Differences in the amounts of firearm seizures among the MSs are furthermore influenced by differences in law enforcement action on illicit firearms. Despite these limitations, the data from open sources have provided a useful basis for analysis given the lack of alternative official sources allowing a sub-national analysis of ITF in the EU (more details in the Methodological Annex).

In order to fill the gap related to the assessment of the 2015 EC Proposal for amending the Firearms Directive, Project FIRE provides also a critical analysis of the document in order to identify possible unintended opportunities that criminals may exploit to become involved in ITF (Part II). The scientific approach used is crime proofing (more details in the Methodological Annex).

Given the exploratory nature of the project, this report aspires to furnish a first basis for better understanding of ITF. Moreover, it provides recommendations on how policy-makers and other stakeholders can improve the prevention of and fight against ITF (Part III).

1.3 Definitions of firearms and ITF

This section sets out the definitions of firearms and ITF applied within Project FIRE.

Firearms

Project FIRE adheres to the definition of firearms outlined in the 2008 amendment of the Firearms Directive (Article 1, paragraph 1):

“Firearm” shall mean any portable barrelled weapon that expels, is designed to expel or may be converted to expel a shot, bullet or projectile by the action of a combustible propellant” (EU 2008).

An object shall thereby be considered convertible if *“it has the appearance of a firearm and, as a result of its construction or the material from which it is made, it can be so converted” (Article 1, paragraph 1 of the 2008 amendment of the Firearms Directive).*

There are some exceptions to this definition of firearms (Annex I, Part III of the 2008 amendment of the Firearms Directive):

- *“[Firearms that] have been rendered permanently unfit for use by the application of technical procedures (deactivation), which are guaranteed by an official body or recognised by such a body;*
- *Are designed for alarm, signalling, life-saving, animal slaughter or harpoon fishing or for industrial or technical purposes provided that they can be used for the stated purpose only;*
- *Are regarded as antique weapons or reproductions of such where these have not been included in the previous categories and are subject to national laws”.*

For the purpose of Project FIRE, these exceptions will not be followed, but equally regarded as firearms if trafficked illicitly.

Besides providing a substantial definition, the 2008 amendment of the Firearms Directive establishes four categories of firearms (Annex I, Part II). With regard to the on-going overhaul of the Directive, relevant policy-making bodies have agreed on changes within and between these categories. Because the categories are exhaustive and will all be considered for the purpose of Project FIRE, these changes do not affect the definition of firearms applied for this research:

- *“Category A—fully automatic weapons and military weapons: cannot be owned by private persons unless they have been deactivated;*
- *Category B—repeating or semi-automatic arms: can be owned by private persons subject to authorisation;*

- *Category C—less dangerous repeating and semi-automatic firearms and single shot firearms: can be owned by private persons subject to declaration;*
- *Category D—other firearms: can be owned by private persons and are not subject to authorisation or declaration”.*

The 2008 amendment of the Firearms Directive also includes “essential components” as part of its definition of firearms (Article 1, paragraph 1b). Depending on the types of firearms for which they are essential, also components correspond to the categories outlined above. Project FIRE follows this definition.

The definition of firearms as contained in the 2008 amendment of the Firearms Directive relates to definition of SALW provided by the UN. According to this definition, SALW refer to:

“any man-portable lethal weapon that expels or launches, is designed to expel or launch, or may be readily converted to expel or launch a shot, bullet or projectile by the action of an explosive”. Small arms are thereby considered as “weapons designed for individual use” and light weapons as “weapons designed for use by two or three persons” (UN 2005).

This definition is in accordance with the EU definition and will therefore be regarded as part of the definition of firearms as applied for the purpose of Project FIRE.

ITF

For the purpose of this study, Project FIRE adopts the following working definition of ITF:

“‘Illicit trafficking’ (in the EU) shall mean the acquisition, sale, delivery, movement or transfer of firearms, their parts or ammunition from, to or within the territory of the EU, if any one of the Member States concerned does not authorise it in accordance with the terms of the EU’s Firearms Directive or pertinent national legislation, or if the firearms are not marked in line with the EU’s Firearms Directive or pertinent national legislation”.

It refers in part to the definition of ITF available in Article 1, Paragraph 2b of the 2008 amendment of the Firearms Directive, according to which:

“‘Illicit trafficking’ shall mean the acquisition, sale, delivery, movement or transfer of firearms, their parts or ammunition from or across the territory of one Member State to that of another Member State if any one of the Member States concerned does not authorise it in accordance with the terms of this Directive or if the assembled firearms are not marked [...]”.

Differently from the preceding definition, the one used in this study comprises both ITF occurring within the EU without crossing any of the MSs national borders and ITF to the EU from third countries, in order to provide a comprehensive assessment of the illicit firearms market in the EU.

1.4 Structure of the report

This report is organised into three parts.

Part I focuses on the analysis of the different dimensions of ITF in the EU. In particular, Chapters 2 and 3 deal with the supply of and demand for illicit firearms with specific attention to the actors and the use of illicit firearms. Chapters 4 and 5 present the results related to the products trafficked and the routes used to smuggle them. Chapter 6 focuses on analysis of illicit firearms-related harm, i.e. the harm caused by the use of illicit firearms in terms of victims and injured in shootings in the 28 EU MSs. The part concludes with some cross-cutting issues related to ITF, i.e. the so-called “grey area”, and the role of emerging illicit firearms markets in the dark web (Chapter 7).

Part II (Chapters 8 and 9) presents an overview of the EU’s regulatory framework and an in-depth analysis of the 2015 EC Proposal for amending the Firearms Directive applying the crime proofing scientific approach. The aim of this analysis is to identify loopholes in the legislation that could produce unintended criminal opportunities.

Part III (Chapter 10) discusses the recommendations that emerge from all the results obtained.

PART I. ITF IN THE EU

Part I provides a comprehensive analysis of the market forces that drive ITF. This includes the various steps of the illicit supply and the structure of the demand for illicit firearms in the EU. The findings are based on a computational analysis of online news

reports on firearm seizures and shootings with illicit firearms that occurred in the EU between 2010 and 2015. The results have been supplemented by expert evaluations drawn from interviews and findings from previous research in the field.



Researchers face many challenges in gaining better knowledge about the structure and processes that drive ITF. One way to investigate ITF is to provide estimates on its extent at global, European, and national levels. But all attempts to estimate the scale of ITF encounter a number of challenges, e.g. the clandestine nature of criminal activities, incomplete or false data on firearm transactions, and limitations in the availability of these data (CSES 2014; Weidacher 2005).

Existing estimates rely on three main approaches (CSES 2014; Weidacher 2005). Two of them aim at estimating the size of ITF, while a third approach aims at estimating the revenues generated by ITF (Table 1).

As regards the size estimates of ITF, the first approach relies on firearm seizures. The Centre for Strategy & Evaluation Services (CSES) (2014)

claimed that, according to experts' opinion and key stakeholders in MSs, the vast majority of illicit firearms in circulation in the EU originate from cross-border trafficking. Therefore *"this approach could provide a useful indicator of the lower-bound estimate of the number of illicitly trafficked firearms in the EU"* (CSES 2014, 18). Relying on data on seizures provided by LEAs in seven European countries (namely Denmark, Estonia, France, Greece, Lithuania, Portugal, and the UK) over the last five years, the CSES found that seizures amounted to around 1% of the sum of registered and unregistered firearms in each country. Given that 81 million firearms are deemed to circulate in the EU, the estimate at European level based on this percentage results in 81 thousand illicitly trafficked firearms.⁵ As CSES itself points out, *"scaling up in this way is fraught with imperfections from a methodological point of view"* (CSES 2014, 19).

Table 1. Existing estimates on ITF

Focus on ITF	Approach	Author	Estimate	Limitations
Size	Firearm seizures	CSES 2014	81 thousand illicitly trafficked firearms in Europe	Underestimation of ITF
	Unregistered firearms	CSES 2014	67 million illicitly trafficked firearms in Europe	Overestimation of ITF
Revenues	10%-20% of the licit market	UNODC 2010	Between US\$ 170 million and 320 million globally	Reliance on non-official data on the licit market
		Savona and Riccardi 2015	Between € 247 million and 493 million in Europe in 2012	
		Calderoni et al. 2014	Between € 70 million and 141 million in Italy in 2010	

Source: Transcrime elaboration

5. According to CSES *"the European Commission estimates that there are some 81 million licit and illicit civilian firearms in the EU"* (CSES 2014, 16). However, it does not further specify the source of these data.

Secondly, size estimates can be based on unregistered firearms. This type of estimate is obtained by considering the estimated total number of firearms in circulation and subtracting the registered ones. The estimated total of firearms is again assumed to be 81 million firearms, while the number of registered firearms is provided by the website Gunpolicy.org (CSES 2014).⁶

As regards the revenues generated by ITF, estimates are calculated on the assumption that their share corresponds to between 10% and 20% of the licit market (Cukier 2008; Marsh 2002; UNODC 2010). At global level, the estimate produced by the United Nations Office on Drugs and Crime (UNODC) in 2010 is the one most commonly cited. However, the methodology used is not explained, except for the clarification that this estimate excludes light weapons and firearms' parts, ammunitions, and components. At European and Italian level, two estimates have used the same methodology: they summed and then multiplied by 10% and 20% the values of production and imports for the domestic market and those of exports for foreign markets (Calderoni et al. 2014; Savona and Riccardi 2015).⁷

As Table 1 shows, the existing estimates provide very different results, mainly due to the difficulties in finding available data on which to rely. Many of the existing estimates do not have a clear methodology, and all the approaches have some limitations (CSES 2014; Weidacher 2005). In the first place, estimates based on seizures and on the number of unregistered firearms do not properly provide information on

ITF. In the second place, each approach has specific drawbacks. While estimates based on firearm seizures tend to underestimate the phenomenon mainly because not all illicit firearms are seized, estimates based on unregistered firearms tend to overestimate the phenomenon mainly because data on legally registered firearms and on destruction plans are limited.⁸ Similarly, the lack of available official data on licit production for all countries is one of the main drawbacks of estimates calculated from the claim that ITF corresponds to between 10% and 20% of the licit market (CSES 2014; Weidacher 2005).

Given the shortcomings of studying ITF based on estimates, Project FIRE proposes a market perspective that incorporates both quantitative and qualitative methods to investigate different aspects of the illicit firearms market.

The approach which deals with criminal markets rather than criminal individuals as units of analysis is historically linked to the rise of organised crime during the era of prohibition in the United States (Landesco 1932), and, to a lesser extent, the reliance of large parts of populations on black markets during and after World War II (Louwage 1951). Edwin Sutherland's (1940) account of "the white collar criminal" laid the analytical bases for comprehensive study of organised crime and "black markets" (Clinard 1952). However, economic orientation in the analysis of crime is not at all limited to the idea of criminal markets and organised crime (Levitt and Miles 2006). Becker's economic approach to crime and punishment emerged as a major cornerstone in criminology (Becker 1968) even though the idea of rational choice as a driver of criminal behaviour had been present since the very beginnings of criminology in the 18th century (Beccaria 1973). The idea of rational choice is especially suitable when dealing with criminal markets and organised crime in general.⁹

6. <http://www.gunpolicy.org/>. This website collects data from governmental and academic sources in each country. But one of the major limitations is that data in several countries are incomplete mainly due to the lack of a centralised record-keeping system (CSES 2014). More details about the website and the data provided are available in the Methodological Annex.

7. The estimates include the monetary values of the production, importing, and exporting of revolvers, pistols, shotguns, rifles, muzzle-loaders, cartridges and other ammunition, projectiles, and parts. At EU level, information comes from Eurostat data referring to 2012 (Savona and Riccardi 2015); at Italian level information on the production comes the National Associations of Sportive and Civil Weapons and Ammunition Manufacturers (ANPAM) data referring to 2010, while information on exports and imports comes from the UN Commodity Trade Statistics Database referring to 2009-2011 (Calderoni et al. 2014).

8. On the one hand, the record-keeping of registered firearms is incomplete in several countries, perhaps also because of its decentralised nature in some countries. On the other hand, some of the firearms regarded as unregistered may have been destroyed: for instance, firearms used in crimes can be destroyed by local LEAs without notifying central data bases (CSES 2014).

9. For recent contributions in the field see for example Bouchard and Wilkins 2013 and Albertson and Fox 2011.

Markets, criminal or otherwise, rely on rational actors to allow for the concurrence of supply and demand by price fixing which makes transactions possible. This does not contradict the involvement of irrational actors, however, nor the understanding that rationality and knowledge of market participants is generally bounded (Simon 1957).

On the one hand, the involvement of economists has yielded a refined economic understanding of crime. On the other hand, the increased concern with drugs, driven by the momentum of anti-drug policies in the late 1960s, has reinforced the scientific interest in criminal markets, i.e. the drugs market but also other forms of criminal enterprise (Reuter 1985; Roselius and Benton 1973; Schelling 1967), among them ITF. An early example in this regard was presented by Moore (1981), who investigated the illicit firearms market in the USA by drawing a distinction between safe and unsafe gun owners and identifying potential sources of illicit supply.

At the beginning of the 1990s, concern about illicit firearms grew. Stockpiles from the former Eastern Bloc, a legacy of the Cold War, became major sources for ITF to Europe and to conflict zones around the world (Lee 1994). Eventually, the concept of Transnational Organised Crime (TOC), as outlined in the United Nations Convention against Transnational Organized Crime (2000), heavily influenced the modern understanding of illicit markets (Edwards and Gill 2002). The notion of TOC stresses the strategic and technical challenges faced by LEAs when dealing with organised crime, even more so across borders. Researchers face similar challenges. As a practical concept defined by international law, TOC has influenced research by favouring a more integrated and applied focus in dealing with organised crime. An emerging tendency in the literature is thus to find a more process-oriented angle in line with the different stages that account for the organisation of criminal markets (Brewer and Miklaucic 2013). This can be achieved by focusing on the different actors and activities that appear in the context of illicit markets, namely the illicit supply and the structure of the demand that drive it.

2. Illicit supply chain of firearms and *modi operandi*

Focusing on the supply side allows for analysis of the different stages along the illicit supply chain within the illicit firearms market, and its overlap with regular supply chains (Williams, Lueg, and LeMay 2008).

A supply chain is “an integrated process wherein raw materials are converted into final products, then delivered to customers” (Beamon 1998, 2). This process entails the supplying of raw materials, the manufacturing of final products, their subsequent wholesaling, and finally their retailing. The next sections explore the supply chain, focusing on four main steps: source, wholesaling, retail, and the actors in firearm seizures.

2.1 Sources of illicit firearms

The illicit firearms market is different from other illicit markets. The bulk of illicit firearms enter the illicit market by means of diversion from the legal market (Bevan 2008; CSES 2014; Cukier 2002; Cukier 2008; De Martino and Atwood 2015; EU Commission 2013b; Europol 2013a; Florquin 2002; Griffiths 2008; Hales, Lewis, and Silverstone 2006; Lakomaa 2015; Schroeder, Close, and Stevenson 2008; Spapens 2007). In addition, firearms are not consumable goods but durable ones (Arsovska and Zabyelina 2014; Greene 2000b; Grillot 2011; Hillier and Wood 2003; Joseph and Susiluoto 2002; Spapens 2007).

These two factors have major effects on the ITF supply chain:

- Matters of illicit production are far less relevant in the case of firearms;
- ITF concerns the trade of new products, but also the trade in used or “second-hand” goods among illicit end-users (Hau and Whang 2002).

As regards the manufacturing of illicit firearms, licit and illicit production can be distinguished.

Illicit production is rare compared to licit production. It can occur in different ways (Berman 2011; Cooper et al. 2002; Crowley, Isbister, and Meek 2005; CSES 2014; Cukier 2002; Cukier 2008; EU Commission 2013b; EY and SIPRI 2014; Florquin 2002; Greene 2000b; Kinsella 2014; Krause 2000; Spapens 2007):

- Original designs fabricated by amateurs or employees of arms factories at home;
- Illicit copies of existing designs produced in factories;
- Handmade production, usually by non-state actors like guerrilla groups, in private workshops or residences. This phenomenon is referred to as craft production;
- Production sites run by organised crime groups (OCGs);
- 3D-printed firearms (Box 2).

Box 2. 3D-printed firearms

3D-printed firearms appeared in the mid-1990s as rapid prototypes made by a small number of manufacturers¹⁰ and they gained media attention when a polymer weapon was printed in 2013 (Jenzen-Jones 2015).¹¹ Because

10. 3-D printers can quickly produce a prototype part for testing before the final design in plastic.

3D-printing is a recent phenomenon, there are opposing opinions on whether it may become a serious concern. On the one hand, some experts consider it unlikely to become a major issue in ITF: 3D-printed firearms have shown low reliability in the past, and their manufacturing is associated with technical difficulties. However, experts point out that further technical development remains to be seen (CSES 2014; Europol 2015; EY and SIPRI 2014).¹² On the other hand, a recent study shows how many analysts highlight that expiring patents and decreasing costs are leading to the spread of 3D printing in the next five to ten years (Jenzen-Jones 2015). Specifically, there is a concern that an increasing number of people can 3D print lower receivers and then attach them to manufactured firearms parts.¹³ However, translating the information available from online CAD libraries into finished firearms still requires technical skills and financial resources for printers and suitable materials (Birtchnell and Gorkin 2013; Ferguson 2014; Jenzen-Jones 2015).

Focusing on the licit production, diversion and conversion are the two main forms of rerouting licit firearms into illegal channels.

11. Defense Distributed printed the so-called Liberator: a plastic handgun able to fire one shot (Defense Distributed 2013; Jenzen-Jones 2015; McGowan 2013). Different testing showed that it was a potentially lethal firearm (The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) 2013).

12. Several different LEAs have tested 3D-printed plastic firearms and found that the design is rudimentary and that such firearms frequently break into pieces when being shot (Europol 2015; EY and SIPRI 2014). Nevertheless, since new designs are frequently developed and are easily accessible, they conclude that 3D-printing has to be monitored as an on-going issue (EY and SIPRI 2014).

13. This process makes it possible to overcome the limitation that some plastic components (e.g. upper receivers) cannot withstand the temperatures and pressures associated with firearms. Moreover, because the lower receiver is often the part with markings, this would enable a person to assemble a completely untraceable firearm (Jenzen-Jones 2015).

2.1.1 Firearm diversion

Licently produced firearms are likely to be diverted to the primary market mainly through (Bevan 2008; CSES 2014; Cukier 2002; Cukier 2008; De Martino and Atwood 2015; EU Commission 2013b; Europol 2013b; Florquin 2002; Griffiths 2008; Hales, Lewis, and Silverstone 2006; Lakomaa 2015; Schroeder, Close, and Stevenson 2008; Spapens 2007):

- Leakage from factories or surplus stocks;
- Loss of control over government stockpiles (Box 3);
- Transport diversion: a completely licit transaction on paper does not happen in reality, and weapons disappear with an unknown destination. This is possible thanks to fake end-user certificates, often obtained through bribery;
- Thefts from dealers or individual owners;
- Firearm conversion.

Box 3. Firearm stockpiles

Stockpiles are surpluses of reserve, unsold or obsolete firearms. They can have different origins, such as the end of armed conflicts, the changing of military doctrine, or the restructuring of armed forces (OSCE 2003). Many firearms are lost from stockpiles due to thefts, neglect or corruption and thereby enter the illicit market (Greene 2000a).

Two regions with many surplus stocks are important for the study of ITF in Europe:

The Balkans. Many former Yugoslav countries have been a major source of illicit firearms since the end of the region's conflicts. At the beginning of the 21st century, there were still plenty of firearms in the region, especially in countries of the former Yugoslavia and Albania (UNODC 2008). Although some stockpiles had been destroyed, as in Albania, Bulgaria, Croatia, Romania, and Serbia (Anastasijevic 2006;

Courtney-Green 2009; Faltas 2009; Gobinet 2011b; Griffiths 2008; Griffiths 2008; Karp 2009; SEESAC 2010; UNODC 2008), about 8 million firearms were estimated to be still available in surplus in former Yugoslav countries (UNODC 2010). However, a case study on the management of the stockpiles in South Eastern Europe (i.e. Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Montenegro, Serbia, and Slovenia) highlighted that the levels of surplus in South Eastern Europe varied rapidly and that national accounting systems for surplus stockpiles were often weak or lacking (Gobinet 2011b). Moreover, while most countries registered a decrease in surplus stocks, others registered little change from 2009 to 2014 because a steady flow of surplus materials was provided by the military reform, ageing ammunition, and new acquisition (Gobinet and Carapic 2015).

Former Soviet States and other Eastern Europe countries. Firearms produced by the Soviet Union generated the largest stockpiles in Belarus, Kazakhstan, Russia, and Ukraine (Griffiths and Karp 2009; Pyadushkin, Haug, and Matveeva 2003). Then, due to the lack of governmental control in those countries during the first half of the 1990s, large quantities of firearms were stolen from stockpiles (Pyadushkin, Haug, and Matveeva 2003). Large quantities of firearms are still available in Eastern Europe stockpiles. For instance, stockpiles in Ukraine amounted to around 7 million firearms in 2010 (UNODC 2010), even though the country undertook "the world's largest foreign-funded SALW and ammunition destruction program, involving NATO and the EU" (Griffiths and Karp 2009, 207). Likewise, stockpiles of the former USSR are still located in the Transnistria region, which "has become known as a haven for drug and weapons smuggling", mainly to Moldova (Roper 2001, 119).

Stockpile management and surplus destruction are therefore crucial in order to combat and prevent ITF, and the regulatory framework

is focusing on these issues (Karp 2008; Kryvonos and Kytomaki 2009; Stohl 2004). Among the initiatives addressing stockpile management, one of the first and most prominent is the SEESAC launched in 2002. This is a joint project between the Regional Cooperation Council (RCC) and the United Nations Development Programme (UNDP), assisting South Eastern Europe governments with implementation of the 2001 Regional Plan for Combating the Proliferation and Impact of Small Arms and Light Weapons. SEESAC's activities include SALW destruction, collection and awareness raising, storage upgrade and storage management training, marking, tracing and registration. Another important initiative focusing on stockpile management is the Regional Approach to Stockpile Reduction (RASR) funded by the US Government in 2009 and which promotes the sharing of good practices and building transparency and mutual confidence among participating countries, namely Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Montenegro, Romania, Serbia, and Slovenia (Gobinet and Carapic 2015).

- The reactivation of deactivated firearms: countries have different deactivation requirements, some of which can be rather easily overcome;
- The modification of semi-automatic firearms into fully automatic ones: many states allow the possession of semi-automatic firearms, so that a legally registered firearm can be converted into an illegal one. Even though this is a conversion procedure less frequently mentioned than the others, it is crucial considering that the last 2015 EC Proposal for amending the Firearms Directive includes a specific disposition on this point in order to restrict the availability of certain semi-automatic firearms for civilian use;
- Conversion of replicas: many EU MSs allow the possession without licence of replica firearms, which can be mechanically converted into real firearms (i.e. firearms expelling projectiles). However, in some cases replicas are used in crimes (such as robberies) without such alteration;
- Conversion of blank-firing firearms: since there are no implemented common standard criteria on firearms of this kind, they can be converted into weapons firing live ammunition (EY and SIPRI 2014).

2.1.2 Firearm conversion

Among the several *modi operandi* to divert firearms into the criminal market, firearm conversion is the most common. This process makes it possible to obtain weapons even in countries where controls are stringent by buying a licence-free item not classified as a firearm and altering it so that it can shoot live ammunition (De Martino and Atwood 2015; De Vries 2012; EY and SIPRI 2014; Ferguson and Williams 2014; Hales, Lewis, and Silverstone 2006; HM Government 2013; King 2015; Parker 2011; SEESAC 2009; Spapens 2007). Experts interviewed for this study underlined that in many countries of the EU, conversion has emerged as the main source of ITF.

Firearm conversion refers to a set of different modes of alteration whose related terminology is clarified in Box 4 and Figure 1 (EY and SIPRI 2014; Ferguson and Williams 2014; King 2015; Parker 2011):

Box 4. Terminology related to firearm conversion

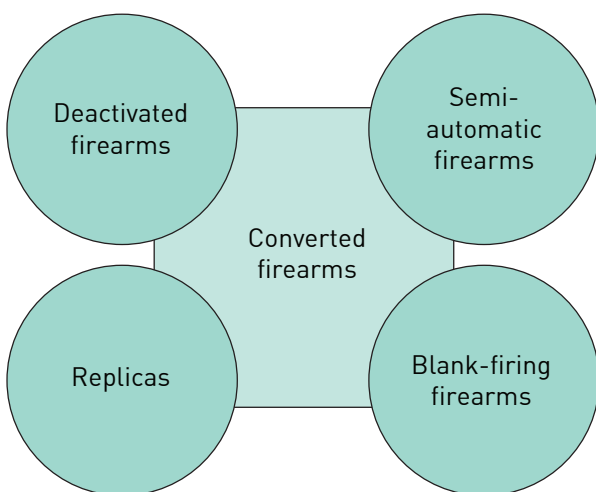
Deactivated firearms: real firearms rendered inoperable (i.e. they do not expel projectiles) (King 2015);

Modification of semi-automatic firearms into fully automatic firearms: the modification of real firearms to obtain a firearm which will fire repeatedly, as long as the trigger is held down or until the magazine is emptied (Ferguson and Williams 2014);

Replicas: devices that are not real firearms but have been designed to look exactly like real firearms, such as movie props (EY and SIPRI 2014; King 2015). They include trauma guns and airsoft guns (Gobinet 2011a; King 2015);

Blank-firing firearms: firearms producing noise and flash without expelling projectiles. They include alarm weapons and gas pistols (EY and SIPRI 2014).

Figure 1. Firearm conversion



Source: Transcrime elaboration

With regard to the reactivation of deactivated firearms, for many years there has been no harmonization of the deactivation guidelines and techniques in the MSs, even though the European Commission was tasked with developing common technical guidelines by the amended Firearms Directive in 2008. All the experts interviewed underlined that this lack of harmonization has created criminal opportunities related to the illicit trafficking and conversion of firearms of this kind. For instance, the Republic of Slovakia implemented laxer deactivation standards until July 2015: criminals bought deactivated firearms, smuggled them into other EU countries with more stringent provisions, and then reactivated them (see two examples in (Box 5 and Box 6) (Cuprik 2016).

Box 5. Case study: Reactivation of deactivated firearms

A group of individuals belonging to the 'Ndrangheta (an Italian OCG) was involved in the trafficking of firearms, including reactivated ones from Slovakia to Italy. The pre-trial court order imposed the personal restriction of 80 individuals for illicit possession and trafficking of the following firearms: 2 Benelli rifles, 4 reactivated pistol barrels, and an undefined number of artisanal silencers.

The OCG bought deactivated firearms in Slovakia. The criminals were aware that the standard for firearm deactivation in Slovakia allowed for relatively easy reactivation, whereas the Italian standard made it impossible. Moreover, they had contacts in Slovakia because two members were from Slovakia and had relatives and acquaintances there. These members contacted sellers of deactivated firearms and visited Slovakia to test the firearms and take photographs of the ones available for sale. The criminal group relied on the ability of an artisan in charge of firearms' modification in his workshop in South Italy. Since the costs of reactivation depend on the type of firearms purchased, the artisan would look at the photographs and give his feedback on the feasibility and profits of their reactivation so that the criminals could finalise the purchase.

Box 6. Case study: Reactivation and trafficking of deactivated firearms

Two members of Cosa Nostra (an Italian OCG) were involved in the illicit trafficking of 151 reactivated firearms, specifically 86 sub-machine guns, 45 rifles, 17 pistols, and 3 revolvers, and several kinds of ammunition. The two individuals bought the goods from an online shop in Slovakia for a total price of approximately € 46,300 and imported them into Italy without a licence.

The deactivated firearms transited through various countries: from Slovakia, they were transferred overland to Austria, specifically to a courier used by the Slovak on-line shop to send firearms to Western Europe. From Austria, the firearms reached Catania (Sicily, South Italy), where they were reactivated.

The ballistic analysis revealed that the firearms had been deactivated using a procedure which was not compliant with the Italian legislation. This deactivation procedure, known as the “movie prop” method, was allowed in Slovakia and could be easily circumvented to reactivate firearms.

Once reactivated, the firearms were sent by plane to Malta and overland to other Italian regions via parcel services. The firearms were presumably intended for criminals in Egypt and surrounding areas involved in illicit trafficking in human beings and drugs.

In the case of firearm conversion, blank-firing firearms are the most frequently converted (De Vries 2012; King 2015). Two aspects are especially critical in this regard. First, most countries have little or no regulation on blank-firing firearms (e.g. no licencing or registration). Second, if manufacturers add features to prevent conversion (e.g. barrel obstruction), these features can often be quite easily overcome (Hales, Lewis, and Silverstone 2006; King 2015). Moreover, large quantities of blank-firing firearms are available in the EU as a result of both internal production (e.g. Italy and Germany) and import (e.g. Turkey) (EY and SIPRI 2014).

Three features determine the feasibility of converting blank-firing firearms (Ferguson and Williams 2014; Hales, Lewis, and Silverstone 2006; King 2015):

- The direction of the expulsion of the gas pressure: front-venting blank-firing firearms direct the pressure to the end of the barrel, just like real firearms. As a consequence, they can be converted more readily than top- and side-venting ones, which disperse the energy resulting from firing a cartridge;

- The size of the chamber: the chamber of blank-firing firearms is smaller and shorter in order to be unsuitable for standard calibres, but some chambers are longer and wider than others. These chambers can fire slightly manipulated ammunitions;
- The type of materials used in key pressure-bearing components: blank-firing firearms constructed with harder materials (e.g. steel) at these points maximise safety and performance.

Besides their wide availability and ease of conversion, three other aspects facilitate the proliferation of blank-firing firearms (De Vries 2012; EY and SIPRI 2014; Hales, Lewis, and Silverstone 2006; King 2015; SEESAC 2009):

- Cost: blank-firing firearms cost far less than real firearms. Basic models of blank-firing firearms produced in Europe cost on average € 33, while those imported from Turkey can be purchased for € 15;
- Traceability: blank-firing firearms are exempt from marking, both when manufactured and imported, and record keeping. Moreover, blank-firing firearms lack the signature for forensic evidence, since most of them lack rifling in the barrel;
- Normative aspect: although the United Nations Firearms Protocol (UNFP) includes firearm conversion within the definition of “illicit manufacturing” (UN 2001b) and the 2008 amendment of the Firearms Directive specifies that items that could be converted have to be marked and registered,¹⁴ there is no international norm on these firearms (i.e. unconverted).¹⁵ Consequently, countries have different legislative restrictions.

14. In particular, Article 3 (d) specifies that “illicit manufacturing” occurs when the manufacture or assembly lack the government licence and the proper marking (UN 2001b).

15. For instance, Article 3 (a) of the UNFP includes in the definition of “firearm” any portable weapon that can be “readily converted” to expel live ammunitions, but it does not specify which items meet this criterion (UN 2001b).

In addition to blank-firing firearms, also replicas can be readily converted (King 2015). Trauma guns are designed to expel projectiles, so they are all front-venting. Although they can be converted even more easily than blank-firing ones, they are less widespread because they are categorised as real firearms in many countries. The conversion of airsoft guns depends on how they resemble real firearms: many of them pair non-firearm upper assemblies and firearm-like lower receivers, so that by replacing the upper assembly with that of a real firearm and slightly modifying the lower receiver, it is possible to obtain a converted firearm. However, most of them are made of weak materials that do not allow expulsion of live ammunition.

According to the experts interviewed, conversion can easily be carried out in private workshops, and instructions can be found online.

Due to its easiness, firearm conversion is a global phenomenon (Ferguson and Williams 2014; King 2015). Firearms can be (De Vries 2012; HM Government 2013; King 2015):

- Imported into a country and then converted;
- Converted in the place of production and then exported to the destination country;
- Manufactured in one country, exported to another one where they are converted, and then exported to the destination country.

A study collecting information from interviews with customs officers, firearms experts, and law enforcement officials underlined that many European states reported seizures of converted firearms, including Belgium, Bulgaria, Finland, France, Germany, Greece, Ireland, Italy, Lithuania, the Netherlands, Portugal, Spain, Sweden, Ukraine, and the UK (King 2015). For instance, nearly 70% of firearms seized during crimes in Germany between 2012 and 2013 were converted blank-firing firearms; 40% of firearms seized in the Netherlands in May 2014 were either converted or deemed to be converted in the near future; and 21% of firearms retrieved from crime scenes in UK from 2003 to 2008 were converted firearms (King 2015). It is important

to note that such data may be biased because police and customs frequently group firearms and converted weapons together, or they record converted replicas as the firearms that they imitate (King 2015).

Another study analysing the proliferation of converted firearms in the Netherlands applied script analysis to data on seizures from 2000 to 2008 and interviewed experts from the Dutch police (De Vries 2012).¹⁶ It pointed out that the majority of firearms were manufactured in Italy and Turkey, converted in small-scale professional locations in Portugal, and then imported on a small scale by road (De Vries 2012).

Between 250 thousand and 370 thousand blank-firing firearms per year are estimated to circulate in Europe. They stem from European and Turkish production (EY and SIPRI 2014). Moreover, firearm conversion is becoming a widespread phenomenon in neighbouring regions such as North Africa and the Middle East (Ferguson and Williams 2014; King 2015).

The next stage in the illicit supply chain is wholesaling, i.e. the acquisition of large quantities of firearms and their subsequent distribution in smaller lots for retail.

2.2. Wholesale of illicit firearms

There are no official data on cases of firearms wholesaling. However, both the literature and the experts interviewed stress that many OCGs are involved in ITF as suppliers (Table 2). For instance, with regard to the Italian OCGs, Paoli stated that "Italy's most important criminal coalitions are increasingly succeeding in penetrating the 'wholesale' sector of international arms trafficking, participating in sizable and highly profitable transactions" (2013, 27).

16. The script approach foresees the subdivision of a criminal behaviour into sequential steps that constitute the scenes. Each scene can be broken down into facets, which are different methods to carry out a scene (Cornish 1994).

Table 2. OCGs involved in ITF in the EU

OCGs	Countries of activity	References
Albanian speaking OCGs	Albania, Bulgaria, Greece, Italy, Romania	Davis, Hirst, and Mariani 2001; DIA 2006; DIA 2012; DIA 2014; DNA 2011; Europol 2011; Iadeluca 2012; Parente 2010; Rynn, Gounev, and Jackson 2005; Vreja 2007
Balkan OCGs	Bulgaria, Croatia, France, Greece, Italy, the Netherlands, Romania, Serbia, Spain, UK	Arsovska and Kostakos 2008; Davis, Hirst, and Mariani 2001; DNA 2010; Europol 2011; Krunoslav 2007; Lavorgna, Lombardo, and Sergi 2013; Rynn, Gounev, and Jackson 2005; Vreja 2007; Weenink and van der Laan 2007
Motorcycle gangs OCGs	Scandinavian countries	Europol 2005; Europol 2011; Europol 2013b
'Ndrangheta	Belgium, Italy, the Netherlands	Beare 2012; Calderoni 2013; DIA 2011; DIA 2012; DIA 2014; DNA 2010; DNA 2011; FEDPOL 2013; KLPD 2011; Massari 2013; Parente 2010
Other Italian OCGs	Croatia, Germany, Italy, Poland, Romania, Spain	BKA 2006; BKA 2012; Borov and Bowers 2002; Calderoni 2013; DIA 2014; Europol 2011; FEDPOL 2012; FEDPOL 2013; Krunoslav 2007; Massari 2013
Russian and Georgian OCGs	Greece, Italy, Poland, Romania, Spain	Arasli 2007; Busuncian 2007; Cheloukhine and Haberfeld 2011; Davis, Hirst, and Mariani 2001; DNA 2011; DNA 2012; Iadeluca 2012; Lavorgna, Lombardo, and Sergi 2013; Traughber 2007; Vreja 2007
Turkish OCGs	Bulgaria, Germany, Italy, the Netherlands, Romania	BKA 2012; KLPD—IPOL 2009; Lavorgna, Lombardo, and Sergi 2013; Rynn, Gounev, and Jackson 2005; Vreja 2007

Source: Transcrime elaboration

Researchers and experts highlight that ITF is not a core business for OCGs, but rather a side market. The profitability rate is not very high for several reasons: it is difficult to smuggle a large number of illicit firearms, the risk of detection is rather significant, and the profit margin on firearms is low compared with other illicit products, e.g. drugs. This means that monetary profit is not generally the dominant motive for OCGs to get involved in ITF. Results from case studies support this statement: there are few cases of criminal groups involved in ITF whose main aim is profit; most of them traffic firearms for other reasons (e.g. personal use, criminal activities).

Generally, OCGs exploit consolidated routes, contacts, networks, and skills used in other criminal activities to traffic illicit firearms (e.g. illegal drug market, human trafficking and gang violence) (Hales,

Lewis, and Silverstone 2006).¹⁷ In this regard, two case studies provide interesting examples. The first is a recent journalistic inquiry into the nexus between ITF and art trafficking (Nadeau 2016; Quirico 2016). A journalist working with Italy's Patrimony Police pretended to be an art collector and shed light on an illicit art-for-weapons ring in Southern Italy (Box 7). The second example highlights the overlapping of the firearm, human, and drug trafficking routes exploited by OCGs (Box 8).

17. Interviews with illicit dealers in the EU suggested that cross-border shipments typically consisted of 5-10 guns, while within the USA the majority of illicit trafficking cases investigated by law enforcement involved 10 firearms or fewer, and only 5% involved 100 or more firearms (Marsh 2015).

Box 7. Case study: Trafficking firearms in exchange for artworks

Affiliates of ISIS loot artefacts in Libya and sell them in exchange for a wide range of weaponry, including Kalashnikov rifles and rocket-propelled grenades.

Various OCGs are involved in this ring: the Russian mafia provides firearms from Moldova and Ukraine; the Italian mafias (especially Camorra and *'Ndrangheta*) arrange for the exchange; and the Chinese mafia is in charge of the shipments. Chinese-flagged cargo ships usually transit from Sirte to the Calabria port of Gioia Tauro, which is crucial for *'Ndrangheta* drug-trafficking activities in Europe. Firearms either return to Libya on the same container ships or remain in Europe available for foreign fighters.

American museums and collectors were the main buyers until they discovered that their money was supplying the Islamic State with additional firearms. Today, stolen art pieces usually enrich private collections in Russia, China, Japan, and the Emirates. According to the journalist's investigation, a marble head dating back to the Roman Empire costs € 60 thousand, while a bigger statue dating back to ancient Greek times costs approximately € 1 million (Nadeau 2016; Quirico 2016).

Box 8. Case study: Exploiting consolidated routes and criminal networks for multiple trafficking activities

A large criminal network was involved in human trafficking for sexual exploitation, drug trafficking, and ITF. The investigation highlighted connections between Western European offenders and Italians from local

'ndrine (small criminal groups belonging to the *'Ndrangheta*). In particular, individuals of Western European descent provided the *'ndrine* with drugs and firearms in exchange for the possibility to sexually exploit women in areas controlled by *'Ndrangheta* groups. Among the firearms trafficked by the criminal network, the police seized 5 Kalashnikov rifles, 7 magazines and 150 bullets. The criminal organisation trafficked firearms from Albania to Italy. In many cases, firearms were moved together with drugs (mainly marijuana) and humans. Once the firearms arrived in Apulia, the group managed their distribution to the final users, i.e. members of the criminal group and local *'ndrine*.

In some cases, OCGs are also able to develop new criminal schemes and alliances by adapting their activities to LEAs' measures and to criminal opportunities. Interestingly, the case studies show that criminal organisations were particularly able to avoid law enforcement detection by exploiting the advantages stemming from different legislations (Box 9), as well as the complicity of corrupt officials (Box 10).

Box 9. Case study: Supply of firearms in countries with lax gun laws

A large *'Ndrangheta* group was active in the trafficking of different kinds of firearms and ammunitions. Specifically, the OCG trafficked a significant amount of pistols and rifles, and smaller quantities of shotguns, revolvers, machine and sub-machine guns. The group comprised different clans operating both in Italy and Switzerland. The OCG purchased firearms in Switzerland exploiting its lax legislation, and finally delivered them in Italy. This practice facilitated the clan in obtaining firearms because weapons were legally acquired from licenced vendors and later smuggled across Italy.

Box 10. Case study: Reliance on corrupt agreements to avoid detection

In Italy, an *'Ndrangheta* group purchased firearms from Roma people in exchange for cocaine and sold them to Calabrian criminals. The OCG mainly trafficked handguns and ammunition, but also some sub-machine guns. At the end of the investigation the police seized 1 pistol, 1 revolver and 192 rounds of ammunition. Among other factors, the strength of the OCG derived from the active involvement of corrupt officials who gave the criminal group secret information regarding possible police controls in order to ensure the continuity of the criminal activity.

2.3. Retail of illicit firearms

According to many scholars, ITF occurs mostly on a small scale (Cooper et al. 2002; Europol 2013b; Greene 2000b; Spapens 2007). Many studies point to the involvement of different types of actors, but information on how they conduct their business is largely anecdotal. The types of actors include (former) members of police/armed forces and government officials, businessmen, and professional criminals (Bevan 2008; Florquin 2002; Foster 2012; Griffiths 2008; Hales, Lewis, and Silverstone 2006; HM Government 2013; McDonald 2008; Ruggiero 1997; Spapens 2007; Thachuk and Saunders 2014; UNODC 2010). McDonald (2008) stated that corrupting members of police forces may result in poor control over stockpiles and the consequent diversion of firearms. Similarly, corrupted government officials, businessmen, and professionals can provide blank end-user certificates and other counterfeited documentation, thus enabling ITF (Florquin 2002; McDonald 2008; UNODC 2015).

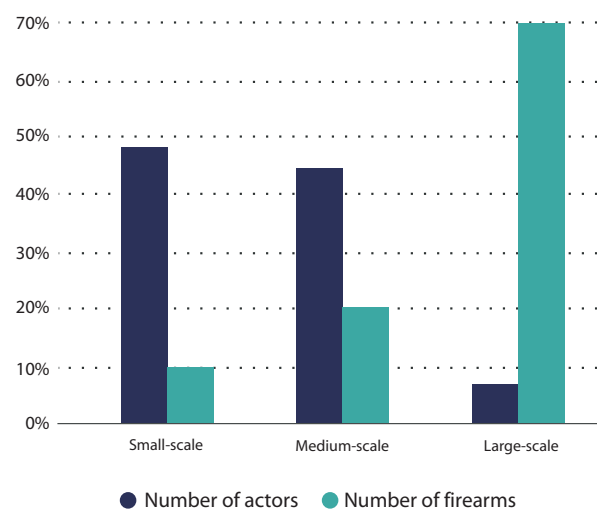
In addition, some individuals can buy firearms on behalf of third parties in return for money. Usually, they report the theft of the firearms, and the end-users erase the serial numbers on them (Massari 2013). This is known as “straw purchase” (Calderoni et al. 2014; Cukier 2008; Massari 2013; UNODC 2010).

2.4. Characteristics of actors in firearm seizures

For the purposes of Project FIRE, the expression “actors involved in firearm seizures” denotes all individuals identified as suspects during a seizure operation reported in online newspapers and online press releases from customs and LEAs from January 2010 to March 2015.

According to the open sources collected, less than 10% of the reported actors accounted for 70% of the firearms seized. By contrast, most offenders were involved in small- and medium-scale trafficking,¹⁸ accounting for a small fraction of the firearms seized (about 50% and 45% of actors and 10% and 20% of the firearms respectively). This means that very few actors were responsible for the higher number of firearms seized (Figure 2).

Figure 2. Number of actors and firearms per scale of seizure in the EU (2010-2015)*



* N=2,895. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

18. Small-scale seizures involve 1 firearm, medium-scale seizures from 2 to 9 firearms, and large-scale seizures 10 or more firearms (more details in the Methodological Annex).

The average number of actors involved in the seizures was 2.4. In most cases, only one actor (56%) or two (13%) were involved in the seizure. The few cases with more than 10 individuals involved (3%) were usually large-scale operations occurring in several neighbouring cities and often related with drug trafficking. This means that in the majority of cases people identified during firearm seizures acted alone, and in very few cases they had planned the illicit movement of firearms with other accomplices.

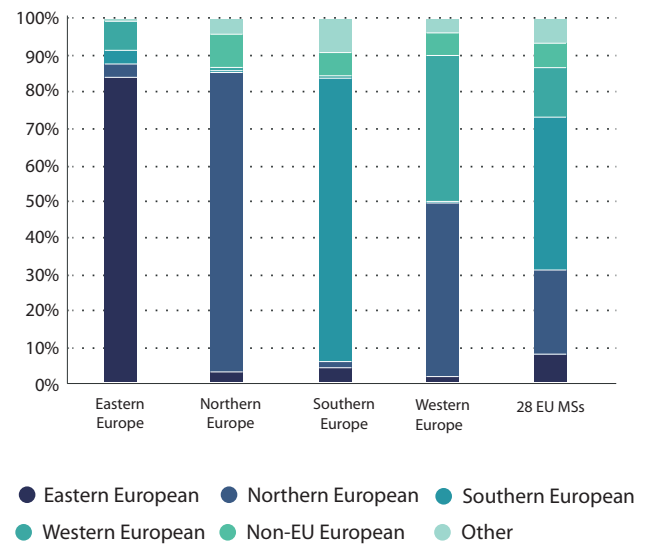
Most actors were involved in seizures occurring in Southern Europe (40%), followed by Western Europe (30%), Northern Europe (17%), and Eastern Europe (13%). These data are partially in line with the geographic origins of the actors (Figure 3).¹⁹ Most actors were of Southern European descent. Among these, most were Italian (52%) and Spanish (35%). Northern Europeans accounted for the second largest group, with Dutch (70%) and Finnish (10%) as the largest groups of nationalities. Among Western Europeans, the third largest group of actors, most were German (40%) and French (37%). Eastern Europeans accounted for the fourth largest group, most of them being Romanians (32%) and Bulgarians (27.4%). Non-Europeans accounted for the fifth largest group of actors, with Moroccan (19%) and Colombian (18%) as the most frequent nationalities. Non-EU Europeans accounted for the smallest group of actors, most of them being Albanians (38%) and Serbians (18%).

On considering the actors' geographic origin per macro-region, what emerges is that the largest categories of geographic origin in each macro-region always correspond to the macro-region in which the seizures took place. The largest involvement of actors outside the macro-region of their origin was recorded for Southern Europeans identified in relation to firearm seizures in Western Europe.

Regarding actors' geographic origin per scale of trafficking, Southern European actors remained the majority throughout all scales of seizures (Figure 4). The shares for other categories of nationalities varied

by scale of the seizures: the shares for Northern and Western Europeans decreased with increasing scale, while the shares for Non-EU Europeans and Eastern European increased with increasing scale.

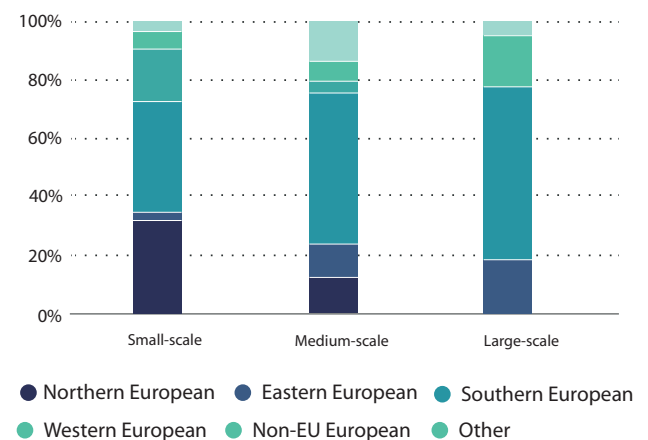
Figure 3. Geographic origin of actors in firearm seizures in the EU per macro-region (2010-2015)*



* N=6,559. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Figure 4. Geographic origin of actors in firearm seizures in the EU per scale of firearm seizure and macro-region (2010-2015)*



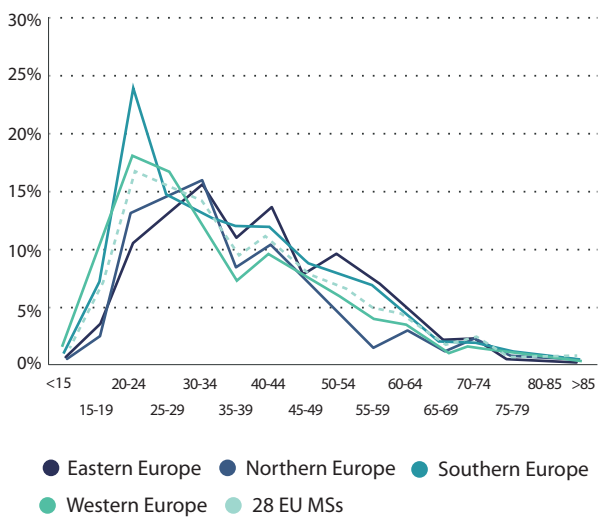
* N=1,834. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

19. The aggregation of macro-regions and of geographic origins is based on the grouping scheme of European sub-regions used by the UN Statistics Division (more details in the Methodological Annex).

Across all regions, offenders involved in firearm seizures were predominantly men (94%) belonging to the 20-24 age group (Figure 5).²⁰ Apart from the lower involvement of actors aged 20 and younger, shares continuously decrease with age. While confirming the overall trend, peak ages for actors vary per macro-region: they are lower in Northern and Western Europe (20-24) and higher in Southern and Eastern Europe (25-29 and 30-34 respectively). A division by scale confirms the overall age trend, except for a peak of 40-44 in large-scale ITF (Figure 6). This finding indicates that seniority and criminal professionalisation may be important factors to engage in large-scale ITF.

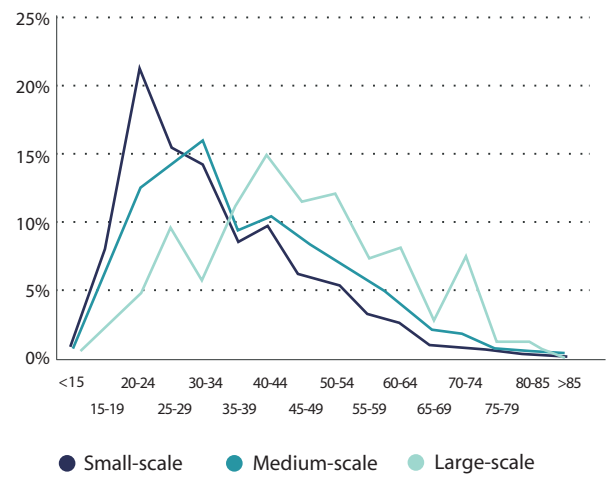
Figure 5. Age of actors in firearm seizures in the EU per macro-region (2010-2015)*



* N=3,449. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Figure 6. Age of actors in firearm seizures in the EU per scale of seizure (2010-2015)*



* N=3,513. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Overall understanding of markets does not stop at the end of the supply chain; it also requires analysis of the illicit demand for firearms. The aim in what follows is therefore to identify different types of end-users and the types of firearms that they seek for what purposes (Chapter 3).

20. Ages between 15 and 85 years old were aggregated into groups of 5 years each (more details in the Methodological Annex).

3. Demand for illicit firearms

Recent high-profile attacks on European soil as in Toulouse and Montauban (March 2012), Brussels (May 2014), Paris (January 2015), and Copenhagen (February 2015) are just some examples of terrorist attacks that have been carried out with firearms. The growing fear of illegal possession and use of firearms by criminal and/or terrorist groups has had a considerable influence on the demand for illicit weapons.

Reasons for demanding illicit firearms

Many factors can influence the demand for illicit firearms, such as their intended use, the owner's identity, as well as the context in which the owner is active:²¹

- The purchaser is not eligible to access a legal weapon (due to age, past trouble with the law, illegal status in the country of residence, lack of formal qualifications such as hunting licence, etc.);
- The purchaser is planning an illegal activity, or for some other reason does not want a weapon which can be traced back to him/her;
- The weapon that the purchaser wants to buy is not accessible on the legal market;
- An illegal weapon is more easily accessible than a legal one. Having access to a legal firearm may be difficult due to the presence of strict eligibility criteria fixed by the national regulations. Therefore, people interested in buying a firearm may be attracted by the illegal market. Studies demonstrate that the higher price of an illegal firearm is not a deterrent for criminals.²²

21. In countries where the demand for illegal weapons is greater than the supply (UK and Sweden for example), criminals tend to use whatever weapon they can access, rather than according to its appropriateness for a specific use or other preferences.

22. An interviewee claimed that a study on street prices of firearms in the UK showed that a gun may cost 300 GBP legally and 5000 GBP on the street.

According to the literature and the experts interviewed, carrying and using illegal firearms is instrumental to the commission of crimes, coercion and harm, and to satisfaction of the desire for self- and asset protection (Box 11). This is the typical motivation of individuals, gangs, or OCGs.

Box 11. Case study: Trafficking firearms for instrumental use

A group of Cosa Nostra (an Italian OCG) was involved in ITF from the former Yugoslavia to Italy. The judge competent for the preliminary investigation imposed personal restrictive measures upon 51 individuals. Among them, 8 individuals were charged with the illicit possession of 4 pistols, 2 revolvers and 123 rounds of ammunition. The OCG made use of firearms in order to carry out criminal activities. Specifically, the OCG used firearms in homicides, intimidating acts and extortion. The investigation ascertained how, with the use of firearms, the OCG threatened victims of extortion in order to seize their business activities.

Another reason for carrying illegal firearms relates to the symbolic value of guns: the mere awareness or acknowledgement of firearm possession by a criminal can be sufficient to intimidate (Brennan and Moore 2009; Spapens 2007).

The last main reason is related to collection purposes: people may ask for illicit firearms due to their interest in historical items and their passion for weapons (Brennan and Moore 2009).

Actors stimulating the demand for illicit firearms

The most striking feature of actors that stimulate the demand for illicit firearms is gender. It is overwhelmingly men who buy, sell, and use small arms around the world. Gun ownership and use are means to demonstrate manhood, particularly among young men, across different national contexts (Blumstein 2002). Although end users are mainly male, the literature suggests some differences between men and women (Kasprzak 2013). Whereas men more often collect or use weapons for their symbolic value, women appear to buy weapons for defensive purposes. It is doubtful whether these general differences also apply to illicit firearms (Brennan and Moore 2009).

The three main types of actors that feed the demand for illicit firearms are:²³

- Criminal groups;
- Terrorist groups;
- Individual gun owners.

Criminal groups are generally considered the main drivers of the illicit firearms market in Europe (Spapens 2007).²⁴ Besides being involved in the supply of illicit firearms, they buy illicit firearms to conduct their illicit activities (Massari 2013). Most Italian OCGs possess their own arsenals of firearms, which are usually old and varied, including guns, revolvers, AK-47 pattern rifles but also converted ones. Within each group, there are selected members in charge of procuring, storing, and distributing firearms among members according to different circumstances and tasks (e.g. intimidation or homicide). Members of OCGs also demand illicit firearms for their symbolic value.

23. The general distinction between criminal and terrorist groups refers to differences in their organisational goals. Criminal groups pursue primarily economic goals while terrorist groups pursue primarily ideological, political, or religious ones. To be noted, however, is that this distinction builds on an ideal-type categorization, while in some cases, especially in zones of conflict, criminal and terrorist groups may share common features and appear to be somewhat hybrid. Besides these three groups of illicit firearms users, according to some authors, people with mental disorders can be regarded as a further group of illicit firearms users (Kasprzak 2013).

24. There are an estimated 3,600 OCGs in the EU (Europol 2013b).

Besides criminal demand, the aforementioned series of politically motivated shootings in the EU in 2014 and 2015 highlighted the demand by terrorists for firearms. In recent years, significant amounts of firearms and ammunitions have been found in the possession of different types of terrorist groups, including violent separatist movements, religious terrorist groups, and radical left-wing or right-wing groups. Little research has been conducted to determine how and why European terrorists access certain types of weapons. The Irish Republic Army was in the past known to stockpile large quantities of weapons, whereas Anders Breivik used weapons for which he had licences through membership of a sport shooting club. For the acquisition of weapons, terrorist groups in several EU MSs are believed to be in contact with OCGs. Despite these presumed links with the criminal milieu, some terrorist groups have their own distribution channels through which they acquire weapons (Duquet and Van Alstein 2015b).

A third group of actors in the illegal firearms market in Europe are individual gun owners. This category includes both individuals acting negligently and individuals acting with criminal intent. The former are of less security concern because they keep or acquire firearms without having the necessary permits for collection purposes, self-protection, or emotional reasons (for example inherited guns). The latter are people who buy firearms for criminal purposes and individuals who carry out terrorist attacks on their own without affiliation to or logistical support from an organisation, the so-called "lone wolves" (e.g. the terrorist shooter in Munich in July 2016).

The following sections focus on shooters using illicit firearms, and on their different purposes. All the results presented derive from the analysis of open sources in the 28 EU MSs from January 2010 to March 2015 (more details in the Methodological Annex).

3.1 Characteristics of shooters using illicit firearms

For the purposes of Project FIRE, "shooters" are all individuals identified as suspected shooters in deadly and non-deadly shootings with illicit firearms in the 28 EU MSs reported in online newspapers from January 2010 to March 2015. Deadly shootings involve homicides, while non-deadly shootings involve attempted homicides and shootings (see Methodological Annex for details).

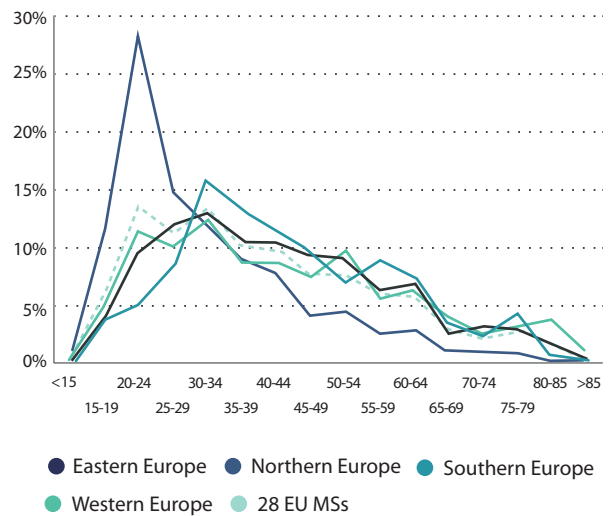
According to the open sources collected, the vast majority of the recorded shooters are men (97%), while women account for only a marginal proportion (3%). This finding is not limited to gun-related violence but concurs with the well-established fact that men are generally more prone to engage in violence and violent crimes (Bennett, Farrington, and Huesmann 2005).

Most shooters belong either to the 20-24 or to the 30-34 age group (Figure 7). Apart from a lower involvement of shooters aged 20 and younger, shares for other age groups generally decline with increasing age. This finding closely relates to the general age curve of crime, indicating that ages for criminal activity peak in adolescence and young adulthood, and decline thereafter. As becomes apparent, however, the peak age for the use of firearms is lagged with respect to the general crime-age curve. This finding may relate to a higher degree of criminal fortification in individuals with time. Shootouts are considered a serious offence, and they are comparatively rare in Europe. As such, they may not commonly occur at the onset of criminal behaviour.

A division by macro-regions indicates that peak ages for shooters vary. The lag of the peak age with respect to the general-crime curve is present in all macro-regions. The 30-34 age group, for example, accounts for the largest share in Eastern Europe, Southern Europe and Western Europe. Only in Northern Europe does the 20-24 age group constitute the largest share. This trend can be explained by the large presence of gangs in Sweden composed of young men dealing with local criminal activities and internal struggles. The trend of shares generally increasing towards the peak age and generally declining thereafter is present in all macro-regions, and it is especially pronounced in Northern Europe.

In regard to the geographical origin of shooters, according to the media the majority of them are of Southern European descent, followed by Western European (Figure 8). All other categories account for less than 10% each. This result is mostly a reflection of the large number of shootings that have been recorded for Southern Europe compared to the other macro-regions.

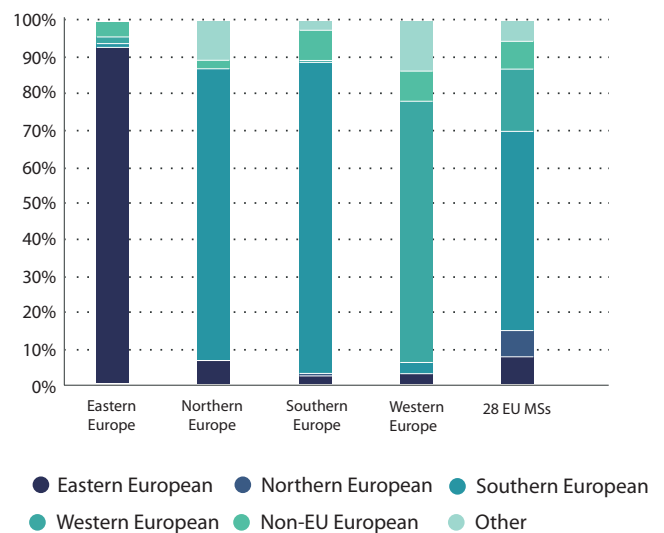
Figure 7. Age of shooters in the EU per macro-region (2010-2015)*



* N=2,379 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Figure 8. Geographic origin of shooters in the EU per macro-region (2010-2015)*



* N=1,197 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

On dividing the background of shooters per macro-region, it becomes apparent that the largest shares for categories of background each correspond to the macro-region in which the shooting occurred. The lowest share is reached for Western Europeans engaging in shootings in Western Europe. In all other macro-regions, the shares for shooters with a background corresponding to where the shootings occurred account for more than 80%. The distribution is especially homogenous in Eastern Europe, while the other macro regions show larger involvements of foreigners in shootings. The interpretation of findings on the ethnic origin of shooters is problematic because reporting standards on the issue differ considerably both among media outlets and countries.²⁵

3.2. Use of illicit firearms in shootings in the EU

The dangerousness of firearms is intrinsically linked to their lethality and the injuries and deaths that they may produce when used against another person. Data on gun-related killings are available from official sources, especially the WHO's Detailed Mortality Database for Europe. The problem with these data, however, is that they furnish no insights into the circumstances under which the killings

occurred. They provide no information on whether illicit or licit firearms were used, nor who the shooters were and for what reasons the shootings occurred. Mortality data are thus of little help in measuring the demand for and eventual use of illicit firearms.

Compared with some other world regions, shootings in Europe are relatively rare and as such are highly visible. The media give a great deal of coverage to shootings and thus furnish extensive and detailed data. To measure the use of illicit firearms, the research team systematically searched for online news items dealing with cases of deadly and non-deadly shootings committed with illicit firearms in the 28 EU MSs between January 2010 and March 2015.

The resulting database contained 4,455 events of shootings. These events regarded both deadly and non-deadly shootings. Most events were collected for Southern Europe. Western Europe accounted for the second highest share of deadly shootings, while Northern Europe accounted for the second highest share of non-deadly shootings. Cases of both deadly and non-deadly shootings in Eastern Europe constituted the smallest shares (Table 3 and Figure 9). These results reflect the propensity of the media to report events of this kind, especially when they involve native people as shooters (see Section 3.1).

Table 3. Number of shootings, shooters, victims, and injured in the EU per macro-region (2010-2015)*

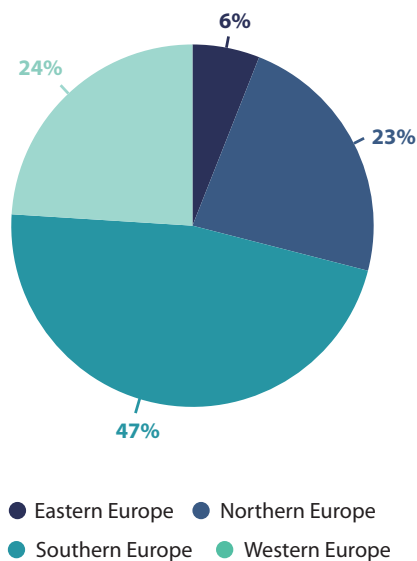
Macro-region	Events	Incidents	Shooters	Victims	Injured
Eastern Europe	282	319	251	236	132
Northern Europe	1,016	1,088	864	488	598
Southern Europe	2,076	2259	1,686	1,426	981
Western Europe	1,081	1,193	999	883	616
28 EU MSs	4,455	4,859	3,800	3,033	2,327

* Only shootings with illicit firearms. For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

25. In some countries, such as Sweden, newspapers do not report the geographical origin of the shooters if they are natives.

Figure 9. Shootings in the EU per macro-region (2010-2015)*

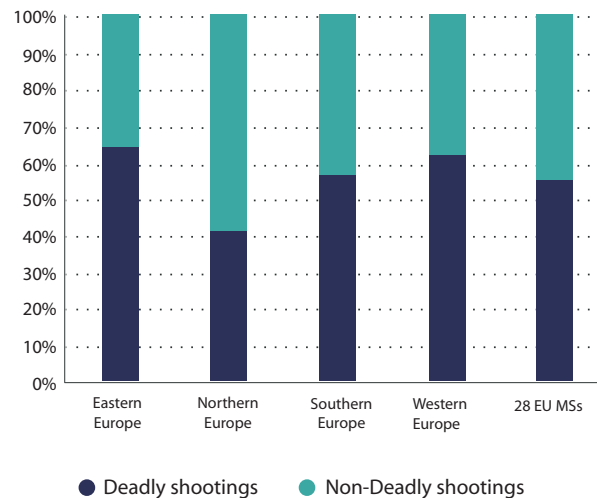


* N=4,455 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Events may involve more than one incident of both deadly and non-deadly shooting. The majority of the incidents recorded were deadly shootings, meaning that they resulted in the death of at least one victim. In all macro-regions except Northern Europe, the number of recorded incidents of deadly shootings was higher than for non-deadly shootings (55% and 45% respectively) (Figure 10). This recorded distribution should not be read as representative of the actual distribution of deadly and non-deadly shootings. It needs to be interpreted in light of the uneven attention that the media pay to both phenomena: newspapers tend to report cases in which people are killed more frequently than non-lethal cases.

Figure 10. Deadly and non-deadly shootings in the EU per macro-region (2010-2015)*



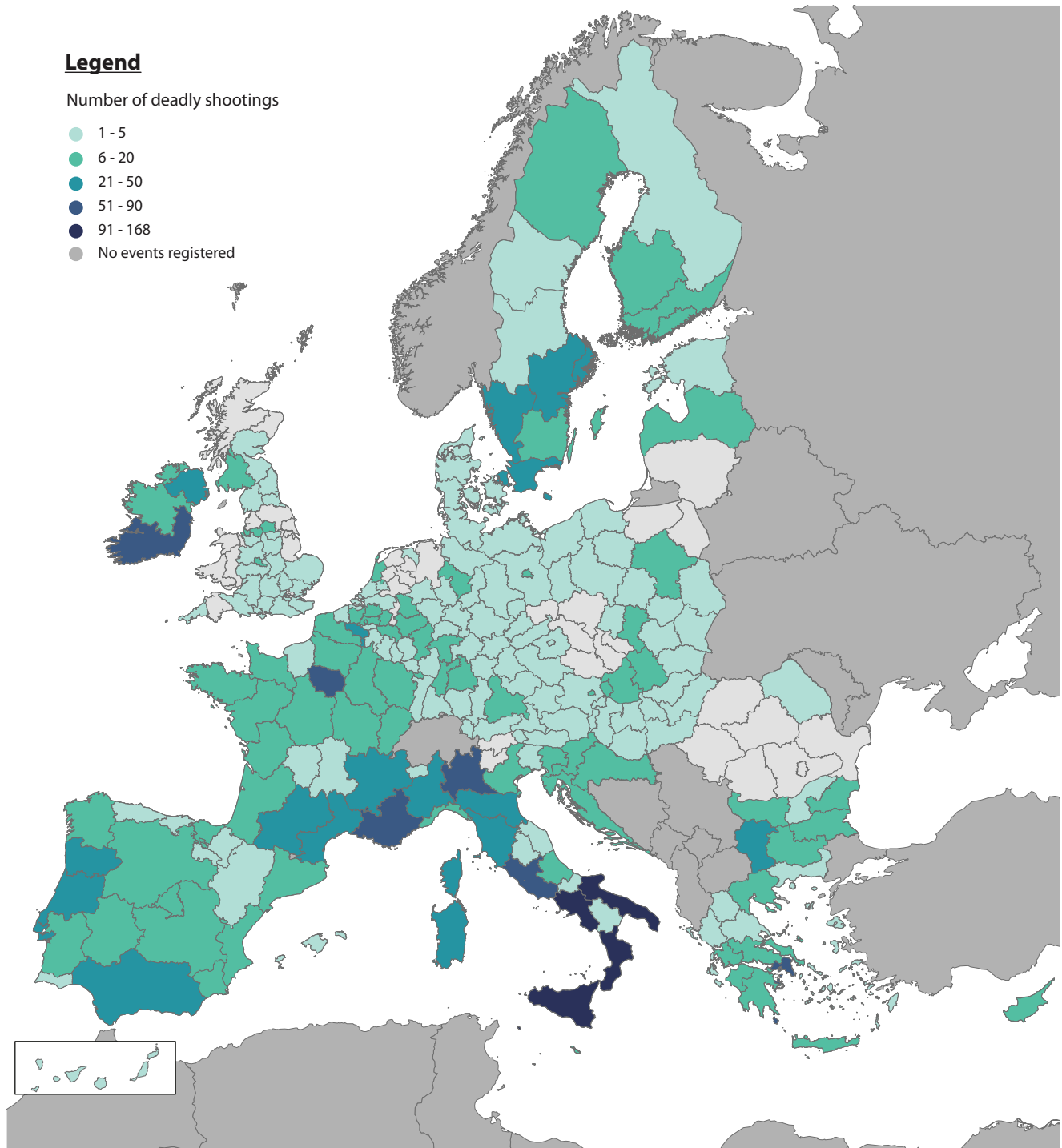
* N=4,859 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Figure 11 and Figure 12 show the number and the rate (per 100,000 inhabitants) of deadly shootings recorded in the 28 EU MSs per region. According to the figures, some Italian regions register very high numbers of deadly shootings. Also some regions in France, Spain, Ireland, Sweden and Belgium present quite high values. It is difficult to identify a pattern in these maps, but what emerges is that the highest concentration of deadly shootings is registered in countries and regions characterised by a strong presence of Mafia groups and OCGs (e.g. some Italian regions), a strong presence of gangs involved in criminal activities with firearms (Southern France), and where specific serious shootings occurred during the period of observation, for example terrorist attacks (e.g. the attack on Charlie Hebdo that occurred in Paris in January 2015).

Figure 13 and Figure 14 show the number and the rate (per 100,000 inhabitants) of non-deadly shootings recorded in the 28 EU MSs per region. Also in this case trying to define a pattern is difficult. However, there is a high concentration of non-deadly shootings more or less in the same countries that register high values of deadly shootings for the same reasons as mentioned above.

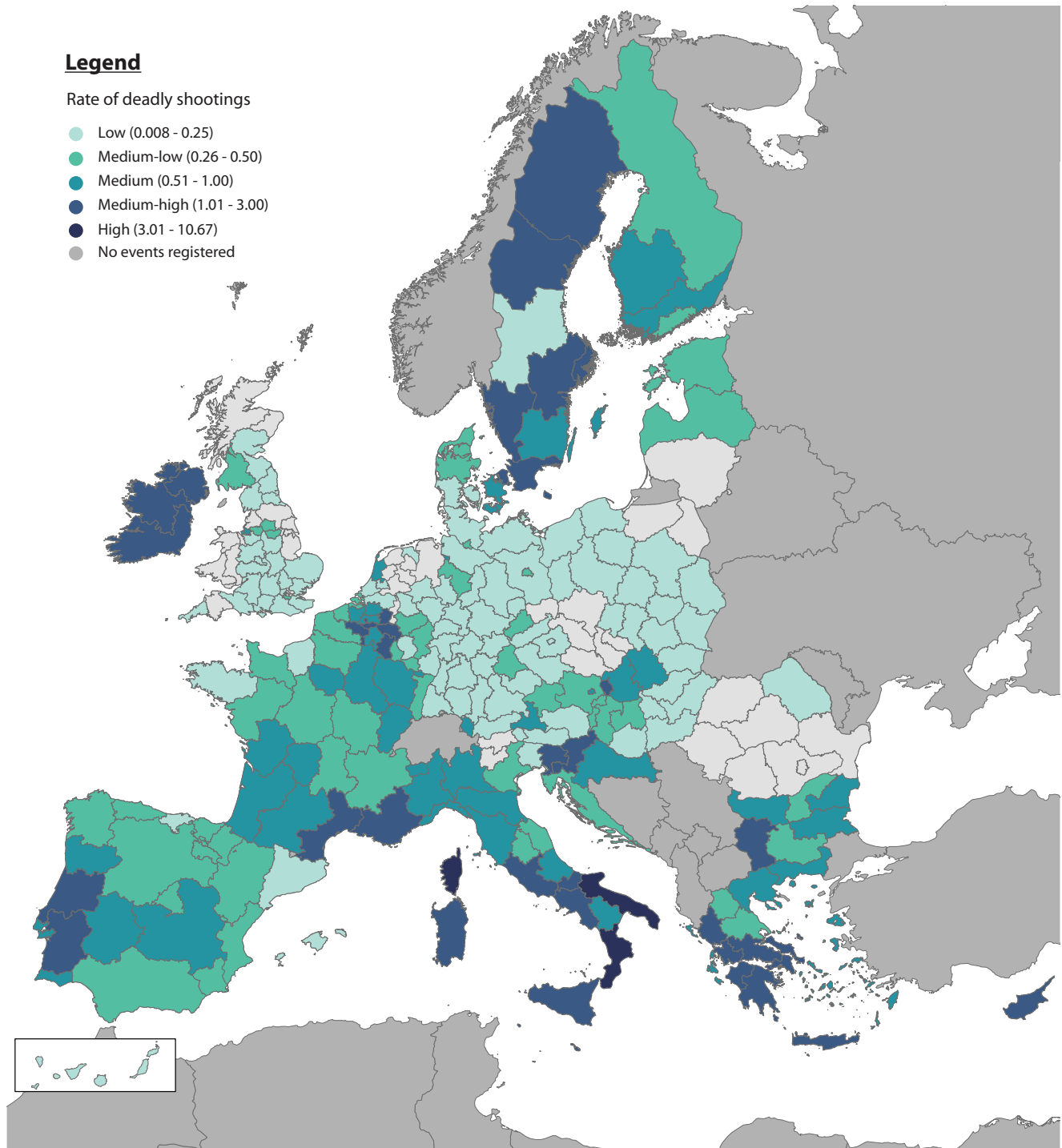
Figure 11. Number of deadly shootings in the EU per region (NUTS 2) (2010-2015)*



* Only shootings with illicit firearms. For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

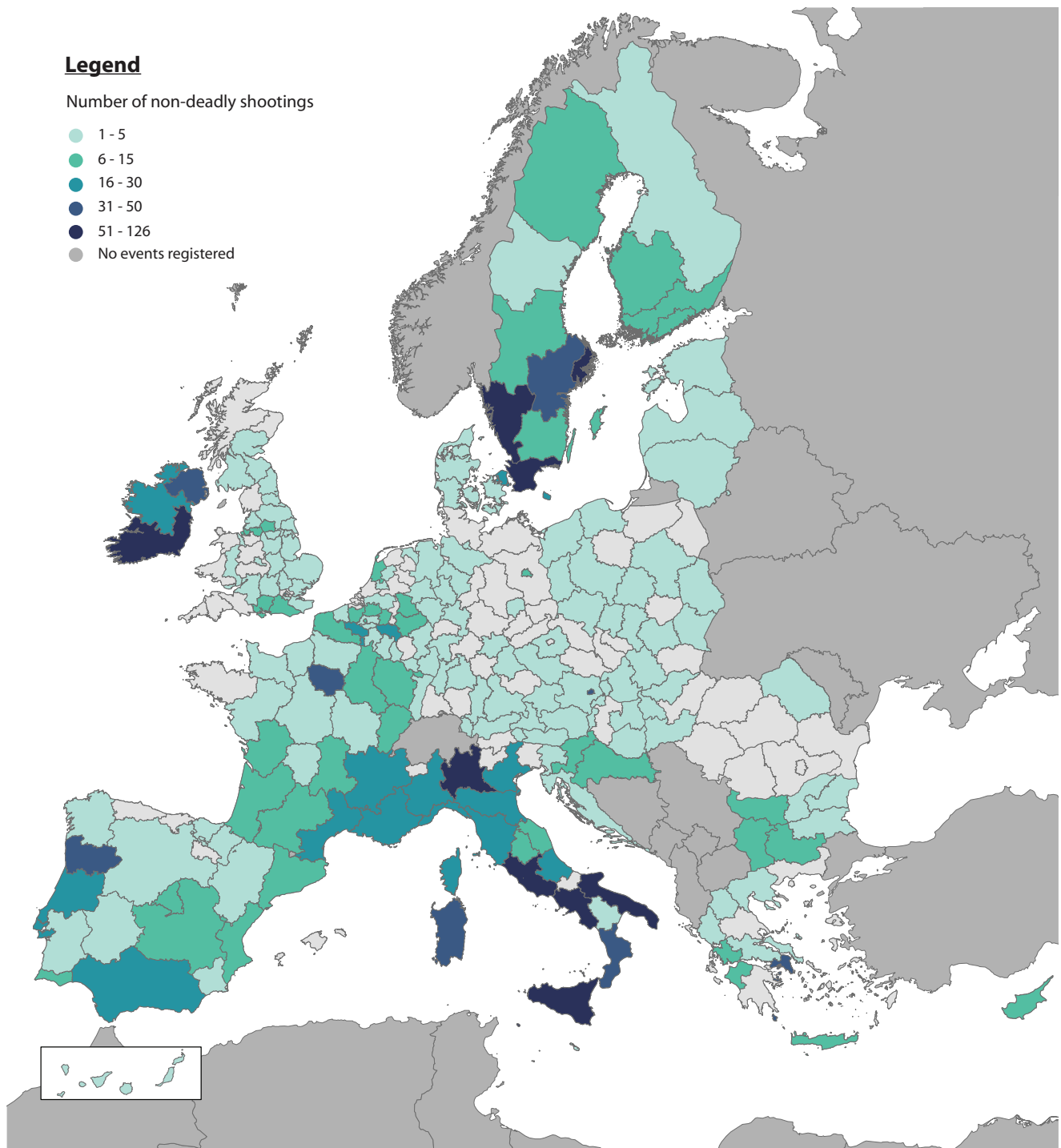
Figure 12. Rate of deadly shootings in the EU per 100,000 inhabitants per region (NUTS 2) (2010-2015)*



* Only shootings with illicit firearms. For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

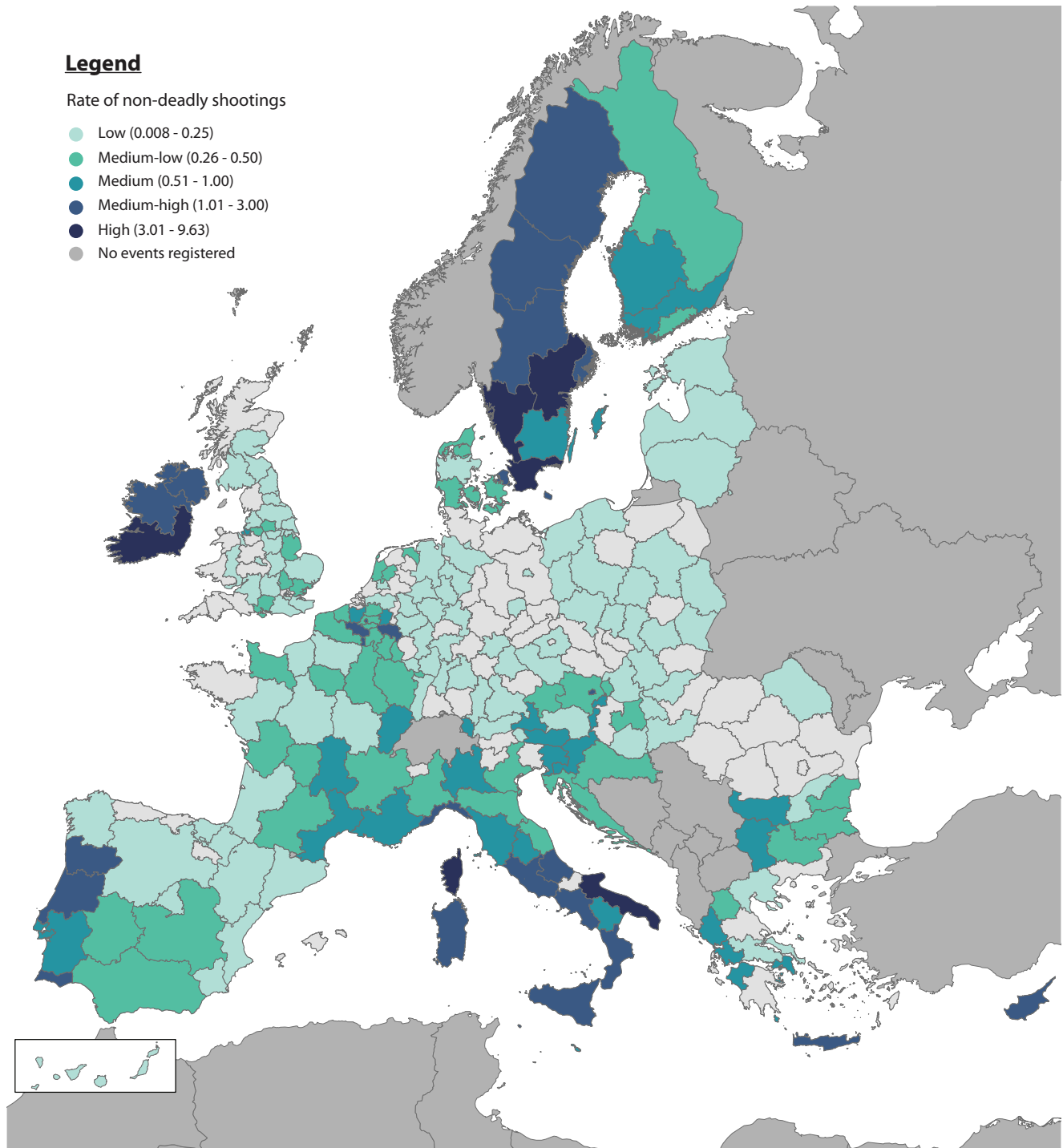
Figure 13. Number of non-deadly shootings in the EU per region (NUTS 2) (2010-2015)*



* Only shootings with illicit firearms. For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Figure 14. Rate of non-deadly shootings in the EU per 100,000 inhabitants per region (NUTS 2) (2010-2015)*



* Only shootings with illicit firearms. For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

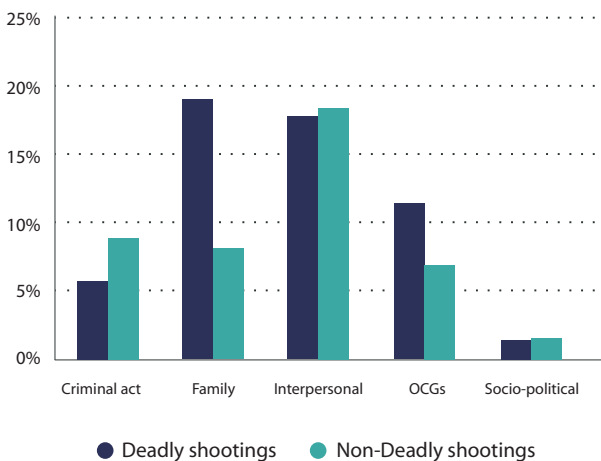
The vast majority of all incidents recorded were intentional shootings (97%), and only a small number occurred accidentally (3%). A division by macro-region yields results similar to the ones overall. The reported numbers of cases of unintentional shootings remain very low. The highest number of unintentional shootings was recorded for Southern Europe (5%). Much like the recorded distribution of deadly and non-deadly shootings, the results on the intentionality of shootings should be interpreted in light of the uneven media attention that both phenomena receive.

Shootings occur in different contexts. In regard to deadly shootings, family/intimate partner shootings represent the most frequent type of firearm-related killing. Interpersonal shootings account for the second largest share (Figure 15). On combining family and intimate partner and interpersonal shootings, it becomes apparent that at least two thirds of all deadly shootings occur in relation to pre-existing personal ties between victims and shooters (other than criminal or organised-criminal ties). Deadly shootings related to the commission of criminal acts and organised crime are less frequent, and those related to socio-political contexts account for the lowest number of deadly shootings.²⁶

The division by type of shooting yields a somewhat different picture when considering events of non-deadly shootings. Interpersonal shootings account for the highest share, while shootings linked to criminal acts and family/intimate partners occur at almost the same frequencies. This finding can be interpreted in light of an intent to kill which varies according to the context of the shooting. Family and intimate partner-related shootings may be driven by a stronger intent to kill and therefore make for a larger share among deadly shootings. The intent to kill may be less pronounced in interpersonal shootings. The use of firearms during the commission of criminal acts, for example robbery, is instead instrumental and not necessarily motivated by any intent to kill. As opposed to other types of shootings, organised criminal and socio-political shootings account for similar shares among deadly and non-deadly events.

The next chapter concerns the firearms illicitly trafficked in the 28 EU MSs.

Figure 15. Types of deadly and non-deadly shootings in the EU (2010-2015)*



* N=2,892 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

26. The classification of the types of shootings is based on the one used in the Global Study on Homicide by UNODC (2012b) (more details in the Methodological Annex).

4. Illicit firearms trafficked in the EU

The experts interviewed underlined that converted firearms are more frequently trafficked than second-hand firearms and new firearms. The most widespread brands are Turkish Atak Zoraki and Ekol/Voltran (De Vries 2012; Ferguson and Williams 2014; King 2015). Interviewees also stressed the role of second-hand firearms, often stolen, among trafficked firearms. This generally refers to revolvers, handguns, small pistols, and hunting rifles easy to exchange because of their technical characteristics. New artisan firearms are trafficked as well. There is very little information on the issue, except for Europol's report that points out that "cheap Bulgarian hand-made weapons can be sold in Greece, the Netherlands, Spain, and Turkey for a profit of 800%" (Europol 2005, 24).

In regard to specific firearm models, the literature gives only sporadic information. Two types of firearms are frequently mentioned as products illicitly trafficked: Uzi-type firearms (Spapens 2007) and AK-type rifles (Arsovska and Zabyelina 2014; Biggs 2011; Curtis and Karacan 2002; Killicoat 2006; Pyadushkin, Haug, and Matveeva 2003; Sagramoso 2001; Schroeder and King 2012; Spapens 2007). With regard to Uzi-type firearms, during the wars in former Yugoslavia many small Croatian factories produced exact copies of the Uzi-type which ended up in the illicit markets (Spapens 2007). Focusing on the AK-type rifles, they are among the most trafficked weapons because they are easy to use and to repair, and also cheap.²⁷ Moreover, they are very robust, durable and reliable, and highly lethal. They were created to be easily managed by Soviet soldiers in arctic weather conditions, and they can be stored in bad conditions or not be properly maintained and still perform perfectly. As a consequence, these weapons are used in almost all insurgencies (Biggs 2011; Killicoat 2006).

Besides illicit firearms trafficked in the EU, there is also an unknown number of firearms kept without a licence. Such stocks include for example inherited weapons or weapons for which the original licence has expired (Bricknell 2012). There have also been cases, for example in Belgium, where a change in legislation has rendered many firearms illicit unless they are subsequently registered with the police. Renewing a licence or having a weapon deactivated or destroyed usually involves a fee and an administrative process. When there is no criminal use of the weapon, these illicit weapons tend to be of low priority to LEAs. Some of these weapons surface during gun amnesties because the owners can voluntarily turn them over to the police without fear of prosecution.²⁸

The following sections discuss the results on firearms seized (Section 4.1) and illicit firearms used in deadly and non-deadly shootings (Section 4.2). Both sets of results are obtained from the analysis of open sources, i.e. online press articles and online press releases, in 28 EU MSs from January 2010 to March 2015 (see Methodological Annex for details). They have been used as proxies for the products illicitly trafficked in the EU.

4.1. Numbers and types of firearms seized

According to the open sources collected, most seizures concerned only firearms (53%) and 'firearms and ammunitions' (46%). Exclusive seizures of ammunitions were comparatively rare (1% of all seizures). Most cases of firearm seizures are small-scale, i.e. they involve 1 firearm. This result confirms what has already been stressed in the literature: firearms are durable goods, so that the demand is

27. A recent study reported that a new AK-47 costs only around USD 200 (Arsovska and Zabyelina 2014). Their original design is no longer produced in Russia, but Russian factories produced similar rifles (i.e. the AK-101 to 108 series) and 29 other countries produced the original one at the beginning of the 2000s (Brömmelhörste et al. 2002; Pyadushkin, Haug, and Matveeva 2003).

28. In 2013, the Swedish police received 15000 illegal weapons during a period of three months during a gun amnesty (Polisen 2015).

not continuous (Arsovska and Zabyelina 2014; Greene 2000a; Grillo 2011; Hillier and Wood 2003; Joseph and Susiluoto 2002; Spapens 2007; UNODC 2010). Although only a limited number of cases are large-scale trafficking (i.e. more than 10 firearms seized), they account for the majority of firearms seized: 243 seizures corresponding to almost 13,000 firearms seized (Table 4).

Table 4. Number of seizures and firearms seized in the EU per scale of seizure (2010-2015)*

Scale	Number of cases	Number of firearms
Small-scale	1,893	1,893
Medium-scale	1,139	3,848
Large-scale	243	12,980
Subtotal	3,275	18,721
N/A	600	N/A
Total	3,875	18,721

* For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

The overall average of firearms per seizure was 5.58. Analysis of European macro-regions between 2010 and 2015 shows that the average was highest in Western Europe and lowest in Northern Europe. Here most cases resulted in the seizure of 1 firearm. The highest number of firearms seized in one seizure was 3,261, which regarded a case in Western Europe.

Specifically, in 2012 the Austrian police found in a Chinese woman's warehouse 3,261 airsoft guns, together with numerous knives, machetes, and other prohibited weapons. The firearms originated in China and some of them had been declared as toys. The maximum numbers of firearms per seizure were significantly lower in the other macro-regions (Table 5).²⁹

Figure 16 and Figure 17 show the share of firearm seizures per macro-region and the number of firearms seized per macro-region and year. Western Europe is the region in which the majority of firearm seizures occurred, in terms of both cases (35.17% of EU total) and firearms seized (51.19% of EU total). Most of the cases in Western Europe occurred in the Netherlands (40.72% of cases, 7.69% of firearms), followed by Germany (27.22% of cases, 25.21% of firearms) and France (16.51% of cases, 10.83% of firearms). Most firearms, however, were seized in Austria (4.99% of cases, 41.19% of firearms), followed by Germany and Belgium (9.24% of cases, 14.83% of firearms).

Southern Europe is the region with the second largest amount of firearms seized (25.65% of cases and 24.03% of firearms of EU total). Within Southern Europe, Italy accounted for the most seizures (49.60% of cases, 39.28% of firearms), and Spain for the most firearms seized (30.18% of cases, 48.55% of firearms). The third largest amount of seizures occurred in Portugal (6.94% of cases, 4.51% of firearms seized).

Table 5. Minimums, averages, and maximums of firearms seized in the EU per macro-region (2010-2015)*

Macro-region	Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	N/A
Eastern Europe	0	1	1	4.32	3	300	119
Northern Europe	0	1	1	2.89	2	104	87
Southern Europe	0	1	2	5.02	4	239	98
Western Europe	0	1	1	8.39	2	3,261	221
28 EU MSs	0	1	1	5.59	3	3,261	525

* For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

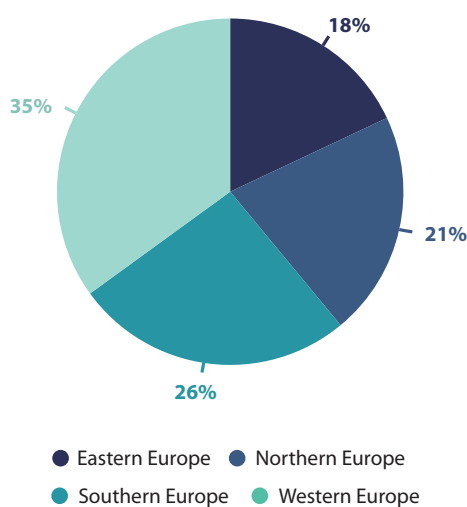
29. Minimums of '0' in Table 5 indicate cases in which only ammunitions but no firearms were seized.

Northern Europe is the macro region with the third largest number of cases of firearm seizures (20.88% of cases and 11.15% of firearms of EU total). Within Northern Europe, the largest number of cases occurred in Sweden (33.62% of cases, 20.79% of firearms), followed by Ireland (33.25% of cases, 19.68% of firearms) and the UK (14.59% of cases, 20.93% of firearms). In terms of firearms seized, however, Denmark accounted for the highest number (11.12% of cases, 33% of firearms), followed by the UK and Sweden.

The smallest number of cases of firearm seizures occurred in Eastern Europe (18.30%). These cases of seizures account, however, for 13.63% of the total firearms seized in the EU. Eastern Europe thus surpasses Northern Europe in terms of the number of firearms seized. The largest number of cases within Eastern Europe occurred in Poland (36.11% of cases, 51.16% of firearms), followed by Hungary (19.32% of cases, 9.06% of firearms) and Bulgaria (14.25% of cases, 8.94% of firearms). Poland also accounted for the largest number of firearms seized, followed by Romania (12.98% of cases, 15.25% of firearms) and Bulgaria.

Figure 17 shows that most firearms were seized in 2012, followed by 2014 and 2013.³⁰ The high number of firearms seized in 2012 relates to the aforementioned case of 3,261 firearms seized in Austria.

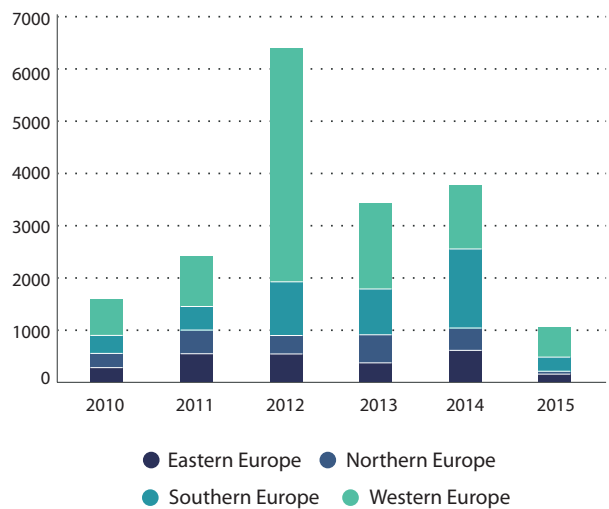
Figure 16. Seizures in the EU per macro-region (2010-2015)*



* N=18,721. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Figure 17. Number of firearms seized in EU per macro-region and year (2010-2015)*



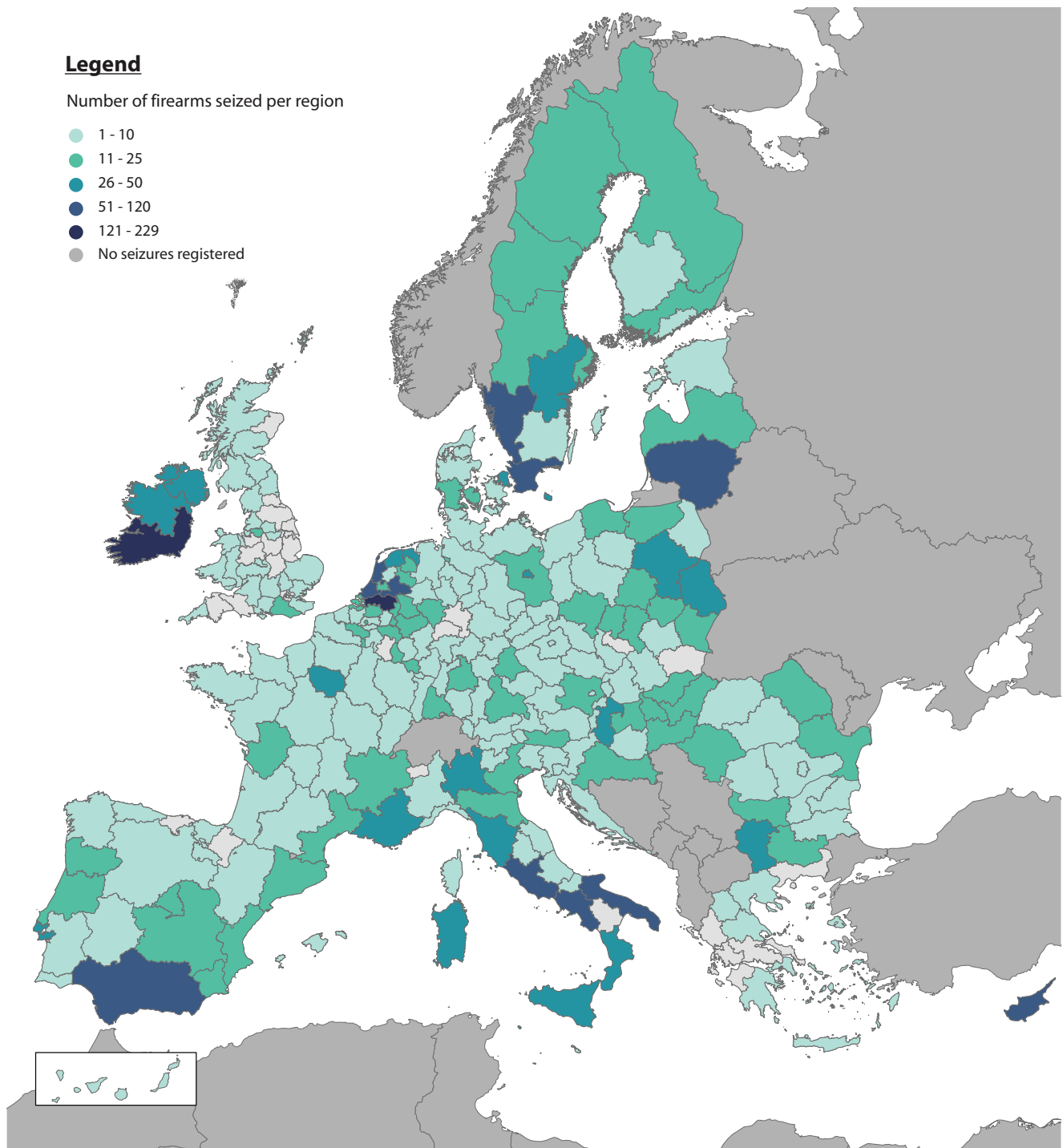
* N=11,671. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Figure 18 shows that the number of firearms seized varied not only per macro-region but also within countries. Usually, high numbers of firearms were seized along borders and in proximity to the main ports. Also, the presence of OCGs is likely to influence the distribution of firearm seizures across regions. These groups on the one hand have expertise in trafficking all sorts of illicit goods, and on the other they need firearms to perpetrate illicit activities (Calderoni et al. 2014; Massari 2013; Paoli 2013; Ruggiero 1997). Figure 19 reports the ratio of firearms seized per region calculated on 100,000 inhabitants.

30. The number of firearm seizures recorded in 2015 is comparatively low because only cases occurring before March 31st found entry into the database.

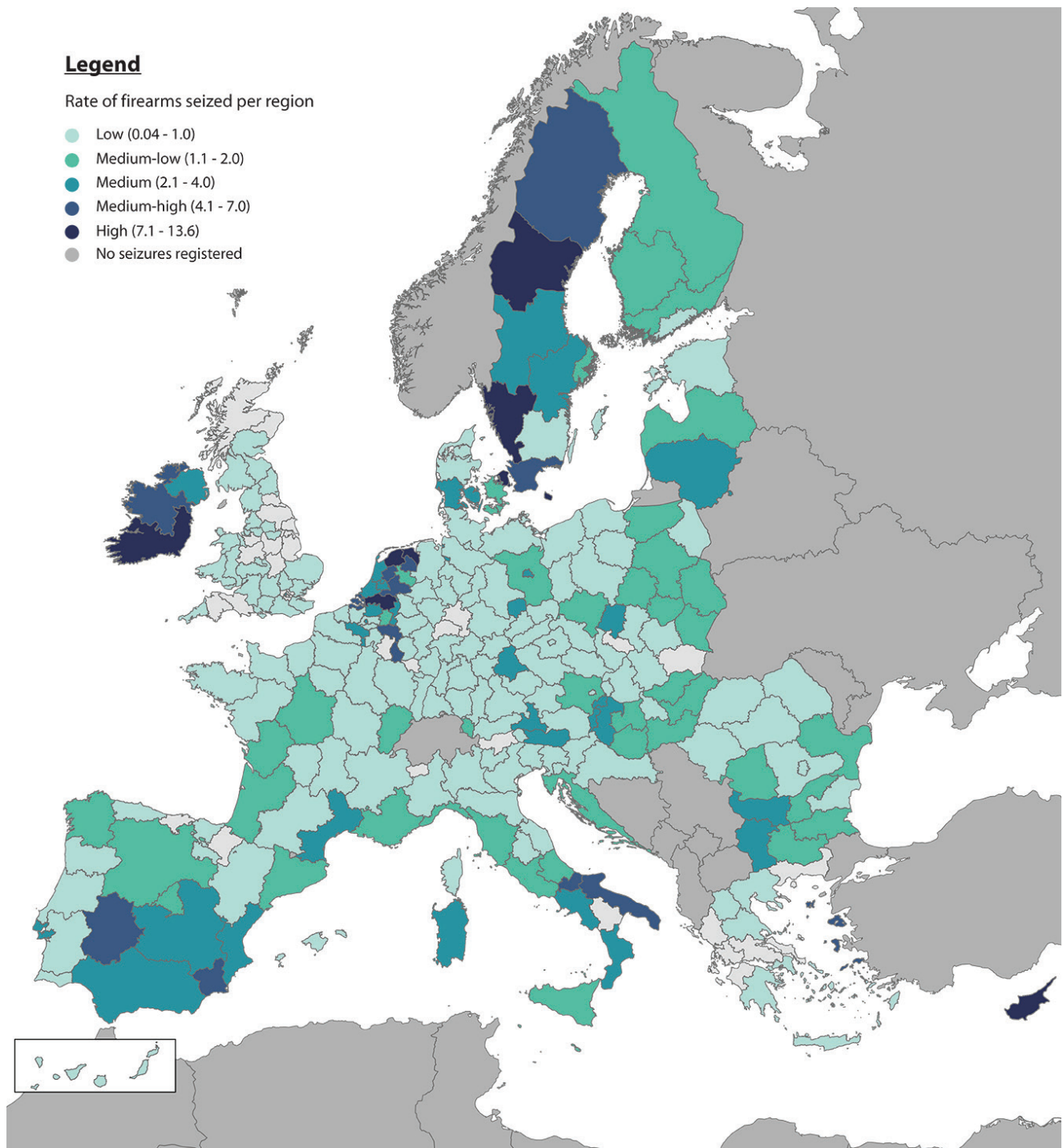
Figure 18. Number of firearms seized in the EU per region (NUTS 2) (2010-2015)*



* For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Figure 19. Rate of firearms seized in the EU per 100,000 inhabitants per region (NUTS 2) (2010-2015)*

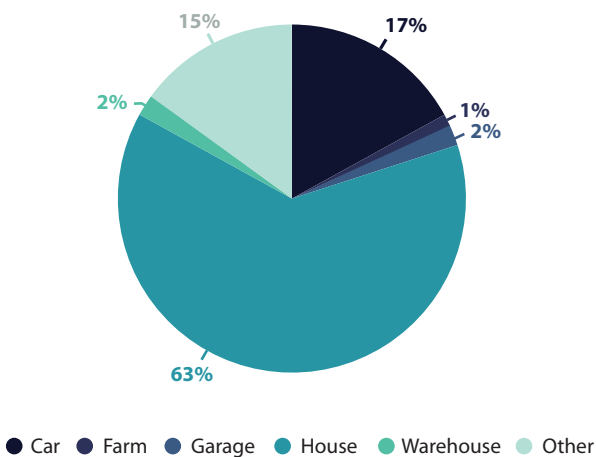


* For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Most firearms seized were found indoors in residential buildings (63%), followed by vehicles (17%), while all other types of storage accounted for less than 2% each (Figure 20).³¹ This applies to all macro-regions (Figure 21). The high number of firearm seizures occurring in residential buildings and vehicles suggests that illegally kept firearms are typically kept close to the owners' area of influence. Results from case studies support this result: in most of the investigations considered, criminal groups tended to store the firearms in private houses. This result may show that criminals prefer to have firearms readily available and to exercise closer supervision over them. The shares also reflect the nature of police searches, which typically occur in residential buildings and vehicles. Firearm seizures in vehicles may be indicative of the so-called "ant trade", i.e. the smuggling of one or a few firearms and accumulating over time (Cukier 2008; Hillier and Wood 2003; KLPD—IPOL 2009; Seniora and Poitevin 2010). This mode of trafficking is hard to identify precisely because it is difficult to distinguish it from mere cases of illegal firearm possession.

Figure 20. Storage of firearms seized in the EU (2010-2015)*

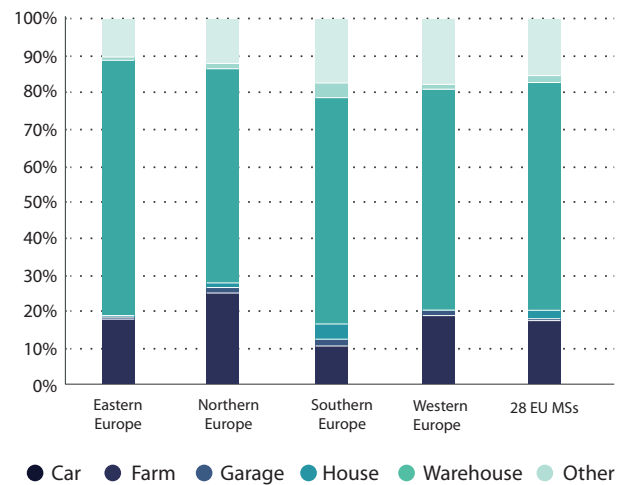


* N=2,929. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

31. The other category includes places identified by the analysis as other possible storage places, e.g. in streets, hotels, and shopping centres.

Figure 21. Storage of firearms seized in the EU per macro-region (2010-2015)*



* N=2,929. For 2015, only first three months

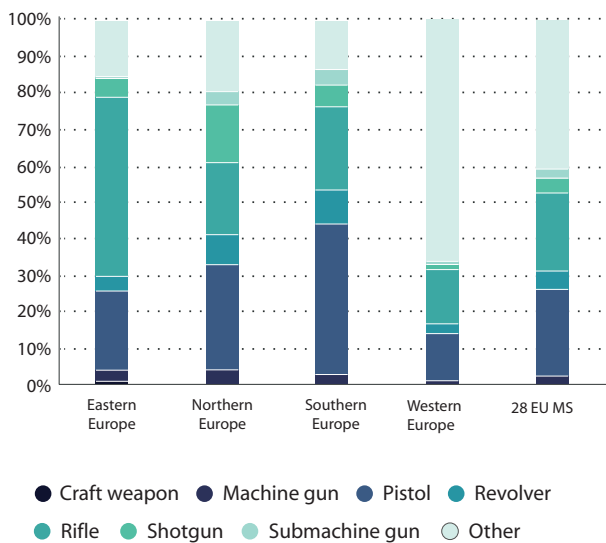
Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

Regarding the types of firearms, throughout all regions the majority of seizures involve pistols (34%) and rifles (27%), while all other categories account for less than 10% each.³² Rifles are more frequently seized in Eastern and Western Europe, while pistols are more frequently seized in Northern and Southern Europe. Except for larger shares of shotguns seized in Northern Europe, the shares of all other firearm types are comparatively small (Figure 22).

Owing to a lack of more recent data, this finding can only be compared to available data on types of firearms owned. These data make no distinction between legally and illegally held firearms, and they were gathered in the 2004/2005 round of the ICVS. On the basis of these data, Duquet and Van Alstein (2015a) reported that in most European countries long guns account for the largest share of firearm types owned. The larger share of seized pistols reflected in the data collected from open sources points to a different composition of firearm types that are owned illicitly. Handguns (pistols or revolvers) are portable, and they are easier to use and conceal than long guns (Marsh 2015).

32. The classification of firearm types is based on the Study on Firearms by UNODC (2015). The other category includes: replicas, air guns, gas pistols, and antique firearms (more details in the Methodological Annex).

Figure 22. Types of firearms seized in the EU per macro-region (2010-2015)*



* N=11,671. For 2015, only first three months

Source: Transcrime elaboration of DFS-EU data (see Methodological Annex for details)

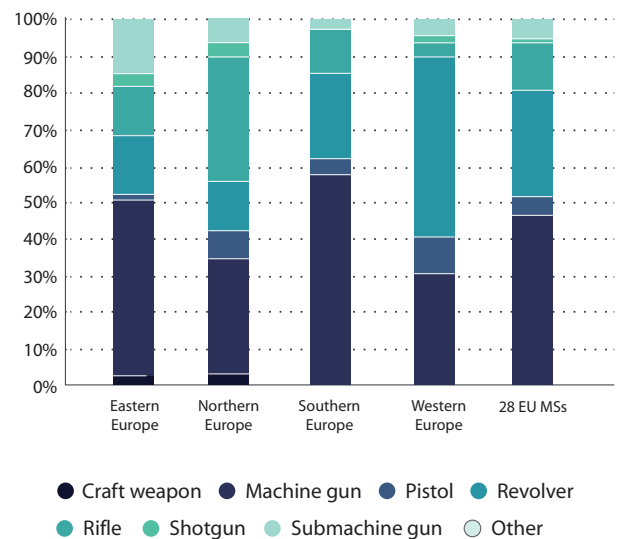
4.2. Illicit firearms used in shootings in the EU

The illicit demand for one firearm type or another is eventually driven by the intended use. According to the newspaper articles collected, almost half of the illicit firearms used in shootings in the EU were pistols (Figure 23).³³ In developed countries, handguns are the most common type of firearm acquired for use in criminal endeavours, since the longer range of rifles is not usually needed (Marsh 2015). Rifles account for the second largest share of firearm types: certain types of shootings, especially for socio-political purposes, may favour the use of the higher fire power of long guns over firearms that are easier to conceal. This holds especially true for assault rifles. Hunting rifles, on the other hand, may instead be illicitly owned for private purposes, for example by hunters and gun collectors, and be used in family/intimate partner and interpersonal shootings.

33. The other category comprises: replicas, air guns, gas pistols, and antique firearms. This classification is based on the Study on Firearms by UNODC (2015).

A division by macro-region shows that the shares by types of firearm used in shootings vary among different parts of Europe. High shares of pistols are used in Southern and Eastern Europe. Western Europe instead records a larger amount of rifles, while Northern Europe shows a particularly high proportion of shotguns. These differences in part result from the different distributions of types of shootings among the macro-regions. The choice of firearms depends on the context in which they are needed and on their availability. A report based on survey data shows how shares of types of firearms owned vary from country to country (Duquet and Van Alstein 2015a). While the findings are irrespective of whether firearms are legal or illicit, this pattern is likely to influence also the illegal gun market at national and regional level.

Figure 23. Types of firearms used in shootings in the EU per macro-region (2010-2015)*



* N=1,973 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

The next chapter presents the main routes used to traffic firearms illicitly in the EU.

5. ITF routes

Since the early 2000s, researchers have increasingly identified the routes most commonly used in ITF. As already said, the findings suggest a strong relation between firearms and drug trafficking routes and an overlap of ITF activities with other forms of serious crime, e.g. human trafficking and terrorism (Anastasijevic 2006; Arsovska 2014; Arsovska and Kostakos 2008; CSES 2014; Eavis 2001; Europol 2005; Europol 2015; Florquin 2002; Foster 2012; Grillot 2011; Howard and Traughber 2007; Howard and Traughber 2014; Ryabikhin and Viktorova 2004; Seniora and Poitevin 2010; Traughber 2007; UNODC 2015).³⁴

Most studies identify supplying countries, whilst there is less information about the flows of illicit firearms within Europe, i.e. transit and destination countries. The following sections report the available data on supplying (Section 5.1), transit (Section 5.2), and destination countries (Section 5.3).

5.1. Supplying countries

The main supplying countries are (Anastasijevic 2006; Krunoslav 2007; Arsovska and Kostakos 2008; Buttin 2007; CSES 2014; Crowley, Isbister, and Meek 2005; Curtis and Karacan 2002; Eavis 2001; EU Commission 2013b; Europol 2011; Europol 2015; Foster 2012; Greene 2000b; Grillot 2011; Joseph and Susiluoto 2002; Kleemans 2004; KLPD—I POL 2009; Massari 2013; Rynn, Gounev, and Jackson 2005; Sagramoso 2001; Soccoja 2009; UNODC 2010):

- The Balkans (i.e. the former Yugoslavia, Serbia, Montenegro, Bosnia and Herzegovina, Albania, Croatia, the Kosovo region);
- Former Soviet States and other Eastern Europe countries;
- The Middle East.

34. For instance, terrorist groups may be involved in firearms trafficking. Some scholars (Arsovska 2014; Arsovska and Kostakos 2008; Eavis 2001; Foster 2012) have claimed that the IRA and the ETA, two terrorist organisations in Ireland and Spain respectively, purchased large quantities of firearms from the Balkans. In particular, they point out that the IRA purchased firearms mainly from Croatia, while the ETA has shifted its supplier from Belgium to Yugoslavia.

As already explained (see Box 3), the Balkans have been a major source of firearms since the end of the Cold War due to the presence of many stockpiles in the region (Anastasijevic 2006; Gobinet 2011b; Griffiths 2008; SEESAC 2010; UNODC 2008; UNODC 2010). The internal demand for firearms in the Balkans has in the meantime decreased, and so has their trafficking, because there are no longer active conflicts in that region (Foster 2012; Reeve 2012; SEESAC 2003; UNODC 2008). Nonetheless, many individuals in the Balkans still purchase illicit firearms for cultural reasons and in order to provide security and protection for their families and properties (Arsovska and Kostakos 2008; SEESAC 2006; SEESAC 2010). Besides Europe, firearms stockpiled in the Balkans are exported to conflict areas in African and Middle East countries (Griffiths 2008; SEESAC 2010). Also one case study shows the importance of the Balkan countries as a source of firearms (Box 12).

Box 12. Case study: The pivotal role of Balkan countries as sources of firearms

A Serbian criminal organisation was involved in the trafficking of more than 100 weapons, including firearms (i.e. automatic firearms, ammunitions, and hand grenades). Specifically, 11 individuals were accused of trafficking 10 automatic rifles, 59 pistols and 105 hand grenades. The OCG moved the weapons by car from Serbia and Bosnia-Herzegovina to Sweden, passing through Austria, Hungary, and Germany.

As regards former Soviet States and other Eastern Europe countries, the vast majority of firearms trafficked from these countries originate from stockpiles of firearms produced by the Soviet Union (see Box 3) (Pyadushkin, Haug, and Matveeva 2003). Apart from Western Europe countries, firearms from former Soviet States and other Eastern Europe

countries are trafficked to Africa (Thachuk and Saunders 2014). In this latter case, firearms are trafficked mostly by air. Middle East countries (above all United Arab Emirates) serve as a transit locale where firearms are stored and repacked, and illicit financial proceeds are laundered (Griffiths 2008; Thachuk and Saunders 2014).

As regards the Middle East countries, the abandonment of the arsenals created an availability of large quantities of firearms for trafficking (Karp 2004). Simultaneously, the demand for illicit firearms rose due to the need for security caused by the social disorders that erupted in Iraq in 2003 and in neighbouring countries (Karp 2004). Indeed, the illicit acquisition and possession of firearms is very common among many private security companies in the area (Florquin 2011).

Finally, recent conflicts in North-African countries like Syria and Libya may have generated a trafficking of firearms to European criminal markets (CSES 2014; EU Commission 2013b; Europol 2015). However, at present this is only a possible threat because there is no evidence supporting this supposition.

5.2. Transit countries

The main transit countries of ITF within Europe are (Krunoslav 2007; Arsovska and Kostakos 2008; Curtis and Karacan 2002; Davis, Hirst, and Mariani 2001; Foster 2012; KLPD—IPOL 2009; Sagramoso 2001; Vreja 2007):

- Belgium: from Eastern Europe to Africa;
- Croatia: from Eastern Europe and the Balkans to Western Europe;
- Greece: from Eastern Europe to Africa or to Italy, and then other European countries;
- Italy: from the Balkans to other European countries (via Austria, Belgium, and Switzerland), or to/from North Africa;
- The Netherlands;

- Portugal: to Africa;
- Romania: from Eastern Europe to European countries;
- Slovenia: from the Balkans to Austria, and then to Germany, or from the Balkans to Italy, and then other Western countries.

The literature provides only limited information on transit countries. For instance, Curtis and Karacan (2002) pointed out that the role of Belgium is due to its post-colonial ties with Africa. According to Curtis and Karacan (2002), the Netherlands is a suitable transit country due to the presence of two major seaports (i.e. Amsterdam and Rotterdam) and highly developed communication systems for transportation. However, no studies have focused on the specific features that make these countries more favourable to firearms trafficking.

5.3. Destination countries

The main destination countries are (Anastasijevic 2006; Arsovska and Kostakos 2008; CSES 2014; Cukier et al. 2001; Curtis and Karacan 2002; Davis, Hirst, and Mariani 2001; De Vries 2012; Europol 2005; Europol 2015; Kleemans 2004; Massari 2013; Spapens 2007):

- France, Germany, Greece, Ireland, Italy, the Netherlands, Scandinavian countries, Spain, and UK for illicit firearms coming from the Balkans;
- France, Greece, Ireland, the Netherlands, UK, and Eastern European countries for illicit firearms coming from former Soviet States and other Eastern European countries;
- European countries in general for firearms coming from the Middle East.

The literature does not explain why these countries have a high demand for illicit firearms, with the exception of Italy. In this case, the national OCGs purchase firearms both to commit crimes and to traffic them (Massari 2013). Most Italian OCGs possess their own arsenals of firearms, which are usually old and varied, including guns, revolvers,

AK-47 pattern rifles but also converted ones. Within each group, there are selected members in charge of procuring, storing, and distributing firearms among members according to different circumstances and tasks (e.g. intimidation or homicide). They also trade them with other criminal groups, often for other illicit goods like drugs (Massari 2013). In this regard, most of the cases analysed concern firearms trafficked to Italy (Box 13).

Box 13. Case study: Trafficking firearms to Italy

A group of four individuals was involved in the trafficking of a great number of firearms (in particular pistols and rifles) and ammunitions. The police seized 2 pistols, 1 rifle, 1 machine gun, 78 rounds of ammunition and 1 silencer. The criminal organisation imported the firearms from countries of the former Yugoslavia (Slovenia, in particular) to Italy. In the majority of cases, the delivery of the firearms occurred in Italy. Only on one occasion did a Slovenian trafficker ask the buyer to pick up the products at his house in Slovenia.

The following chapter deals with a sensitive issue related to firearms: illicit firearms-related harm.

6. Illicit firearms-related harm

For the purpose of Project FIRE, “illicit firearms-related harm” refers to the harm caused by the use of illicit firearms in terms of victims and persons injured in deadly and non-deadly shootings in the 28 EU MSs. These two violent behaviours have been considered as proxies for the harm since they are more represented in the online sources than other violent crimes, and cultural frameworks have little impact on their representation. The analysis is based on the systematic collection of items from online newspapers from January 2010 to March 2015 (see Methodological Annex for details).

The vast majority of victims (deaths due to shootings) were male (80%); women accounted for only 20% (Figure 24). The same trend is apparent on looking at persons injured in shootings (males 85% and females 15%). A comparison of the gender distribution of victims and shooters shows that the gender bias is less pronounced among victims and still less among

the injured. This confirms the general account that firearm-related violence is generally a “male” phenomenon—with male perpetrators victimizing males. Furthermore, the gender distribution of the injured relates closely to the distribution of victims. As becomes apparent, however, the gender bias towards males is more pronounced among the injured. This may be interpreted in relation to the previously described differences in types of shootings. As suggested, these differences are probably the result of different degrees in the intent to kill. Women are victimised mostly in family and intimate partner shootings, and the intent to kill in these circumstances is generally higher than, for example, in criminally-driven shootings. This explains why the share of women is lower among the injured than among the victims killed. A division by macro-region confirms this finding. In all macro-regions, the share of women injured is lower than the corresponding share of women killed.

Figure 24. Gender distribution of injured and victims of shootings in the EU per macro-region (2010-2015)*



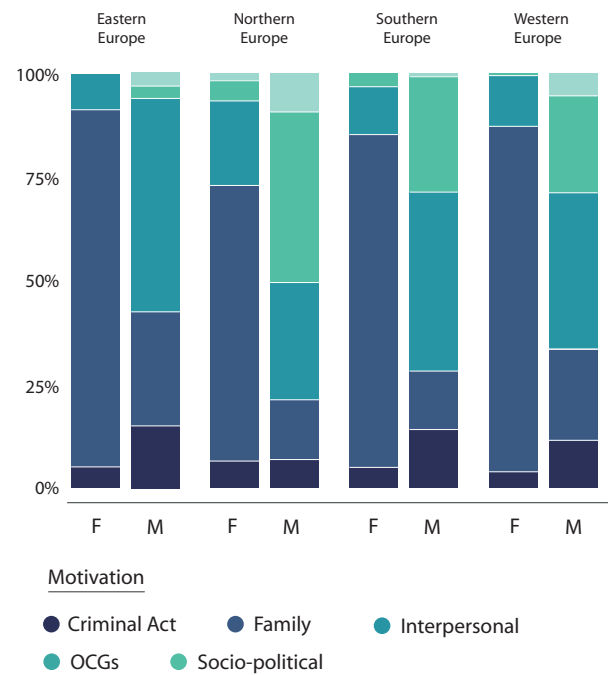
* N=4,955 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

A division of gender by macro-regions, however, shows that this effect is less pronounced in some macro-regions, and more in others. The share of women killed is higher in Western and Eastern Europe and lower in Southern and Northern Europe.

On combining the factors 'gender' and 'type of shooting' per macro-region, it becomes apparent that most female victims are killed in family/intimate partner shootings (Figure 25). This finding relates to the well-established fact that globally, while most victims of homicide are male, women are considerably more at risk when it comes to family and intimate-partner violence (UNODC 2014). This phenomenon is equally present among gun-related killings in Europe. The distribution of male victims, on the other hand, is more balanced and varies across macro-regions. In Northern Europe, most male victims relate to organised criminal shootings, while interpersonal shootings account for the highest shares in all other macro-regions.

Figure 25. Distribution of victims by gender, divided by type of shooting and macro-region in the EU (2010-2015)*

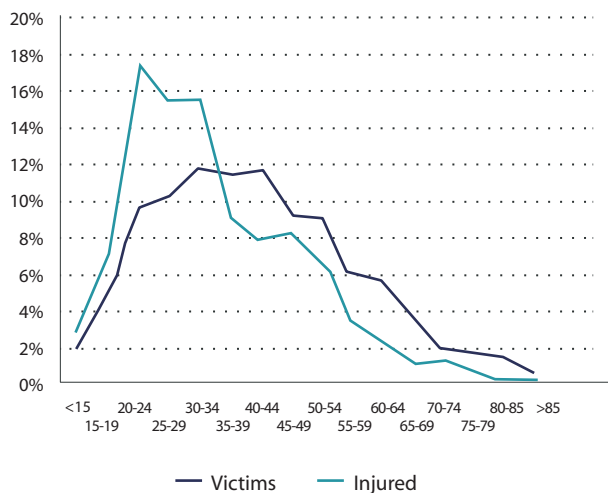


* N=1,859 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

The peak age for victims is 30-34, the same as for shooters (Figure 26). The 40-44 age category has a second peak, indicating a lag in the age distribution compared to shooters. Similar to the age distribution of shooters, however, shares for age categories generally increase towards the peak age and decline thereafter. The age of people injured in shootings peaks at 20-24 and declines thereafter with increasing age. While the general pattern resembles the age distributions of shooters and victims killed, it is apparent that the injured are generally younger than the victims killed. Compared to the shooters, the peak age of the injured is more pronounced and the distribution does not show a second peak at an older age. Like the differences found for the gender distributions of injured and victims killed, the reason for this resides in the different motivational make-ups of deadly and non-deadly shootings.

Figure 26. Age of injured and victims of shootings in the EU per macro-region (2010-2015)*



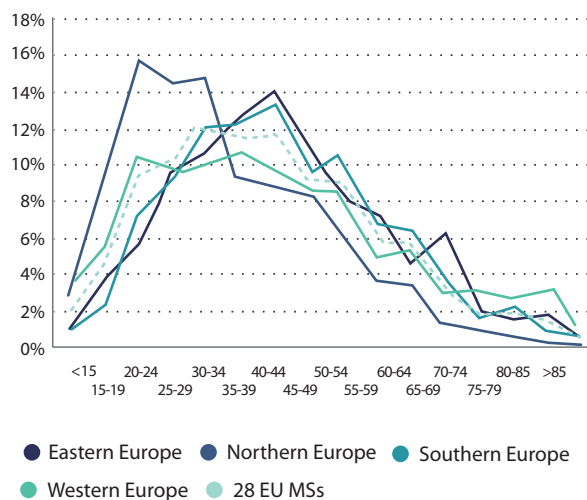
* N=3,994 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

While confirming the overall trend, a division of victims' ages by macro regions points to regional differences (Figure 27). As in the case of shooters, the age of victims in Northern Europe peaks at 20-24. This peak is very pronounced. Victims of shootings in Northern Europe are thus considerably younger than their counterparts in the other macro-regions. This is explained, as already mentioned, by the high number of young gangs in Sweden. The distribution for Western Europe instead shows a double peak at 20-24 and 35-39, with little decline in-between. Southern and Eastern Europe show a pronounced peak at the age group 40-44, which points to a comparatively higher age of victims.

Divided per macro-region, it becomes apparent that also the peak age for people injured varies (Figure 28). As in the case of victims, it occurs with the 20-24 age group in Northern and Western Europe, with a more pronounced peak in Northern Europe. In Eastern and Southern Europe, the age peak is instead later. The distribution for Southern Europe shows a peak at 30-34, while age distribution for Eastern Europe shows two peaks at 30-34 and 40-44, with generally little variation between the ages of 20 and 44 before declining more sharply.

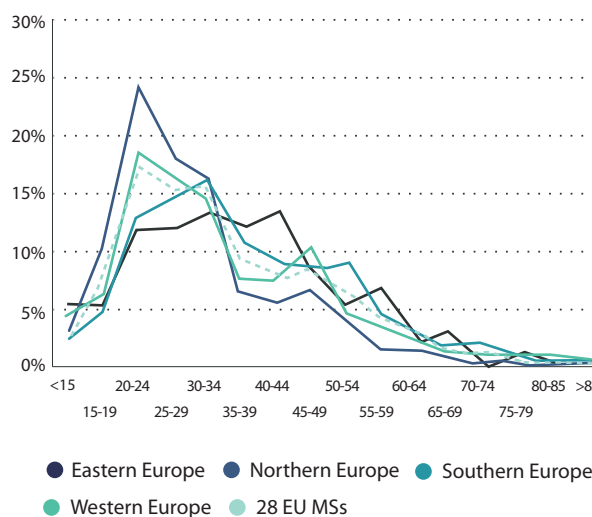
Figure 27. Age of victims of shootings in the EU per macro-region (2010-2015)*



* N=2,583 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

Figure 28. Age of injured in shootings in the EU per macro-region (2010-2015)*

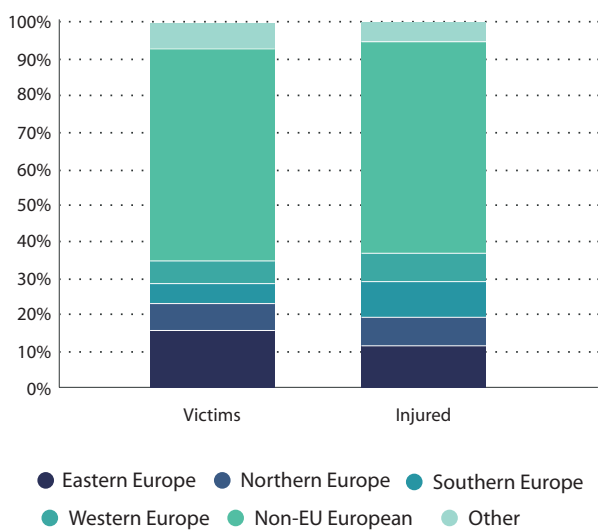


* N=1,411 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

The majority of the victims identified in the online newspapers were of Southern European descent (Figure 29). Again, this reflects the large number of shootings recorded for Southern Europe compared to the other macro-regions. Also the distribution of the nationalities of the injured points to the large number of cases recorded for Southern Europe. Compared to the victims, however, the shares for other groups of nationalities yield a more balanced picture.

Figure 29. Geographic origin of injured and victims of shootings in the EU per macro-region (2010-2015)*



* N=2,335 (only shootings with illicit firearms). For 2015, only first three months

Source: Transcrime elaboration of DSh-EU data (see Methodological Annex for details)

On dividing the victims' backgrounds by macro-region, the largest categories always correspond to the macro-region in which the shooting took place. This resembles the finding in regard to shooters. The corresponding shares for victims were particularly high in Eastern Europe, indicating a closer ethnic homogeneity among victims in this region. The victims' backgrounds were more diverse in the other macro-regions, with comparatively high shares of non-European victims being shot in Northern and Western Europe. Also the results for the ethnic background of the injured resemble this finding. And as in the case of the victims, the backgrounds of the injured are comparatively homogeneous in Eastern Europe and more diverse in the other macro-regions. Comparatively high shares of non-Europeans and Eastern Europeans were injured in Northern Europe, while Europeans from outside the EU accounted for comparatively high shares among the injured in Southern and Western Europe. Once again, these results should be interpreted in light of the attention that the personal profiles of victims and injured receive from the media.

The following chapter deals with two cross-cutting issues related to illicit firearms.

7. Cross-cutting issues

This chapter deals with cross-cutting issues, by which are meant phenomena that not only regard specific stages of firearms trafficking but influence various aspects of ITF concurrently, i.e. the concept of “grey area” (Section 7.1) and the dark web (Section 7.2).

7.1. The “grey area” in ITF

As described in Section 1.2, ITF to and within the EU relates to the demand for illicit guns for a number of purposes, i.e. criminal activity, private protection, and leisure. Such ITF feeds into criminal markets within the EU and should be distinguished from wider entanglements within international firearms flows.

Firearms transfers are an important foreign policy instrument. The rationale is to advance one’s own security agenda by helping to “fulfil the security requirements of allies and friends” (Pierre 2014, 19). The legitimacy of such transfers depends on a weighing-up of rather tangible security objectives, typically in a short- to mid-term perspective, and a longer-term commitment to a global reduction in firearms flows that aims to curb international conflict and violence. A commitment to responsible arms transfers is therefore reflected in a number of legal instruments of international arms control. These instruments include, for example, the 2013 UN Arms Trade Treaty (ATT), whose adoption the EU has strongly supported (Depauw 2012). Defining and agreeing to counter ITF, on the other hand, provides the legal ground for international coordinated action against infractions of arms control (UN 2001a).

Questionable transfers of firearms can thus take two forms:

- They are carried out as part of the prerogative of national governments, either for economic reasons or as an instrument of foreign and security policy;

- They constitute outright forms of ITF, meaning that they are in clear breach of the UNFP or other pertinent legal sources. In the former case, arms transfers can be attributed to the black market of firearms. In the latter case, however, they may breach specific sanctions or contradict internationally agreed treaties on arms control; but to the extent that they are backed by national governments, they can hardly be defined as ITF in legal terms.

With regard to the second point, such arms transfers are typically carried out with the exploitation of loopholes, often as covert operations with the collaboration of secret services or with the involvement of criminal individuals and groups. Not limited to the illegitimate—and to a certain extent illegal—trade in SALW and other types of weaponry, “this de facto merger of the political and criminal is commonly referred to as a ‘grey area phenomenon’” (Naylor 1997, 70).

From a legal perspective, the “grey market” can be defined as those transactions that are carried out through legal means, but the individuals involved in the transactions exploit legal loopholes or elude laws and policies that are intended to control the arms trade. This is facilitated by the fact that arms sales by governments do not generally require an export licence (Marsh 2002). “Grey” arms transfers are authorised by governments. The actors involved in the trade, however, are aware that they run the risk of breaching both international and national laws because they divert arms from legal to illicit channels and recipients (Glatz and Lumpe 2007). The term “grey” is thus used to refer to the illegal procurement of arms from official actors such as state militaries or other recognised governmental groups.³⁵

35. For instance, purchases by rebel groups of national military arms from corrupt military officials; purchases and transfers of weapons seized in battle; weapons stolen from national military stores; and “leakage”, the inexplicable or unexplained loss or misplacement of weaponry.

Studies have shown that the “grey area” in the international arms trade is considerably larger than the black market, and thus poses a greater threat to international peace and security (Marsh 2002; Peterson 2012). Arms transfers within the “grey area” often involve SALW, and given the opacity of the market, they are very hard to track. The role of brokers is central to the functioning of the “grey area”. Because brokers are able to gain the endorsement of government officials and obtain the required authorizations, they establish the link between the “legitimate” sellers on the one hand, and “illegitimate” buyers on the other. Apart from pursuing a specific foreign policy agenda, the attractiveness to governments of allowing such transfers is linked to the possibility of gaining profit. With a view to receiving money or commodities in return, some governments or specific officials allow sale to the grey market or the transit of “grey” arms across their territories (Berlinck and Demetriou 2001).

From a criminological perspective, the existence of an international “grey” market links back to the existence of a “black” firearms market within the EU. As previously described, firearms owe part of their attractiveness to their durability, and they typically circulate within illicit markets for decades. Hence, the “greyer” or more irresponsible firearms transfers become, the greater the danger that the firearms may sooner or later trickle into the EU’s “black” market and eventually fall into the hands of criminals and terrorists.

A case study provides an example of the “grey area” in the firearms market (Box 14).

Box 14. Case study: The “grey area” in ITF

A transnational criminal organisation was involved in the trafficking of materials that could be employed for civil as well as military uses. The aim of the trafficking was to provide Iranian government military material and equipment that could be used for military purposes.

The court order led to the arrest of 9 individuals in different cities, both in the North and the Centre of Italy. Among them, five were Italians and four were Iranians. Six individuals were active members who had set up the organisation, while the other three contributed to the trafficking as collaborators. The head of the organisation worked at a firearms factory as an employee, and he had a great deal of knowledge about firearms.

The offences included criminal association for the purpose of illegally exporting firearms and military weapon systems, with the aggravating condition of transnationality. The organisation operated in Italy (i.e. Milan, Monza, Brescia, Varese and Piacenza) and abroad (i.e. Iran, Switzerland, Great Britain, Romania, Arab Emirates).

The members of the criminal organisation had different tasks and responsibilities:

- Some of the Italian members were in charge of establishing contacts with firearm manufacturers. They bought, directly from the manufacturing factory, the products to be subsequently sent to Iran;
- The head of the organisation, an Italian employed in a firearms factory, gave orders to subordinates and maintained contacts with the Iranian counterpart;
- An Italian member was the liaison connecting the counterparts from Italy and Iran;
- Some Italian members made their businesses available to conceal the trafficking;
- One Iranian member was in charge of maintaining contacts with the Italian liaison and negotiating on the supply of firearms and their prices;

- Two members of the organisation belonged to the Iranian intelligence agency and purchased firearms on behalf of the government.

The organisation exploited companies owned by some of its members, both in Italy and abroad, in order to conceal ITF. In some cases, the organisation set up *ad hoc* shell companies to disguise the real senders and consignees of goods, among them firearms, while giving the appearance of legality. For example, a member of the organisation set up a Romanian transport company for the sole purpose of transporting such goods from Italy to Romania and from there to Iran, the final destination of the triangular trade.

On some occasions, Iranian planes were used to move firearms from one country to another.

7.2. An emerging firearms market: The dark web

When analysing exchange markets for illicit firearms, the Internet warrants especial attention. This regards, in particular, the dark web. “Dark web” refers to content provided through encrypted and anonymised networks (commonly referred to as darknets) that can be used for illicit trafficking in firearms. Both professional and non-professional sellers operate on it, so that some available firearms may have previously been owned illicitly by other end-users (Europol 2015; EY and SIPRI 2014; HM Government 2015). Darknets are made up of different technical infrastructures that allow users to provide hidden content, to connect, and to exchange information and products anonymously (Jaeger 2012).³⁶

36. From the monitoring of the dark web it emerged that sellers on online platforms maintain their anonymity throughout the entire selling process. They receive ratings on their reliability from the buyers: this enhances the sellers’ reputation and makes future transactions more trustworthy and likely. Another factor contributing to the anonymity of the exchange is that payments are made in Bitcoins, i.e. an online currency.

As highlighted by several experts during the interviews, darknet websites should be regarded as an emerging threat. By allowing for anonymous payments and disguising the identity of both sellers and buyers by means of encryption, they raise a severe challenge to LEAs and have the potential to evolve as important facilitators of firearms trafficking.

The *Armory*³⁷ and *Middle Heart*³⁸ are examples of online illicit markets where vendors offer large amounts of weapons and clients can purchase them. Products are subdivided into categories (e.g. shotguns, pistols, rifles, etc.) and can be purchased by anyone in large quantities according to the online store’s current availability. Vendors provide detailed information, including photographs of the guns and a code to guarantee the reliability of the seller. *Euroguns*,³⁹ *UK guns and ammo store*⁴⁰ and *Nucleus*⁴¹ are examples of online markets of this kind. Likewise, some of these online markets provide information on the delivery (e.g. by indicating that they are able to ship worldwide and sometimes indicating specific shipping points), but to date there is no literature demonstrating that these transfers actually occur.

The importance of darknet marketplaces as a source of illicit firearms appears to be comparatively limited at present. However, a high-profile shooting in the EU involving the use of a firearm acquired through such channels has been reported (Box 15).

37. Available at armoryx7kvdq3jds.onion.

38. Available at <http://mango7u3rivtwxy7.onion/shop/weapons-and-explosives>.

39. Available at <http://2kka4f23pcxgqkv.onion/>.

40. Available at <http://tuu66yxvrnn3of7l.onion/index.php>.

41. Available at nucleuspf3izq7o6.onion.

Box 15. Case study: The Munich Shooting

On 22 July 2016, an Iranian 18-year-old man entered a shopping mall in Munich and opened fire, killing 9 people and injuring 36. Police reported that the shooter had used an unlicensed reactivated pistol bought on the dark web jointly with 300 rounds of ammunition. The pistol was an old, semi-automatic Glock, model 17, calibre 9 mm. Moreover, the deactivated pistol, certified for use as a theatrical prop, was reactivated before the mass shooting. Although the pistol had its serial number abraded, investigators found that it carried a certification mark from Slovakia (Thompson 2016; Huggler 2016).

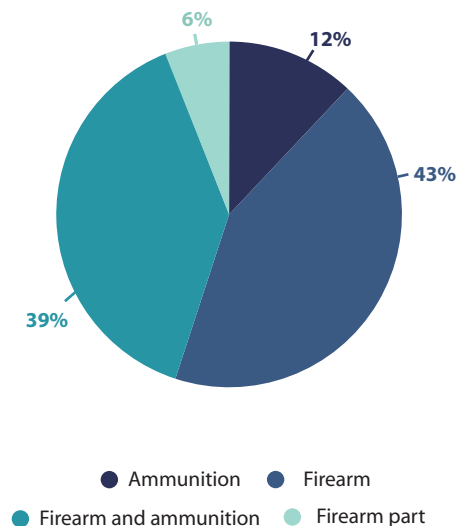
Due to the novelty of the phenomenon, relatively little research has been undertaken on the extent and reliability of illegal darknet markets. In order to provide a preliminary assessment of the quantity and quality of firearms offered on the dark web, the research team monitored and analysed 12 websites (Box 16). The automatic data collection covered all firearm-related offers during a three-month period, i.e. from May to August 2016. All data were systematised in a database called Database of Offers from the Dark web (DOD) (more details in the Methodological Annex).

Box 16. Dark web data disclaimer

Due to the anonymity of payments and the disguised identity of both sellers and buyers, the reliability and representativeness of data from the dark web are not fully verifiable. Darknet websites tend to close or change address frequently, and they may be fraudulent. Despite these limitations, Project FIRE selected data from stable websites and with positive users' reviews and feedbacks to provide a first general overview of this emerging firearms market (more details in the Methodological Annex).

The total number of unique offers recorded was 651, accounting for 1,740 firearms, 37 firearms parts and accessories of different kinds, and 61,619 rounds of ammunition. The majority of the offers concerned firearms offered alone or in conjunction with ammunition (Figure 30).

Figure 30. Types of firearm-related offers on the dark web*

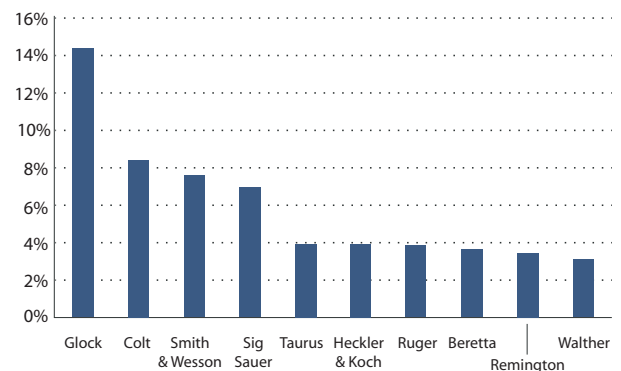


* N=651.

Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

Figure 31 shows the most frequently recorded firearm manufacturers and their respective shares of firearm offers on darknet marketplaces. All of the companies listed are among the largest producers of small arms (Brauer and Small Arms Survey 2013).

Figure 31. Brands of firearms offered on the dark web*



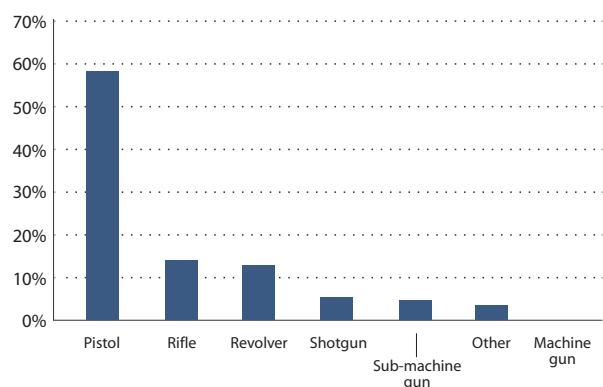
* N=534.

Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

The majority of the calibres of the ammunition offered on the darknet marketplaces analysed are commonly used with pistols. For example, the 9 mm Parabellum calibre is widely credited, and it is the most used cartridge for pistols worldwide (20%, N=309).

The high proportion of offers of ammunition for pistols coincides with the recorded distribution of firearm types on offer on the dark web (Figure 32). The vast majority of the offers regard pistols, followed by rifles and revolvers. More powerful and military-style firearms, i.e. machine and sub-machine guns, instead account for relatively small shares. Many of the recorded offers regard several firearms. The proportion of pistols increases when calculating the shares of firearm types based on the sum of the number of firearms per offer (Figure 33). Also the proportion of revolvers increases. Shares of other firearm types decrease. As is apparent, the vast majority of firearms sold on the dark web are handguns, which are typically sold from stocks larger than those of other types of firearms. This result matches findings on firearm seizures and shootings: most of the firearms seized, as well as those used in deadly and non-deadly shootings, are handguns.

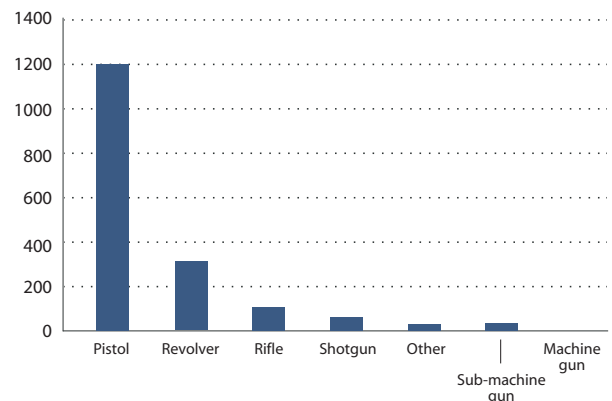
Figure 32. Firearm offers on the dark web by type of firearm*



* N=529.

Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

Figure 33. Total of firearms offered on the dark web by type of firearm*



* N=529.

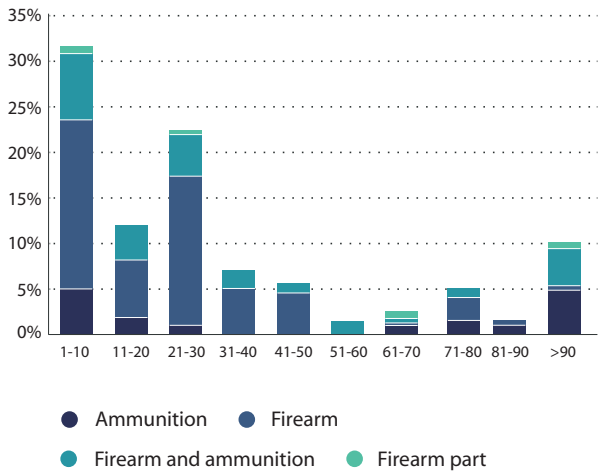
Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

Other recorded characteristics of the firearms on offer include whether they are new (62%, N=113) or have been previously used (38%), and whether they come with a serial number (89%, N=47) or not (7% absent and 4% abraded). As is apparent, roughly two thirds of the firearms for which information is available are new, and the vast majority come with a serial number.

The results show how long firearm-related offers remained on the darknet websites. Since the research team monitored some markets over a period of three months, the maximum number of times an offer could be registered was 93.⁴² The majority of firearm offers were recorded for between one and two days, and roughly 10% for the full period of observation (Figure 34). The number of offers withdrawn during the period of observation (meaning that they were not recorded on the last day of observation) may be interpreted as an approximation of the number of firearms that were sold. These amounted to a total of 442 offers of 917 firearms in three months. It should be borne in mind, however, that firearm offers may have been withdrawn for reasons other than the sale of the firearm.

42. The research team monitored those websites that frequently changed their offers. For more details see the Methodological Annex.

Figure 34. Duration of firearm-related offers on the dark web by type of offer*

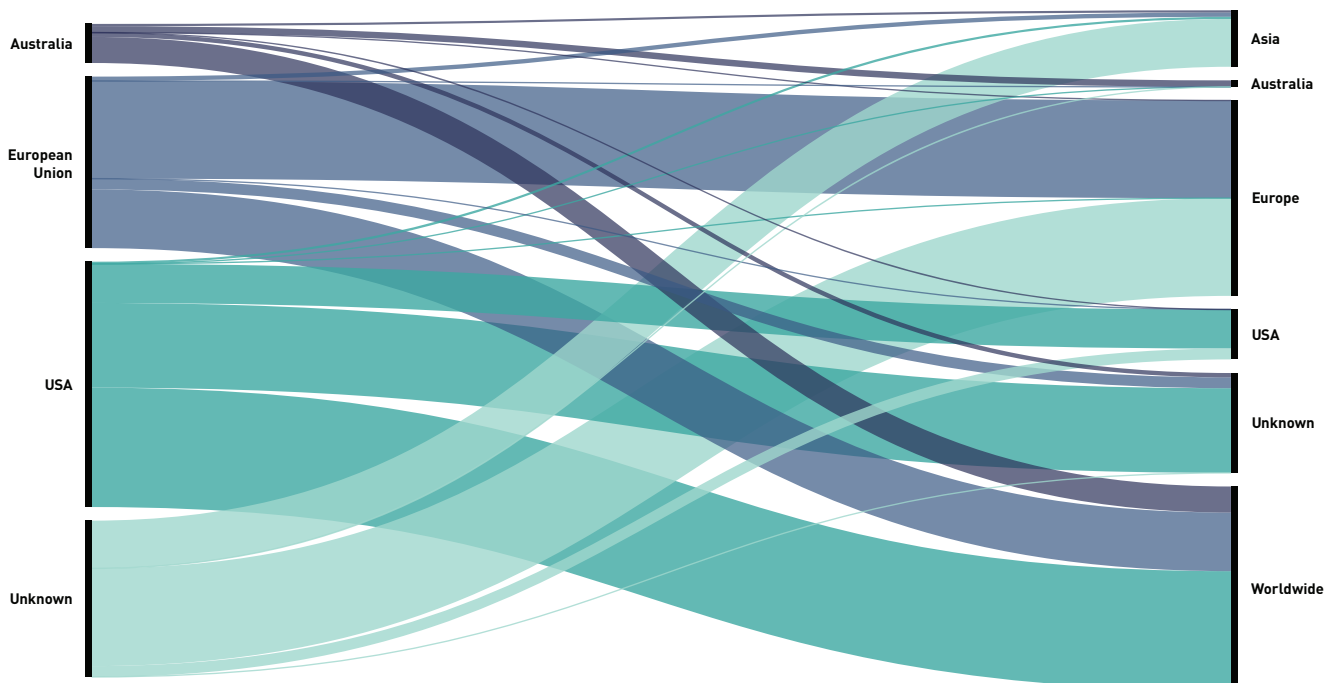


* N=442 (11.05.2016-11.08.2016).

Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

Information on the origin and shipping destinations was available for a limited subsample of the total number of offers recorded. Most of these firearm offers came from the USA and from Europe, which were also the main destinations (Figure 35). Within Europe, most of the recorded offers appeared to come from Germany and Austria. Also a limited number of firearm offers from and to Australia were recorded, but no offers from other world regions were found. As regards available destinations, a limited number of firearms were available to purchasers in Asia. The main offers destined for Europe originated from within Europe or unknown sources. Significant shares of firearms were also available from the USA. In large part, these offers were available for shipment worldwide and as such also to Europe. When interpreting these flows, however, it should be considered that information on destinations does not represent actual flows but available destinations as set by the vendors.

Figure 35. Place of origin and destination of firearms exchanged on the dark web*



* N=279.

Source: Transcrime elaboration of DOD data (see Methodological Annex for details)

PART II. The EU's regulatory framework to counter ITF

Part II of this report focuses on the EU regulatory framework related to firearms (Chapter 8) and on critical analysis of the 2015 EC Proposal for amending the Firearms Directive (Chapter 9). Since no impact

assessment of this Proposal has been carried out to date, the aim of this analysis is to evaluate the overall impact that the policy options proposed may have on the firearms market.



8. Overview of the EU regulatory framework

The EU has always included the fight against ITF among the priorities of its policy agenda to ensure internal security and to combat organised and violent crime. Developments at both EU and international levels have allowed the adoption of several measures aimed at addressing ITF and the vulnerabilities that can emerge in the life cycle of a firearm (from production to trade, ownership and possession, deactivation and destruction) (EU 1957).

Over time, EU institutions have applied a variety of measures with the purpose of improving oversight of the firearms market and preventing diversion and smuggling, while protecting and enhancing the licit market of firearms. Over the years, the EU has addressed the different threats that firearms pose to EU's specific internal security environment: for example, the 2014-2017 policy cycle focused on reducing gun-enabled crimes has included the commissioning of a range of external studies on specific aspects of IFT, including the risk of reactivation and conversion (EY and SIPRI 2014). Despite these efforts, ITF continues to raise serious challenges due *inter alia* to well-established criminal groups, two ongoing armed conflicts in the EU's neighbourhood (Eastern Ukraine and Syria), the free movement of goods and citizens within the EU and between EU MSs and many bordering countries, and the increasing flows of global interconnectivity.

Based on the above assumptions, a comprehensive EU legislative framework governs the licit firearms market with the purpose of tackling challenges and difficulties in its application. For the most part, this legal framework takes the form of directives, which set only minimum requirements for EU MSs to transpose into their national legislations, and of regulations, which are legislative acts that are directly applicable (no national transposition needed).

The following sub-sections present the 1991 Firearms Directive addressing the acquisition, possession, transfers of firearms and related matters within the EU territory and the 2008 amendment, as well as the Regulation No 258/2012

dealing with firearm imports and exports from EU territory to or through third countries.⁴³

8.1. 1991 Firearms Directive

The commitment of the European Commission to combatting ITF dates back to the adoption of the 1991 Firearms Directive on 18 June 1991 (EU Commission 2015d; Tessman 2014).⁴⁴

The 1991 Firearms Directive was adopted on 17 October 1991, and EU MSs had to incorporate it into national law by 1 January 1993. It was enacted as a measure accompanying establishment of the EU internal market and laying down certain minimum conditions for the acquisition, possession, sale and transfer of firearms within the EU (EU Council 1991).⁴⁵ The removal of border controls, necessary in order to achieve the free circulation of goods and citizens within the EU, required, *inter alia*, the approximation of national weapons legislation, as stated by the 1991 Firearms Directive as follows:

*"[...] the total abolition of controls and formalities at intra-Community frontiers entails the fulfilment of certain fundamental conditions; [...] the abolition of controls on the safety of objects and on persons entails, among other things, the approximation of weapons legislation [...]"*⁴⁶

43. Recital 10 of the Regulation No 258/2012.

44. OJ L 256, 13.9.1991, p. 51.

45. Annex I of the 1991 Firearms Directive divided firearms into four categories depending on their level of dangerousness: Category A – consisting of prohibited firearms – military weapons; Category B – including firearms subject to authorization – used mostly by marksmen and hunters; Category C – covering firearms subject to declaration – essentially firearms used by hunters; Category D – including other firearms – mainly single-shot long firearms with smooth-bore barrels. EU MSs may opt for a stricter division or use another categorization of firearms.

46. Recital 3 of the Preamble of the 1991 Firearms Directive.

According to specific technical characteristics and the intended use, the 1991 Firearms Directive classified firearms into four different categories, as follows: (i) Category A: prohibited firearms; (ii) Category B: firearms subject to authorization; (iii) Category C: firearms subject to declaration; and (iv) Category D: firearms without licencing requirements.⁴⁷

The 1991 Firearms Directive did “ [...] *not apply to the acquisition or possession of weapons and ammunition by the armed forces, the public authorities or by collectors and bodies concerned with cultural and historical aspects of weapons [...]*”⁴⁸ nor to commercial transfers of weapons and ammunition of war. It established minimum requirements that MSs must impose as regards both acquisition and possession of the different categories of firearms for civilian purposes, e.g. MSs must prohibit the acquisition and the possession of the most dangerous (Category A) firearms, except in special cases. For weapons requiring a licence (Category B), the 1991 Firearms Directive laid down minimum criteria regulating acquisition and possession. It provided that licences could only be granted to adult citizens with a “good cause” and who were not likely to be a danger to themselves, to the public order or to public safety. MSs had the right to apply national rules more stringent than those provided by the 1991 Firearms Directive.⁴⁹

Article 17 of the 1991 Firearms Directive required the European Commission “[...] *Within five years from the date of transposition of this Directive into national law, [to] submit a report to the European Parliament and to the Council on the situation resulting from the application of this Directive, accompanied, if appropriate, by proposals [...]*”. In the 2000 Commission Report on the Firearms Directive, published on 15 December 2000, the European Commission concluded that MSs had properly transposed the 1991 Firearms Directive and set out guidelines for its future improvements.⁵⁰

47. Annex I, Part I and Part II of the 1991 Firearms Directive.

48. Article 2 of the 1991 Firearms Directive.

49. Article 5 of the 1991 Firearms Directive.

50. 2000 Commission Report on the Firearms Directive, also available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52000DC0837&from=EN>

However, later information highlighted significant shortcomings in the 1991 Firearms Directive. Data, such as those collected by police intelligence, showed an increase in the use of converted weapons within the EU, so that it was necessary to amend the 1991 Firearms Directive, *inter alia*, by bringing within the definition of firearms objects which could be transformed into a firearm (EY and SIPRI 2014). In addition, it was decided to define the notions of “*illicit manufacturing*” and “*trafficking*”, as well as those of “*parts, essential components and ammunitions*”, “*tracing*” and “*brokering activities*”.⁵¹ Analysis of the 1991 Firearms Directive’s implementation showed that, in order to combat the illicit manufacturing and trafficking of firearms, it was necessary to improve the exchange of information among MSs.⁵²

Furthermore, the accession of the EU to the UNFP increased the need to amend the 1991 Firearms Directive. Indeed, since the UNFP had set out more explicit principles for the deactivation of weapons (Article 9 of the UNFP), Annex I of the 1991 Firearms Directive had to be amended.

8.2. 2008 amendment of the Firearms Directive

Several developments (among them the entry into force of the UNFP) affecting the legal framework of firearms occurred from 1991 to 2008 within and outside the EU, and they prepared the ground for the amendment of the 1991 Firearms Directive by the 2008 amendment of the Firearms Directive. The amending legislation had several objectives: in particular, “[...] *to ensure the coherent, effective and rapid application of the international commitments affecting that Directive [1991 Firearms Directive]. Furthermore, it is necessary to take the opportunity of this revision in order to improve that Directive [1991*

51. At European level, brokering activities are defined in the Council Common Position 2003/468/CFSP of 23 June 2003 on the control of arms brokering as “the activities of persons or entities negotiating or arranging transactions that may involve the transfer of items on the EU Common List of military equipment from a third country to any other third country or who buy, sell or arrange the transfer of such items that are in their ownership from a third country to any other third country”. See: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003E0468>.

52. 2000 Commission Report on the Firearms Directive.

Firearms Directive] by addressing certain issues, in particular those that were identified in the report of the Commission to the European Parliament and the Council of 15 December 2000 on the implementation of Directive 91/477/EEC. [...]”⁵³ Moreover, the 2008 amendment of the Firearms Directive aimed at safeguarding the internal firearms market and at strengthening security aspects to prevent the unlawful use and diversion of firearms.

The 2008 amendment of the Firearms Directive intervened in two main areas. On the one hand, it reinforced the security aspects of the former 1991 Firearms Directive by enhancing and broadening specific provisions, such as the authorization to sell firearms subject to verification of the professional integrity and the abilities of dealers.⁵⁴ Furthermore, it required all MSs to establish a “[...] computerised data-filing system, either a centralised system or a decentralised system [...]”⁵⁵ for the recording of certain features⁵⁶ of each firearm and maintenance of the record for not less than twenty years in order to strengthen traceability. The national databases should have been implemented within the EU MSs by 31 December 2014. A recent evaluation of the 2008 amendment of the Firearms Directive has shown that most of the MSs, but not all, met this obligation (Technopolis, EY, and VVA 2014).

On the one hand, the 2008 amendment of the Firearms Directive improved the level of clarity concerning the scope and the definitions formerly used by the 1991 Firearms Directive by introducing new binding terms. On the other hand, it placed new obligations upon MSs in regard to the marking, registration and deactivation of a firearm or part of it “[...] placed on the market [...]”⁵⁷

53. Recital 3 of the 2008 amendment of the Firearms Directive.

54. For ownership, see Article 1.2 of the 2008 amendment of the Firearms Directive.

55. Article 4, paragraph 4 of the Firearms Directive.

56. The firearm features to record are the following: (i) type, (ii) make, (iii) model, (iv) calibre, (v) serial number, (vi) names and addresses of the supplier and of the person acquiring or possessing the firearm.

57. Article 4, paragraph 1 of the Firearms Directive.

MSs had to implement the following amendments:

- **Definition of a firearm:** Article 1 of the Firearms Directive now defines a firearm as “[...] any portable barreled weapon that expels, is designed to expel or may be converted to expel a shot, bullet or projectile by the action of a combustible propellant [...]”⁵⁸

The 2008 amendment of the Firearms Directive included also the concept of “convertible weapon” within the definition of a firearm.⁵⁹ It clarified that “[...] an object shall be considered as capable of being converted to expel a shot, bullet or projectile by the action of a combustible propellant if it has the appearance of a firearm, and as a result of its construction or the material from which it is made, it can be so converted [...]”;⁶⁰

- **Dealers and Brokers:** Article 1 of the Firearms Directive defines a dealer as “any natural or legal person whose trade or business consists wholly or partly in the manufacture, trade, exchange, hiring out, repair or conversion of firearms, parts and ammunition”⁶¹ and a broker as “any natural or legal person, other than a dealer, whose trade or business consists wholly or partly in the buying, selling or arranging the transfer of weapons”⁶². In regard to brokers, Article 4b of the Firearms Directive demands to MSs to establish a system for the regulation of their activities.
- **Marking:** In accordance with the text of the UNFP,⁶³ the 2008 amendment of the Firearms Directive introduced an important provision, i.e. that all MSs shall ensure that the owner of a firearm can be detected at any time. MSs must

58. Article 1, paragraph 1 of the Firearms Directive.

59. Recital 4 of the 2008 amendment of the Firearms Directive.

60. Article 1, paragraph 1 of the Firearms Directive.

61. Article 1, paragraph 2 of the Firearms Directive.

62. Article 1, paragraph 1e of the Firearms Directive.

63. Article 8 of the UNFP, titled “Marking of firearms”.

guarantee that any firearm or its part placed on the market has been either marked and registered or has been deactivated. In order for MSs to fulfil these conditions and to identify and trace each firearm, Article 4 of the Firearms Directive states that “ [...] MSs shall, at the time of manufacture of each firearm, either:

- a) *Require a unique identifying mark on each firearm that includes the name of the manufacturer, the country or place of the manufacture, the serial number and the year of manufacture (if not part of the serial number). (...) or*
- b) *Maintain any other unique user-friendly marking with a number or alphanumeric code, permitting ready identification by all States of the country of manufacture (...)”.*

Moreover, the prescription of “*appropriate unique marking*” must apply at the time of “[...] *transfer of a firearm from government stock to permanent civilian use* [...]”.⁶⁴ The unique marking must be placed on an essential component of the firearm, which, in case of its destruction, would render the firearm unusable. Specific and new obligations of detailed marking concerning “*each elementary package of complete ammunition*” were introduced in Article 4 by virtue of the 2008 amendment of the Firearms Directive. Whereas, “[...] *The Commission shall [...] issue common guidelines on deactivation standards and techniques to ensure that deactivated firearms are rendered irreversibly inoperable* [...]”.⁶⁵

- **Registration:** Besides marking, MSs are also required to register every firearm placed on the market. To this end, they must establish and maintain a computerised data filing system. If a weapon, an owner, or a dealer is not registered and the weapon crosses state borders, this is an illicit trafficking offence.

- **Deactivation:** Deactivated firearms are firearms “[...] *rendered permanently unfit for use [by deactivation], ensuring that all essential parts of the firearm have been rendered permanently inoperable and incapable of removal, replacement or a modification that would permit the firearm to be reactivated in any way* [...]”.⁶⁶ The Firearms Directive establishes minimum restrictions and includes the obligation for MSs to “[...] *make arrangements for the deactivation measures [...] that have to be verified by a competent authority in order to ensure that the modifications made to a firearm render it irreversibly inoperable* [...]”.⁶⁷ The European Commission has been asked to establish technical guidelines for such procedures, as mentioned above, and in December 2015 adopted the 2015 EU Deactivation Regulation (EY and SIPRI 2014, 3). A study commissioned by DG HOME showed that EU MSs’ deactivation procedures vary (EY and SIPRI 2014). The terrorist attack in Paris was apparently carried out with a deactivated weapon which had been reactivated. In some MSs, such as Sweden, deactivated firearms still require a licence by the owner. It is an illicit trafficking offence to trade deactivated firearms into Sweden and other MSs with similar regulations without registration and a licence.
- **Destruction:** Article 6 of the UNFP underlines that destruction should be the mode of disposal for firearms, parts and components and ammunition that are seized and forfeited, unless other forms of disposal have been officially authorised. By contrast, the Firearms Directive does not establish any rules for the destruction of firearms. It is for this reason that MSs apply different standards and procedures to dispose of firearms (EY and SIPRI 2014).

64. Article 4, paragraph 2 of the Firearms Directive.

65. Article 4, paragraph 2 of the Firearms Directive.

66. Annex I, Part III, let (a) of the Firearms Directive.

67. Annex I, Part III of the Firearms Directive.

- European Firearms Pass:** According to Article 1, paragraph 4 of the Firearms Directive “[...] *A ‘European firearms pass’ shall be issued on request by the authorities of a Member State to a person lawfully entering into possession of and using a firearm. It shall be valid for a maximum period of five years, which may be extended, and shall contain the information set out in Annex II [...].* Moreover, Article 12, paragraph 2 of the Firearms Directive allows hunters, in respect of firearms Categories C and D, and marksmen, in respect of firearms Categories B, C and D, to travel across MSs without prior authorization, “[...] *with a view to engaging in their activities, provided that they are in possession of a European firearm pass listing such firearm or firearms and provided that they are able to substantiate the reasons for their journey, in particular by producing an invitation or other proof of their hunting or target shooting activities in the Member State of destination [...].*”
- Alarm Weapons:** Any alarm weapon (i.e. weapons designed to fire blank ammunition) which can be converted, traded without a licence is traded illicitly. Alarm and signal weapons are not covered by the definition of firearms in the Firearms Directive “[...] *provided that they can be used for the stated purpose only [...].*”⁶⁸ But there are no common technical guidelines in the EU 28 MSs related to their convertibility. This is the/among the reason(s) why in Austria, Estonia, Finland, Germany, Hungary, Italy,⁶⁹ Latvia, Slovenia and Slovakia it was possible to buy these weapons without licencing or registration as of June 2014 (EY and SIPRI 2014, 24-25). Other states, such as Lithuania, require licences for dealing or owning alarm weapons because the national assessment is that all alarm weapons can be converted into firearms. Bringing alarm weapons into Lithuania and other states with similar restrictions, without registering and licencing them in the country of import, is an illicit trafficking offence.
- Replicas:** The definition of a firearm in Article 1 of the Firearms Directive applies to an object that “[...] *has the appearance of a firearm, and as a result of its construction or the material from which it is made, it can be so converted*”. The Firearms Directive therefore does not apply to other products which have the appearance of a firearm but cannot be used as one, such as replica firearms. However, any replica (i.e. imitation firearm), which can be converted must be controlled, because its trade without a licence constitutes illicit trade. The absence of such a definition within the Firearms Directive has posed challenges in the interpretation of criteria and resulted in MSs adopting different notions (EY and SIPRI 2014).

Since 2013, the European Commission has conducted evaluations of the 2008 amendment of the Firearms Directive internally as well as through external assessment. The evaluation report published in December 2014 showed that the establishment of common European minimum standards for the acquisition, possession and transfer of firearms had a positive influence on “the functioning of the internal market” and also contributed to “the creation of an EU identity for all producers, dealers and brokers operating within the sector” (Technopolis, EY, and VVA 2014, 90). In light of the findings, the European Commission recommended the introduction of binding categories of firearms. They would lead to the use of the same language and the application of the same requirements, improving overall efficiency.

In addition, the 2013-2014 review of the Firearms Directive directed attention to issues concerning dealers and brokers, marking, registration, deactivation, destruction, the European Firearms Pass, alarm weapons and replicas. In regard to these issues, the EU legislation still leaves flexibility for MSs’ national interpretations, standards and procedures.

On the basis of a proposal by the European Commission, in November 2015 the Council decided to start a process to amend the Firearms Directive in view of new security

68. Annex I, Part III, let (b) of the Firearms Directive.

69. In Italy, weapons firing blanks can be acquired a without licence, whereas signal weapons are considered “firearms” and are subject to the firearms directive (Category C).

challenges, and the European Commission adopted the 2015 EC Proposal for amending the Firearms Directive, which will be analysed in Section 8.5 and in Chapter 9 (EU Commission 2015d; EU Commission 2015c; EU Council 2015).⁷⁰

8.3. Regulation No 258/2012

By virtue of the UN General Assembly Resolution 55/255 of 31 May 2001, the UN adopted the UNFP, which entered into force on 3 July 2005 with forty signatures.

Although most of the UNFP provisions were transposed into the EU legislative framework through the amendments of 2008, the Firearms Directive was still considered insufficient for implementation of Article 10 of the UNFP. The general purpose of the latter Protocol was to strengthen cooperation at international level in order to prevent, combat and eradicate the illicit manufacturing of and trafficking in firearms. Thus, to implement Article 10 of the UNFP better, the European Parliament and the Council adopted Regulation No 258/2012, which sought to harmonize and/or improve (administrative) procedures and/or systems in the EU on the export, import, transit and transshipment of firearms for civilian purposes. In particular, it established rules on export authorization, import and transit measures for non-military firearms coming from, directed to and/or passing through third countries. Any export of firearms, their parts, essential components and ammunition is subject to an authorization granted by the competent authorities of the MS where the exporter is established. Regulation No 258/2012 obliged MSs to share information about the export authorisation process of civilian firearms issued by national authorities. At the same time, “[...] *Simplified procedures for temporary exports or re-export of firearms, their parts, essential components and ammunition* [...]”⁷¹ for hunters or sport shooters to a third country are granted subject to the fulfilment of certain requirements (EY and SIPRI 2014).

70. The EU Council welcomed the presentation by the European Commission of an amendment to the Firearms Directive as a consequence of the terrorist attacks which took place in Paris on 13 November 2015 (EU Council 2015).

71. Article 9 of the Regulation No 258/2012.

Export authorization and the import licence or import authorization issued by the importing third country and the accompanying documentation must contain the information necessary to trace the firearms in transit, including, among other details, the country of export, the country of origin, the consignee, the final recipient (if known at the time of the shipment), a description of the quantity of the firearms, their parts and components and ammunitions, and particulars enabling the identification of the object.⁷² Additionally, before issuing an export authorization, MSs are obliged to verify that the importing third country has authorised the import and that the third countries of transit (if any) have given notice in writing that they have no objection to the transit of firearms.⁷³ If no objections to the transit are received within twenty working days from the day of the written request, the consulted third country of transit is considered as having no objection to the transit.⁷⁴ MSs are obliged to refuse to grant an export authorization if the person applying has a criminal record.⁷⁵

There are some inconsistencies between the Regulation No 258/2012 and the Firearms Directive, for example on the requirements for import marking on firearms (import marking is an obligation in the UNFP, not specified in the Firearms Directive and indirectly specified in the Regulation No 258/2012 under the definition of illicit trafficking).

In the aftermath of the Paris terrorist attacks, policy-makers and public opinion realised that, despite all the efforts made to improve the EU firearms regulatory framework, deficiencies and gaps were still a problem and perhaps the main cause of the tragic events (European Parliament 2016b).

To close legislative loopholes, the European Commission presented a package of measures aimed at eradicating ITF, tightening controls, and

72. Article 8 of the Regulation No 258/2012.

73. Article 7, paragraph 1 of the Regulation No 258/2012.

74. Article 7, paragraph 2 of the Regulation No 258/2012.

75. Article 11 of the Regulation No 258/2012.

harmonizing deactivation standards (European Parliament 2016b).

Ballistic and police investigations found that the majority of the firearms used in the terrorist attacks had been converted weapons obtained from badly deactivated items (European Parliament 2016a).

The following sections will analyse the most recent legislative measures in the framework of tackling ITF at EU level.

8.4. The 2015 EU Deactivation Regulation

Pushed by growing public concerns and by the results of police investigations, which reported the increasing use by criminals of badly deactivated firearms, in December 2015 the European Commission adopted the 2015 EU Deactivation Regulation, also in view of complying with international standards and obligations coming from the UNFP.

The 2015 EU Deactivation Regulation covers firearms of Category A, B, C and D as listed in Annex I to the Firearms Directive. Firearms deactivated prior to the entry into force of the 2015 EU Deactivation Regulation are excluded from the scope of the regulation, unless they are transferred from one MS to another or are placed on the market.

The overall purpose of the EU regulation is to introduce common and stringent binding deactivation standards to be applied by all MSs in order to achieve a common and safe level for the deactivation of firearms, avoiding any possibility of reactivation, misalignments between European countries and loopholes in national legislations that could be exploited by criminals.

However, despite the ambitious scope of the 2015 EU Deactivation Regulation, according to the European Parliament, its wording lacks clarity, details and coordination, and some of its provisions set standards lower than those already applied by authorities of MSs. For this reason, members of the European Parliament called for its revision.

8.5. The 2015 EC Proposal for amending the Firearms Directive

The use of firearms by criminal and terrorist organisations poses a severe security threat that requires a stronger and more coordinated common approach to controlling the use of weapons and fighting ITF (EU Commission 2015a).

The 2015 Commission Report on the Firearms Directive on the situation resulting from the application of the 2008 amendment of the Firearms Directive highlighted increasing pressure on security issues at EU level (EU Commission 2015d).

The Firearms Directive includes provisions for regular evaluation and possible amendments, and the process for revisiting the Directive has been underway since 2014. However, following the terrorist attacks of 13 November 2015 in Paris,⁷⁶ the European Commission decided to rapidly step up measures against ITF by submitting the 2015 EC Proposal for amending the Firearms Directive to the assessment of the European Parliament and of the Council (Council of the European Union 2016).

The 2015 EC Proposal for amending the Firearms Directive contained a package of measures aimed at:

- Making the acquisition criteria for firearms in the EU more stringent;
- Tracking legally held firearms more efficiently;
- Strengthening cooperation among MSs;
- Ensuring that deactivated firearms are rendered inoperable (EU Commission 2015b).

In particular, the 2015 EC Proposal for amending the Firearms Directive covered the following issues:

- **Clearer definitions**

The 2015 EC Proposal for amending the Firearms Directive clarified the definitions of “dealers” and “brokers” contained in Article 1 – also in order to ensure consistency with the UNFP – and included the term “silencers” within the scope of the Firearms Directive.

76. The Paris attack of 2015 evidenced the link between organized crime and terrorism in obtaining firearms (EU Commission 2015c).

In Article 2 the sequence of words “[...] or by collectors and bodies concerned with the cultural and historical aspects of weapons and recognised as such by MS in whose territory they are established. [...]” was eliminated, since these actors (namely, collectors and museums) might constitute a potential source for ITF. Therefore, the new provision stated that the collectors will be entitled to acquire and possess firearms only upon being granted an authorization or subject to a declaration, while museums must fulfil certain requirements.

- **Rules on marking**

Article 4 stated the need to harmonize the rules on the marking of firearms combined with the establishment of a mutual recognition system of marking among MSs. The aim was to make the erasure of markings difficult.

To be noted is that the tracing of firearms was already a matter to improve at the time when the 2008 amendment of the Firearms Directive’s text was elaborated.

- **Deactivation of firearms: definition and general framework**

At the time of adoption of the 2008 amendment of the Firearms Directive, the main concerns about the deactivation of firearms were limited to the alignment of the EU legal wording with the definitions and general principles contained in the UNFP.

In 2015, evidence gathered from interviews with experts on the matter highlighted that the reactivation of deactivated firearms is a relevant source of weapons for illicit use: criminals indeed exploit different deactivation standards in place in the MSs.⁷⁷

The 2015 EC Proposal for amending the Firearms Directive clarified the definition of “deactivated firearms” in order to reduce misalignments among MSs’ national legislations⁷⁸ and required

MSs to “[...] make arrangements for the deactivation of firearms to be verified by a competent authority [...]” and to “[...] provide for the issuance of a certificate or record attesting the deactivation of the firearms or the apposition of a clearly visible mark to that effect on the firearm. [...]”.⁷⁹

- **Alarm and signal weapons, salute and acoustic weapons and replica firearms: definitions and convertibility**

The 2015 EC Proposal for amending the Firearms Directive introduced new categories of firearms within the scope of the relevant legislation. It included related definitions, e.g. for alarm and signal weapons, salute and acoustic weapons and replica firearms, intended to prevent exploitation by criminals of the differences of rules among MSs to their advantage.⁸⁰ The 2015 EC Proposal for amending the Firearms Directive stressed the need to establish common technical guidelines on the convertibility of all these weapons.⁸¹

- **Semi-automatic weapons**

As highlighted in the explanatory memorandum of the 2015 EC Proposal for amending the Firearms Directive, semi-automatic weapons represent a large proportion of hunting and sport-shooting firearms. Nevertheless, it cannot be ignored that some of those weapons may be convertible into fully-automatic weapons, which are banned from civilian possession in the EU. For this reason, the 2015 EC Proposal for amending the Firearms Directive established that certain semi-automatic weapons, i.e. those ones that can easily be converted, should be treated as fully automatic weapons in the Firearms Directive (and therefore banned from civilian ownership). Therefore they were to be included within “*Category A – Prohibited firearms*” and

77. Interviews with firearms experts carried out by Transcrime in 2015 and 2016.

78. Article 1, paragraph (1), letter (c) of the 2015 EC Proposal for amending the Firearms Directive.

79. Article 1, paragraph (8) of the 2015 EC Proposal for amending the Firearms Directive.

80. Article 1, paragraph (1), letter (c) of the 2015 EC Proposal for amending the Firearms Directive.

81. Article 1, paragraph (8) of the 2015 EC Proposal for amending the Firearms Directive.

removed from “*Category B – Firearms subject to authorization*”.⁸² No details on how to define these “certain” semi-automatic weapons were provided.

- **Information sharing**

The lack of information sharing among MSs and their respective operational and supervising authorities emerged as one of the most important gaps.⁸³ The exchange of information should not be limited to public authorities; it should involve the private sector as well. Accordingly, the 2015 EC Proposal for amending the Firearms Directive suggested setting up a system of information exchange among MSs (as there was no system to inform MSs when an authorisation was refused) and required dealers and brokers to be connected to central firearms registers.⁸⁴

- **Use of internet as sales channel/dark web**

As regards the demonstrated increasing use of the Internet and other forms of distance communication as a sales channel, the 2015 EC Proposal for amending the Firearms Directive considered an approach stricter than the one adopted by the 2008 amendment of the Firearms Directive. Indeed, the acquisition of firearms (Categories A, B, and C) and their parts and ammunitions by means of distance communication must be authorised only in respect to dealers and brokers and must be subject to strict control by the MSs.⁸⁵

The European Commission counted on the co-legislators’ support for rapid adoption of its 2015 EC Proposal for amending the Firearms Directive and invited MSs to start taking the steps necessary for the future firearms legislation, which was wished to come into effect by July 2016 (EU Commission 2015a).

Due to the urgency following the terrorist attacks that took place in 2015, the 2015 EC Proposal for amending the Firearms Directive passed to the European Parliament and to the Council for its adoption without any “Impact Assessment” being undertaken and with exclusive reliance on the 2014 REFIT evaluation of the Firearms Directive.

The following chapter will provide an in-depth analysis of this Proposal.

82. Article 1, paragraph (13), letter (a) of the 2015 EC Proposal for amending the Firearms Directive.

83. Interviews of firearms experts carried out by Transcrime in 2015 and 2016.

84. Article 1, paragraph (9) of the 2015 EC Proposal for amending the Firearms Directive.

85. Article 1, paragraph (6) of the 2015 EC Proposal for amending the Firearms Directive.

9. Crime Proofing of the 2015 EC Proposal for amending the Firearms Directive

Crime proofing (CP) analysis is a scientific approach that ensures a critical analysis of the loopholes and the unintended criminal opportunities that legislation may produce. It was developed in 2006 by Transcrime and has never been used to assess the risks arising from firearms control legislation (Calderoni et al. 2006; Calderoni, Savona, and Solmi 2012; Savona 2006). It is based on three main steps (see details in the Methodological Annex):

- Initial screening (IS);
- Preliminary crime risk assessment (PCRA);
- Extended crime risk assessment (ECRA).

The application of this scientific approach to the 2015 EC Proposal for amending the Firearms Directive represents the first ex-ante crime risk assessment of this Proposal. The following sections present the results of the analysis.

9.1. Initial Screening: The first step

The IS is the first step of the Crime Risk Assessment (CRA) process. It selects those policy options and proposals that should undergo the CRA process.

This selection is possible by checking whether an envisaged policy option implies measures generally associated with regulation at risk.

The Jill Dando Institute and Transcrime developed seven types of risk indicators which are likely to produce opportunities for crime (Table 6). They correspond to the seven types of legislation/regulation that normally carry the risk of unintended crime consequences (Calderoni et al. 2006; Calderoni, Savona, and Solmi 2012; Savona 2006). If any policy option does not fall within at least one type of the risk indicators, the CRA process will end, and no further activity will be required on that option. Contrarily, if one or more policy options correspond to at least one type, these options will pass to the PCRA.

Table 6. The IS and the 7 risk indicators

STEP 1. The IS		
Number	Risk Indicator	Effects
1	Fee or obligation	Legislation that introduces product disposal regulations or any other new or more burdensome fee or obligation
2	Concession	Legislation that introduces a concession on a tax or a concession on any other fee or obligation
3	Grant, subsidy or compensation scheme	Legislation that introduces or modifies a grant, subsidy or compensation scheme or any other scheme that provides a benefit
4	Tax or cost	Legislation that introduces or increases the tax on legal goods or in any other way increases the costs of legal goods
5	Availability restriction	Legislation that prohibits or restricts a demanded product or service or in any other way decreases the availability of demanded goods or services
6	Law Enforcement	Legislation that introduces, modifies or removes a law enforcement capacity, increases or decreases funding for enforcement activity or in any other way impacts the intensity of law enforcement activity
7	Regulatory Power	Legislation that provides the officials with regulatory power

Source: Transcrime elaboration

If there is no match between any provisions and the risk indicators, the CRA process ends. If there is a match, the CRA process moves to the second step, the PCRA.

A) Screening of the 2015 EC Proposal for amending the Firearms Directive's policy options

For the purpose of this analysis, the policy options contained in the 2015 EC Proposal for amending the Firearms Directive have been associated with an area of the Firearms Directive (Table 6). Each policy option may comprise one or more main actions. The IS takes into account each main action and examines whether or not it can be framed within one or more of the seven risk indicators.

Option 1: Definitions

Due to the overall lack of clarity concerning differences among EU MSs' legal frameworks, the 2015 EC Proposal for amending the Firearms Directive introduces more precise definitions, such as:

- Essential component⁸⁶ of firearms, (the aim is to make the term compliant with the UNFP's definition);
- Broker;⁸⁷
- Alarm and signal weapon;⁸⁸
- Salute and acoustic weapon;⁸⁹
- Replica firearm;⁹⁰
- Deactivated firearm;⁹¹
- Dealer.⁹²

86. Article 1, paragraph 1 (b) of the 2015 EC Proposal for amending the Firearms Directive.

87. Article 1, paragraph 1 (e) of the 2015 EC Proposal for amending the Firearms Directive.

88. Article 1, paragraph 1 (f) of the 2015 EC Proposal for amending the Firearms Directive.

89. Article 1, paragraph 1 (g) of the 2015 EC Proposal for amending the Firearms Directive.

90. Article 1, paragraph 1 (h) of the 2015 EC Proposal for amending the Firearms Directive.

91. Article 1, paragraph 1 (i) of the 2015 EC Proposal for amending the Firearms Directive.

92. Article 1, paragraph 2 of the 2015 EC Proposal for amending the Firearms Directive.

This action does not have a prescriptive content and it does not fall within any of the risk indicators; therefore it requires no further assessment.

Option 2: Collectors and "bodies concerned with the cultural and historical aspects of weapons and recognised as such by the Member State in whose territory they are established" (namely, museums)

As highlighted in the explanatory memorandum of the 2015 EC Proposal for amending the Firearms Directive, collectors have been identified as a possible source of ITF. Accordingly, the Proposal includes collectors and bodies concerned with the cultural and historical aspects of weapons within the scope of the EU firearms regulation, seeking to limit the risk of criminal transactions and infiltrations.

As for the risk indicators of the IS:

- The inclusion of "collectors" under the application of the Firearms Directive means that this category of actors will be able to acquire firearms only subject to authorisation or declaration. The introduction of administrative procedures falls within the risk indicators no. 1 (fee or obligation) and no. 7 (regulatory power), while the constraint of items falls under risk indicator no. 5 (availability restriction);
- "*Bodies concerned with the cultural and historical aspects of weapons and recognised as such by the Member State in whose territory they are established*", if in possession of firearms classified under Category A and acquired before the entry into force of the 2015 EC Proposal for amending the Firearms Directive, should be able to keep the mentioned firearms, but only if authorised by the concerned MS and if the firearms are deactivated. These prescriptions fall within the risk indicators no. 1 (fee or obligation), no. 5 (availability restriction) and no. 7 (regulatory power).

Option 3: Marking

To improve the traceability of firearms, the 2015 EC Proposal for amending the Firearms Directive introduces tighter common EU rules on marking. It extends the marking obligation to imported firearms and clarifies on which components the marking should be affixed (i.e. on the receiver) to make it harder to erase.

Concerning the IS:

- The introduction of the unique marking requirement on imported firearms falls within the risk indicator no. 1 (fee or obligation) and no. 4 (tax or cost), as it may entail a consequent higher price of the imported firearms;
- The specification that marking must be placed on the receiver of the firearm does not fall within any of the risk indicators, since it is a more specific guideline for an already existing obligation.

Option 4: Brokers' activities

Brokers provide services similar to those of dealers, and the 2015 EC Proposal for amending the Firearms Directive proposes obligations in regard to this category in order to align them with the ones applicable to dealers. Indeed, it establishes that the activities of brokers must obtain a prior authorisation, which should be issued only after a check on their private and professional integrity and on their abilities. Furthermore, it introduces the duty to maintain a register of the firearms received or disposed by the brokers.

As for the risk indicators of the IS:

- The introduction of the authorisation of brokers' activities falls within the risk indicators no. 1 (fee or obligation) and no. 7 (regulatory power), since it imposes a new obligation upon the relevant subjects and gives (new discretionary) powers to authorities responsible for the administrative procedure;
- The requirement for brokers to keep a register falls within the risk indicator no. 1 (fee or obligation) because it entails a new task.

Option 5: Record keeping

The 2015 EC Proposal for amending the Firearms Directive extends the function of the computerised data filing system. New provisions ensure greater traceability because they establish the keeping of records on firearms for an indeterminate period, until the certified destruction. Moreover, the registries of dealers and brokers must connect to the computerised data filing system.

Concerning the IS:

- The extension of the computerised data filing system falls within the risk indicator no. 1 (fee or obligation), because it introduces a broader duty with respect to the previous regulation;
- The requirement for dealers and brokers to connect to the computerised data filing system falls within the risk indicator no. 1 (fee or obligation) because it establishes a new duty.

Option 6: Firearms for shooting

The 2015 EC Proposal for amending the Firearms Directive holds valid the total ban on the acquisition and possession of firearms, other than those used for hunting and target shooting, by persons under the age of 18 years. It admits only the possession of such weapons provided that certain requirements (the same as the current legislative framework) are alternatively met, namely:

- To have parental permission, or
- To be under parental guidance, or
- To be under the guidance of an adult with a valid firearm or hunting licence, or
- To be within a licenced or otherwise approved training centre.

Concerning the IS:

- This action falls under the risk indicators no. 5 (availability restriction) and no. 7 (regulatory power), since it excludes certain items that, under the current legislation, may be licitly acquired and gives public authority a monitoring power that may have more restrictive side-effects than the present one. The said restriction may constitute a driver of illicit purchasing channels.

Option 7: Medical tests

The 2015 EC Proposal for amending the Firearms Directive introduces standard medical tests as further requirements to obtain the issuance or renewal of the authorisations for the acquisition and possession of firearms.

Concerning the IS:

- This policy option introduces a new requirement into the authorisation procedure, adding extra costs and entailing administrative bodies with (new discretionary) powers. For these various reasons, option 7 falls within the risk indicators no. 1 (fee or obligation), no. 4 (tax or cost) and no. 7 (regulatory power).

Option 8: Internet sales

The sale of firearms and their components by means of distance communication may pose a serious threat to security because this sales channel is more difficult to control than conventional selling methods, especially in regard to the on-line verification of the legality of authorisations. The 2015 EC Proposal for amending the Firearms Directive bans the trade of firearms belonging to Categories A, B and C, their parts and ammunitions by means of distant communication, except in the case of authorised dealers and brokers and subject to the strict control of the MSs.

As regards the IS:

- This action restricts the possibility to acquire/sell firearms through internet/distance communication sales channels and gives a new enforcement capacity to the LEAs; accordingly, it falls within the risk indicators no. 5 (availability restriction) and no. 6 (law enforcement).

Option 9: Licences

The 2015 EC Proposal for amending the Firearms Directive restricts the maximum limit for possession to 5 years for the duration of a licence for Category B firearms.

Concerning the IS:

- This action falls within the risk indicators no. 4 (tax or cost) because it increases the cost of the licit possession of firearms, and no.7 (regulatory power) because it gives the power to public officials to renew the authorisation if the conditions, on the basis of which it was granted, are still fulfilled.

Option 10: Alarm and signal weapons, salute and acoustic weapons, replicas

Due to their potential to be converted into real shooting firearms, the 2015 EC Proposal for amending the Firearms Directive extends the scope of the Firearms Directive to include Category C firearms (subject to declaration) alarm and signal weapons, salute and acoustic weapons and replicas.

MSs must ensure that alarm and signal weapons, salute and acoustic weapons cannot be converted into real firearms by adopting the Commission's technical specifications on the prevention of conversion.

As regards the risk indicators of the IS:

- The extension of the Firearms Directive's obligations to these categories of weapons falls within the risk indicator no. 1 (fee or obligation), since it now requires a declaration for their acquisition and/or possession;
- The adoption by MSs of the Commission's technical specifications may impose new obligations on these categories of firearms, falling within the risk indicator no. 1 (fee or obligation).

Option 11: Deactivated firearms

Given the high risk associated with the reactivation of badly deactivated weapons, and in order to enhance security across the EU, the 2015 EC Proposal for amending the Firearms Directive includes within the scope of the Firearms Directive deactivated firearms (proposed placement in Category A and C, depending on their pre-deactivation category).

Deactivated firearms must be recorded in national registries and marked in order to ensure their traceability. The 2015 EC Proposal for amending the Firearms Directive introduces the record keeping of deactivated firearms until competent authorities have certified the total destruction of the firearm and the obligation to enlist any transfer (i.e. change of the owner).

MSs must certify that deactivated firearms have been rendered irreversibly inoperable by applying common deactivation standards and techniques adopted by the Commission which will render reactivation more difficult.

Concerning the IS:

- The inclusion of deactivated firearms within the scope of the Firearms Directive falls within the risk indicator no. 1 (fee or obligation): weapons listed under Category C are subject to declaration. If included in Category A, deactivated firearms become prohibited, thus determining an availability restriction and falling within the risk indicator no. 5 (availability restriction);
- The introduction of obligatory marking upon deactivated firearms falls within the risk indicators no. 1 (fee or obligation), no. 4 (tax or cost) and no. 7 (regulatory power), since it may produce a higher price of deactivated firearms;
- The introduction of the record-keeping obligation falls within the risk indicators no. 1 (fee or obligation) and no. 7 (regulatory power), since the competent authorities must provide certification of the firearms' destruction;
- The adoption by MSs of the Commission's common deactivation standards and techniques may fall within the risk indicators no. 1 (fee or obligation), no. 6 (law enforcement) and no. 7 (regulatory power).

Option 12: Exchange of information

The 2015 EC Proposal for amending the Firearms Directive strengthens the existing systems for the exchange of information and requires a procedure of notification of authorisations or refusals to transfer firearms to another MS.

As regards the risk indicators of the IS:

- This policy falls within the risk indicators no. 1 (fee or obligation) and no. 6 (law enforcement), since it requires MSs to collaborate by exchanging information on the transfers of firearms.

Option 13: Semi-automatic firearms

Since some semi-automatic firearms can be easily converted to automatic firearms posing a threat to security, the 2015 EC Proposal for amending the Firearms Directive bans certain semi-automatic firearms for civilian use when they resemble weapons with automatic mechanisms currently included in the Category B7 ("semi-automatic firearms for civilian use which resemble weapons with automatic mechanisms"), even if they have been permanently deactivated.

Concerning the IS:

- This option falls within the risk indicator no. 5 (availability restriction), given that it removes the possibility to acquire or possess Category B7 firearms.

Option 14: Category A Firearms

For the most dangerous (Category A) firearms, the 2015 EC Proposal for amending the Firearms Directive introduces stricter rules in order to prohibit ownership of and trade in this category of weapons, even after their deactivation. Moreover, the 2015 EC Proposal for amending the Firearms Directive introduces the obligation for MSs to destroy Category A firearms and ammunitions held in violation of the provisions and seized. However, museums (bodies concerned with the cultural and historical aspects of weapons) can be authorised to keep Category A firearms already in their possession (acquired before the entry into force of the 2015 EC Proposal for amending the Firearms Directive) provided that they have been deactivated.

As regards the risk indicators of the IS:

- The ban on the acquisition and possession of deactivated Category A firearms falls within the risk indicator no. 5 (availability restriction);

- The introduction of the obligation for MSs to destroy Category A firearms falls within the risk indicator no. 1 (fee or obligation);
- The possibility for museums to keep Category A firearms already in their possession falls within the risk indicators no. 2 (concession) and no. 7 (regulatory power).

B) Results of the Initial Screening

The IS highlighted that a large number of the actions introduced by the 2015 EC Proposal for amending the Firearms Directive are considered at risk. Most of the selected actions fall within the risk indicators no. 1 (fee and obligation) and no.7 (regulatory power) because they may induce evasion of the imposed obligations and bribery of officials (Table 7).

The introduction of new or more burdensome obligations increases the risk of non-compliant behaviours and illicit activities, and it may be an incentive to choose illegal channels for the acquisition of firearms.

Table 7. Policy Options of the Proposal and their correspondence to the 7 risk indicators of the IS

Policy Options	Areas of Firearms Regulation	Main Actions	1. Fee or Obligation	2. Concession	3. Grant, Subsidy, Compensation	4. Tax or Cost	5. Availability Restriction	6. Law Enforcement	7.Regulatory Power
1	Definitions (Art. 1.1)	Clarified (or new) definitions of essential component, broker, alarm and signal weapons, salute and acoustic weapons, replica firearms, deactivated firearms, and dealer	-	-	-	-	-	-	-
2	Collectors and museums (Art. 1.2)	Inclusion of collectors and bodies concerned with the cultural and historical aspects of weapons within the scope of the Firearms Directive	X	-	-	-	X	-	X
3	Marking (Art. 1.3)	Requirement of unique marking on imported firearms	X	-	-	X	-	-	-
		Specification of the components to which the marking should apply	-	-	-	-	-	-	-
4	Brokers' activities (Art. 1.3)	Extension to brokers of the requirements for registration, licencing or authorisation and for checks on their private and professional integrity	X	-	-	-	-	-	X
		Requirement to maintain a register of firearms received or disposed by brokers	X	-	-	-	-	-	-
5	Record keeping (Art. 1.4)	Extension of the computerised data-filing system until the certified destruction of the firearm	X	-	-	-	-	-	-
		Requirement for dealers and brokers to be connected to the computerised data-filing system	X	-	-	-	-	-	-

Policy Options	Areas of Firearms Regulation	Main Actions	1. Fee or Obligation	2. Concession	3. Grant, Subsidy, Compensation	4. Tax or Cost	5. Availability Restriction	6. Law Enforcement	7. Regulatory Power	
6	Firearms for shooting (Art. 1.6)	Restriction of the acquisition of firearms for shooting for persons under 18	-	-	-	-	X	-	X	
7	Medical tests (Art. 1.6)	Introduction of standard medical tests for the issue or renewal of authorisations for acquisition and possession of firearms	X	-	-	X	-	-	X	
8	Internet sales (Art. 1.6)	Ban on the sale of Category A, B, C firearms, parts, and ammunition by means of distance communication, except for dealers and brokers	-	-	-	-	X	X	-	
9	Licences (Art. 1.7)	Maximum limit of 5 years on the duration of a licence for Category B firearms	-	-	-	X	-	-	X	
10	Alarm and signal weapons, salute, and acoustic weapons (Art. 1.1 and 1.8)	Inclusion of alarm and signal weapons, salute and acoustic weapons and replicas within the scope of the Firearms Directive among the Category C firearms	X	-	-	-	-	-	-	
		MSs must ensure that alarm and signal weapons, salute and acoustic weapons cannot be converted into firearms by adopting the Commission's technical specifications on the prevention of conversion	X	-	-	-	-	-	-	
11	Deactivated firearms (Art. 1.3, 1.4 and 1.8)	Inclusion of deactivated firearms within the scope of the Firearms Directive among the Category A or Category C firearms	X	-	-	-	X	-	-	
		Introduction of marking obligation on the deactivated firearms placed on the market	X	-	-	X	-	-	X	
		Introduction of record keeping of deactivated firearms, until the destruction of the firearm has been certified by competent authorities; any transfer (i.e. change of the owner) must be registered	X	-	-	-	-	-	-	X
		Requirement for MSs to certify that deactivated firearms have been rendered irreversibly inoperable, applying common deactivation standards and techniques adopted by the Commission	X	-	-	-	-	-	X	X
12	Exchange of information (Art. 1.9)	Strengthening of the existing systems for the exchange of information to include notification of authorisations or refusals to transfer firearms to another MS	X	-	-	X	-	X	-	

Policy Options	Areas of Firearms Regulation	Main Actions	1. Fee or Obligation	2. Concession	3. Grant, Subsidy, Compensation	4. Tax or Cost	5. Availability Restriction	6. Law Enforcement	7. Regulatory Power
13	Semi-automatic firearms (Art. 1.13)	Introduction of a ban on certain semi-automatic firearms for civilian use which resemble weapons with automatic mechanisms, currently included in the Category B7	-	-	-	-	X	-	-
14	Category A Firearms (Art. 1.6)	Introduction of a ban on the acquisition and possession of deactivated Category A firearms (except for authorised museums)	-	-	-	-	X	-	-
		Obligation to destroy seized Category A firearms and ammunition	X	-	-	-	-	-	-
		Authorisation for museums to keep Category A firearms already in their possession provided that they have been deactivated	-	X	-	-	-	-	-

Source: Transcrime elaboration

9.2. Preliminary Crime Risk Assessment: The second step

The PCRA is the second step of the CRA. It is a descriptive/qualitative procedure which aims at identifying and describing the unintended crime risks (if any) that can be envisaged in regard to those policy options of the 2015 EC Proposal for amending the Firearms Directive selected in the previous phase, the IS. The purpose of the PCRA is to focus on assessment of potential pitfalls identified by the analysis.

The steps in carrying out the assessment are the following:

a. Assessing the formal aspects of legislation

This part assesses the formal aspects of the relevant act, both from an external and internal point of view, in order to identify possible textual deficiencies likely to be exploited for illicit purposes. The internal and external consistency of the act, its comprehensiveness, and its enforceability are considered as criteria

with which to estimate the formal quality of the legislation.

The assessment is carried out by answering the following questions:

- Does the act make the legislative framework addressing the sector/market more chaotic?
- Does the act contain ambiguous or unclear language?
- Is the act easily applicable and enforceable in the MSs?

b. Estimating the vulnerability of the regulated market at EU level

This activity evaluates the vulnerability of the market envisaged by the selected provisions. Vulnerability is the amount of crime opportunities and the extent of crime infiltration in the relevant sector. It can be assumed that the more a sector is vulnerable to crime, the more likely it is that the legislation will produce unintended criminal implications.

Estimating the vulnerability of a market entails considering its attractiveness and accessibility to criminals, taking into account: (i) production factors (raw materials, labour and capital), (ii) product and (iii) market structure (competitive, monopolistic or oligopolistic), i.e. how much added value these components could produce when involved in criminal activities.

The main factors of attractiveness are (i) profitability and (ii) risk of detection.

The features of accessibility are (i) *modus operandi* and (ii) difficulty in exploiting production factors, product and market structure.

The evaluation is performed by answering the following questions:

- Do legitimate operators in the sector/market have an interest in committing crime?
- Is the sector/market infiltrated by external criminals (organised and not)?
- Are the unlawful behaviours identified in the sector/market a law enforcement priority?

c. Estimating the crime risks/types arising from legislation

This part appraises possible crime risks inadvertently produced by specific provisions of the selected act and, if so, identifies for which crimes these risks can be envisaged.⁹³ The ECRA, when recommended, will focus only on the crimes here identified.

The evaluation is conducted by answering the following questions:

- Does any provision unintentionally produce opportunities for crime?
- If so, for which crime?
- Are the crime risks envisaged estimated as low, medium or high?

A) Vulnerability of the 2015 EC Proposal for amending the Firearms Directive's policy options

The analysis of the vulnerability of the EU firearms market is based on two dimensions. The first dimension is the extent to which the relevant market is attractive to crime, while the second one relates to the market's accessibility to criminals.

• Attractiveness of the firearms market to illicit activities

The attractiveness of the firearms market to illicit activities is related to the levels of crime within the market, to the profits that can be achieved within ITF, and to the risk of detection associated with it.

As regards the profitability of ITF (the overall gain that illicit activities in the sector may produce for the perpetrator), the practitioners and experts interviewed highlighted that in the vast majority of the cases analysed, criminals began ITF as a secondary rather than primary activity in order to earn extra income. Because there is high demand for illicit firearms and a corresponding broad supply, their prices are higher than those of legal weapons (UNODC 2012a). Surveys and investigations carried out at EU level have reported a high demand for illicit firearms by criminals, who often rely on the availability of weapons to carry out their activities (Europol 2013b). OCGs usually handle this business along with other illegal markets (ITF is a side-business), as a means to gain and maintain power, and as an instrument to facilitate the commission of other offences,

93. The concept of crime refers to two different interpretations: (1) from a legal point of view, the strict definition contained within national criminal codes and (2) from a criminological point of view, behaviour likely to produce unlawful effects (generally recognized, at least at EU level). For the purpose of this analysis, the second, broader, interpretation has been preferred because the legal definitions of a given crime change according to the law system considered.

such as drug dealing, gang violence, and human trafficking (Europol 2013b; European Commission 2016). The total value of ITF is unknown. Several studies have attempted to estimate the scale of ITF using different methodologies. All of them have encountered many difficulties, such as the concealed nature of the phenomenon, unrecorded transactions or falsely recorded ones, and the way in which data are collected (UNODC 2015).

The risk of detection (risk of being detected and punished while committing the illicit behaviour in the sector) is quite low: small-scale trade (mainly carried out by “ant” transportation), free circulation and movement of goods and citizens within the EU territory, abolition of borders controls after the signing of the Schengen Agreement, are only some of the factors that ease ITF (Europol 2013b). Furthermore, dealers, brokers, and firearms traffickers in general have come to rely primarily on forged documents and on corruptible officials. Moreover, weapons are often disguised as humanitarian aid shipments.

- **Accessibility to criminals**

The life cycle of weapons begins with their manufacture, followed by their trade, use and disposal. Criminals acquire firearms by exploiting the vulnerability of the firearms’ life cycle (European Commission 2016). The vast majority of illicit firearms originate from the legal market and are then diverted to the grey and/or black market (Stohl 2004; UNODC 2010; UNODC 2015). The diversion of firearms from legal channels to the underworld may occur at any stage of their trafficking, and it involves different types of actors. The research and interviews have identified the following sources of vulnerability and accessibility of ITF to criminals:

- Shipping legally produced weapons to and through one country to another or a conflict zone may result attractive for criminals;
- Poor stockpile security and management are attractive to thieves and vulnerable to accidental losses;

- The looting of national arsenals during times of instability may foster ITF, as recently occurred in Libya after the downfall of the Qaddafi regime;
- Losses (accidental ones) by government or military are likely to feed the illicit market;
- Soldiers may sell weapons for extra money when they are not paid or not well paid or sympathize with a rebel cause;
- Thefts from legitimate and illegal civilian owners, as well as from manufacturers, constitute one of the most common supply channels for ITF;
- Different national legislations may induce criminals to exploit loopholes and gain profits from the black market for firearms.

Where demand exists, criminals will exploit vulnerabilities in the legitimate supply chain to obtain profits and power (Europol 2013b).

B) Analysis of the envisaged crimes

The analysis of the vulnerability of the 2015 EC Proposal for amending the Firearms Directive and the related firearms market will focus on estimating the unintended criminal implications of the actions selected in the IS.

The IS highlighted that many policy options were affected by different risk indicators, which envisage various crimes, as follows:

- **Risk indicator number 1: Introduction of a new or more burdensome fee or obligation**

The introduction of a new or more burdensome fee or obligation may lead to non-compliance behaviours or avoidance of the duties, thus increasing the volume of the illicit market.

The crimes envisaged are:

- Forgery of official documents;
- Corruption/collusion of public officials and of doctors in charge of conducting medical tests.

- **Risk indicator number 2: Introduction of a concession on a tax or a concession on any other fee or obligation**

The introduction of a concession on a tax or a concession on any other fee or obligation can often be an incentive to adopt deceptive means to obtain profits.

The most common crimes are:

- Forgery of documents;
- Corruption of public authorities and public officials.

- **Risk indicator number 4: Tax or cost**

The relates to the introduction of or increase in the tax on legal goods or to any other action that increases the costs of legal goods.

The most common crimes are:

- Fraud;
- Smuggling;
- Money laundering;
- Corruption of the public officials in charge of issuance of the relevant document.

- **Risk indicator number 5: Availability restrictions**

This refers to any legislation that prohibits or restricts a demanded product or service or in any other way decreases the availability of demanded goods or services. It may cause an increase of the illicit trade in countries where the prohibited/restricted items are popular. Assuming that the demand for the items is likely to remain the same at least in the short-medium term, a sudden restriction of the former licit market may divert the demand to illicit channels.

The most common crimes are:

- Black marketeering;
- Smuggling;
- Counterfeiting;

- Trademark violations;
- Theft from firearms collectors.

- **Risk indicator number 6: Law enforcement**

This embodies any legislation that introduces or removes a law enforcement capacity, increases or decreases funding for enforcement activity, or in any other way affects the intensity of law enforcement activity.

The most common drivers to crime are:

- Absence of a concrete link between the provision and clear sanctions;
- Presence in the text of a certain provision which does not specify what would happen in such a case, providing room for corruption/collusion.

- **Risk indicator number 7: Regulatory Power**

This relates to any legislation that may increase discretionary powers and further strengthen the regulation system.

Most common crimes are:

- Corruption of public officials and supervising authorities competent to issue documents and authorizations;
- Fraud committed by forging documents attesting false accessibility conditions;
- Abuse of public authority powers, when officials may take decisions without being monitored, without predetermined guidelines and/or without supervision by an independent control body.

For ease of reading, Table 8 collects and shows for each policy option selected under the IS the related risk indicators, highlighting whether the probability of the envisaged crime being committed is low, medium or high. If at least one policy option presents at least a medium-level crime risk, such option(s) will pass to the ECRA.

Table 8. The 7 IS risk indicators and envisaged crimes in the PCRA

STEP 2. The PCRA		
Policy Option	Risk Indicator	Level of Crime Risk
2: Collectors and bodies concerned with cultural and historical aspects a. In the case of collectors, their inclusion within the scope of the regulation would necessarily mean that they are allowed to acquire firearms only subject to authorisation or declaration b. As regards those bodies concerned with the cultural and historical aspects of weapons, the new regulation provides for an exception. When such bodies possess firearms classified under Category A and purchased before the date of entry into force of the 2015 EC Proposal for amending the Firearms Directive, the legislation allows them to keep those firearms provided that two requirements are fulfilled: the first is the obtaining of MSs authorisation, and the second is the deactivation of the relevant item	1. Introduction of new or more burdensome fee or obligation	Medium
	5. Availability restriction	Medium
	7. Regulatory power	Medium
3: Marking Requirement of unique marking on imported firearms	1. Introduction of new fee/ obligation	High
	4. Tax or cost	High
4: Brokers' activities a. The introduction of authorisation for brokers' activities upon the basis of a check on their private and professional integrity and on their abilities b. The requirement for brokers to keep a register	1. Introduction of new fee/ obligation	Medium
	7. Regulatory power	Medium
5: Record keeping a. The extension of the computerised data filing system b. The requirement for dealers and brokers to be connected to the computerised data filing system	1. Introduction of new fee/ obligation	Medium
6: Firearms shooting	5. Availability restriction	Medium
	7. Regulatory power	Medium
7: Medical test Introduction of medical tests as a further burden to obtain the authorization	1. Introduction of new fee/ obligation	Medium
8: Internet sales a. Restriction of the possibility to acquire firearms through the internet b. New powers conferred on LEAs	5. Availability restriction	Medium
	6. Law enforcement	Medium
9: Licences Introduction of a shorter duration for licences	4. Tax or cost	Medium
	7. Regulatory power	Medium
10: Alarm and signal weapons, salute and acoustic weapons, replicas a. The application of declaration burdens on the relevant categories of firearms b. The MSs' adoption of technical specifications enacted by the European Commission	1. Introduction of new fee/ obligation	High
11: Deactivated firearms a. The inclusion of certain deactivated firearms in Category A	1. Introduction of new fee/ obligation	High
	5. Availability restriction	High

b. The inclusion of certain deactivated firearms in Category C	1. Introduction of new fee/ obligation	High
	5. Availability restriction	High
c. The introduction of obligatory marking on deactivated firearms	1. Introduction of new fee/ obligation	Medium
	4. Tax or cost	High
	5. Availability restriction	Medium
d. The introduction of record-keeping obligations for deactivated firearms	7. Regulatory power	Medium
	1. Introduction of new fee/ obligation	Medium
	5. Availability restriction	Medium
e. The adoption by MSs of the Commission's common deactivation standards	7. Regulatory power	Medium
	1. Introduction of new fee/ obligation	Medium
	6. Law enforcement	Medium
12: Exchange of information Strengthening of information exchange	7. Regulatory power	Medium
	1. Introduction of new fee/ obligation	Medium
13: Semi-automatic firearms Ban on certain semi-automatic weapons	6. Law enforcement	Medium
	5. Availability restriction	High
14: Category A Firearms a. The prohibition of the acquisition and possession of deactivated firearms belonging in Category A	7. Regulatory power	Medium
	5. Availability restriction	Medium
b. The introduction of the obligation for MSs to destroy Category A firearms c. The exception for bodies concerned with the historical and cultural aspects of weapons to keep Category A firearms already in their possession	1. Introduction of new fee/ obligation	Medium
	2. Introduction of a concession on a tax or a concession on any other fee or obligation	Medium
	7. Regulatory power	Medium

Source: Transcrime elaboration

C) Results of the Preliminary Crime Risk Assessment

The PCRA highlighted that the firearms market is likely to be vulnerable to illicit activities, in particular to potential non-compliant behaviours by different categories of actors and diversion to illicit flows due to the introduction of some new or more burdensome restrictions.

The 2015 EC Proposal for amending the Firearms Directive was found to have 13 policy options in need of IS and flagged with a medium/high risk under the PCRA (Table 9).

For the above reasons, all the policy options selected during the IS need to pass to the third step of the CP, the ECRA.

Table 9. Level of crime risk associated with each policy options

POLICY OPTIONS	LEVEL OF CRIME RISK			ECRA
	Low	Medium	High	
2. Collectors and cultural and historical bodies		X		Yes
3. Marking			X	Yes
4. Brokers' activities		X		Yes
5. Record keeping		X		Yes
6. Firearms for shooting		X		Yes
7. Medical tests		X		Yes
8. Internet sales		X		Yes
9. Licences		X		Yes
10. Alarm, signal, salute and acoustic weapons, replicas			X	Yes
11. Deactivated firearms			X	Yes
12. Exchange of information		X		Yes
13. Semi-automatic firearms			X	Yes
14. Category A firearms		X		Yes

Source: Transcrime elaboration

9.3. Extended Crime Risk Assessment: The third step

The ECRA is the third step of the CRA process. It is an analytical/quantitative assessment of the unintended criminal implications envisaged in the PCRA.

The ECRA is carried out by evaluating the “threat”, by which is meant the likelihood that a crime will occur because of legislation, and the “seriousness”, by which is meant the harm caused by a certain crime to society. The aim of this phase is to conduct an in-depth assessment of policy options that have been identified as presenting a medium/high level of crime risk during the PCRA.

There are no available data and information on the actual impact of the 2015 EC Proposal for amending the Firearms Directive, since it is still unknown when the new legislation will come into effect.

The following assessment is therefore based on general criminological assumptions about the likely evolution of crime, perpetrators, victims and costs. All the data derive from the application and studies conducted on the current Firearms Directive, as well as from interviews carried out with practitioners and experts in the field.

A) ECRA Analysis of the 2015 EC Proposal for amending the Firearms Directive's policy options

The PCRA selected many actions with a medium/high risk of creating unintended opportunities for criminals in the firearms market.

For each policy option, the following subsection analyses – on the basis of the available information and data – the likely impact on crime (any increase/decrease in the amount, risk of detection and expected profits by criminals), authors/perpetrators (any variation in the number, structure of the organization and required skills/knowledge), victims i.e. those people suffering an economic damage (any decrease/increase in the number and variation in their characteristics), and cost/harms (any increase/decrease in the total costs, with a particular focus on the social costs when data are available).

Policy Option 2: Collectors and bodies concerned with cultural and historical aspects of the weapons

a. Crime

This policy option increases controls and introduces tighter administrative procedures. ITF is likely to increase especially in those countries where firearms are popular, there is a high demand for them, and the presence of collectors and museums. The sudden restriction of the licit market may unintentionally stimulate the black trade of the items in order to avoid additional costs.

As highlighted by researches and studies, EU MSs will be able to tackle the increased risks of a general growth of ITF if law enforcement reaction becomes tighter. In this case, the risk of detection for criminals is likely to decline.

Considering the dual nature of the firearms market and the fact that collectors and museums play an important role in the field, the profits for illicit traders will probably increase as a result of increased retail prices of legitimate products and of more burdensome obligations to fulfil.

b. Perpetrators/Authors

The risk of increased numbers of perpetrators involved in the relevant activities is likely to be inversely correlated with the effectiveness of the measures introduced to prevent criminal exploitation of the restricted authorization procedures.

The complexity of the organization required will increase because the policy option under evaluation introduces authorization procedures and restrictions for a field which was formerly governed by laxer rules. As a result, the more complex the organisation of frauds, bribes of national authorities and/or forgery of required certifications become, the more difficult it will be for criminals to commit such crimes. Moreover, the policy option under assessment requires considerable skills and knowledge to operate, making the market less accessible to criminals. No impact is expected on the professional requirements needed to commit the crime, while the introduction of additional costs for bodies concerned with historical and cultural aspects of weapons and collectors might influence the economic/legal requirements to engage in the illicit activities.

c. Victims

The amount of victims, both as natural and legal persons, is likely to increase because the new policy option introduces restrictions and obligations not currently in force. Legitimate holders of firearms may be significantly affected by the increase in ITF.

d. Cost/Harms

The total cost of the crime is likely to increase as a consequence of the introduction of new administrative obligations. Non-compliant behaviours, such as forgery of documents, would negatively impact on the EU and MSs budget.

Policy Option 3: Marking

a. Crime

This policy option is concerned with the introduction and implementation of technical measures ensuring the identification/traceability of each item and its legitimate holder. A portion of firearms may move to ITF in order to avoid obligations and costs connected to compliance with new standards.

As regards the risk of detection, this is likely to increase because the proposal suggests to intensify cooperation among MSs authorities and to adopt common standards of marking, which would ease communication and exchange of information.

The expected profits for the perpetrators of the crime would increase, since this policy option introduces more expensive burdens and marking requirements. Therefore it could render non-compliant behaviour very profitable.

b. Perpetrators/Authors

The number of perpetrators may increase due to the unintended criminal opportunities created by a restricted marking.

The phases of the crime commission process relating to the imitation of trademarks, brands and other features, and the counterfeiting, will require a more organised structure. This is likely to demand more illicit actors with more skills. Criminal actors without these skills may have limited access to this portion of ITF.

c. Victims

Given the expected increase in ITF, it is likely that the number of victims will increase.

d. Cost/Harms

In the case of non-compliance with new marking standards, social costs will increase. No other impacts on costs are expected.

Policy Option 4: Brokers' activities

a. Crime

The amount of risk is likely to decrease because this policy option will increase the number of controls and requirements on broker's activities. The risk of being detected is likely to increase if preventive measures (regulation of the broker's activities, registration of the licensing or authorisation) and law enforcement resources are enhanced. On the contrary, this policy option may increase the demand for non-complying behaviours because people may continue to carry out their activities without fulfilling the dispositions.

b. Perpetrators/Authors

The number of criminals is expected to diminish if all the dispositions are applied. Otherwise, the diversion to ITF may increase, and so too the number of actors.

Criminals may have to bribe national authorities and/or forge the required specific certifications. They could involve third qualified persons if no individuals belonging to the criminal structure are skilled, increasing the complexity of the organization.

c. Victims

The number of victims is linked to any change in the amount of ITF. In addition, criminals could move to countries where the regulatory framework is laxer, increasing the number of victims.

d. Cost/Harms

The cost of crime may vary depending on the impact of the legitimate market.

Policy Option 5: Record-keeping

a. Crime

On the one hand, the amount of risk is likely to increase because the new legislation broadens obligations with respect to the former regulatory framework. On the other hand, the proposed policy option implements tighter cooperation among MSs and national authorities. If applied, the risk of being detected is likely to increase. Otherwise, this risk would remain low.

The introduction of more duties could stimulate non-compliant and profitable behaviours.

b. Perpetrators/Authors

The number of perpetrators is likely to increase if due controls are not applied.

Tighter regulation is likely to increase the complexity of the organizational structure of the crime. Certifications and registries may be forged, but special skills and knowledge are required for this purpose. Accordingly, the economic and legal requirements needed to commit the crime are likely to be tighter.

c. Victims

No data are available on the expected impact of this policy option on the total number of victims, nor on their characteristics, both of which may vary according to the increase in the level of ITF.

d. Cost/Harms

The impact on the legal market is likely to increase the amount of harms. On the one hand, illegal services are likely to increase profits and employment for criminals. On the other hand, the administrative costs are likely to increase because legal and public funds are diverted from their original and legitimate purpose (record-keeping).

Policy Option 6: Firearms for shooting

a. Crime

The amount of risk is likely to increase. Since minors are no longer allowed to acquire firearms, there is the possibility that the acquisition may be carried out through illicit sales channels.

The risk of being detected will be constant at least in the short-medium term because additional and specific controls and checks on firearms possession by underage persons are not envisaged.

The new prohibition may render the illicit market palatable for operators and subjects interested in the sector.

b. Perpetrators/Authors

The policy option under analysis is likely to increase the number of actors illicitly selling firearms to minors because demand from the latter is expected to remain constant in the short-medium term. Moreover, the complexity of the organizational structure of the crime is likely to be the same: no specific skills or knowledge are required to sell firearms to minors, based on the assumption that this action is not prohibited in the 2008 amendment of the Firearms Directive.

c. Victims

If the level of ITF increases, the number of victims is likely to rise accordingly.

d. Cost/Harms

Total costs of the crime may increase when it comes to specific legislative measures to protect minors.

If minors are affected by non-compliant behaviours, social costs are likely to increase due to the implementation of special provisions and preventive measures.

Policy Option 7: Medical tests

a. Crime

The amount of risk could decrease due to the introduction of (new/further) medical checks. However, it is likely to increase due to the possibility to elude these checks by bribing and corrupting persons in charge of control or by entering the sector with forged medical documentation.

b. Perpetrators/Authors

The number of persons involved in forging medical documents is likely to increase since medical certificates have not until now been mandatory to possess a firearm as provided by EU legislation. The complexity of the organizational structure is likely to increase. Special skills and knowledge are required in order to issue forged medical documentation and certificates.

c. Victims

Crimes envisaged by this policy option are likely to affect a sector not involved in ITF until now. The number of victims is likely to increase, including all the operators connected with the medical sector.

Criminals may divert requests for medical certificates to those countries where corruption and bribery are most common.

d. Cost/Harms

The total cost of the crime is likely to increase because special skills and knowledge are now required. In particular, social costs are likely to increase because health care and medical certificates are issued with public funds.

Policy Option 8: Internet sales

a. Crime

In countries where Internet sales are high, the purchase of firearms on illicit online channels may become an issue. Since the transactions are concealed and the identity of operators is anonymous, it is not possible to distinguish between legitimate operators (i.e. brokers and dealers) and illegitimate ones.

The risk of detection is likely to decrease due to the impossibility of identifying the users.

The introduction of strict controls and prohibitions for internet sales are likely to render a non-compliant behaviour very profitable: people could avoid the registration procedures and costs mandatory to obtain the title of broker or dealer.

b. Perpetrators/Authors

The number of perpetrators is likely to increase because of the difficulties in implementing controls on Internet sales.

The criminal organizational structure may become more complex. Operating on the Internet requires specific skills and knowledge, and it involves significant economic and legal costs.

c. Victims

Given the magnitude of the Internet channel, the number of victims may increase, in particular when the level of ITF intensifies.

d. Cost/Harms

The cost of crime is likely to increase, given the complexity of the Internet channel, the difficulty of detecting criminals, and the rise in the level of ITF.

Policy Option 9: Licences

a. Crime

On the one hand, the amount of risk is likely to decrease owing to the introduction of harmonised standards for licences. The risk of detection is likely to increase. Sharing the same rules on licences implies a stricter and more unified control system, and the reduction of loopholes in the legislation.

On the other hand, this provision may create a new portion of the illicit market dealing with the exchange of firearms without licences or with expired or improper licences.

b. Perpetrators/Authors

The number of perpetrators is likely to increase if due controls are not applied. This will also happen if a new portion of the illicit market is developed.

The level of organization required to commit the crimes is likely to increase because of the strengthening of the authorities' cooperation. Moreover, licence certificates may require special skills and knowledge to be forged.

c. Victims

The number of victims would vary according to the level of ITF.

d. Cost/Harms

At least in the short-medium term, the total cost of the crime will depend on the effective application of the provision.

Policy Option 10: Alarm and signal weapons, salute and acoustic weapons, replicas

a. Crime

On the one hand, the amount of risk is likely to decrease given the inclusion of these firearms in Category C, i.e. weapons subject to declaration. However, this provision has to be accompanied by a more efficient monitoring and enforcement system in order to increase the detection rate.

On the other hand, this provision may create a new portion of the illicit market in which these weapons can be purchased and sold without being declared.

b. Perpetrators/Authors

The number of perpetrators is likely to increase if due dispositions are not applied. This will also happen if a new portion of the illicit market is developed.

The organizational structure may become more complex in order to evade declaration checks. It may also require special skills and knowledge, together with the corruption and bribery of public officials.

c. Victims

The number of victims is likely to vary according to the change in the level of ITF. Socio-demographic characteristics of the victims are likely to correspond to the legitimate holders of/anyone who is interested in the items subject to Category C.

d. Cost/Harms

The total cost of the crime is likely to change according to the amount of ITF and the related number of victims, because of the introduction of restrictions on the items' circulation.

Policy Option 11: Deactivated firearms

a. Crime

On the one hand, the amount of risk is likely to decrease because of the various restrictions related to deactivated firearms. The risk of detection is likely to increase due to the introduction of the registry of deactivated firearms and their compulsory marking.

On the other hand, this provision may create a new portion of the illicit market, increasing the expected profits for criminals. The latter could illicitly sell deactivated firearms falling within both Category A and C, avoiding all the new rules.

b. Perpetrators/Authors

The number of perpetrators is likely to increase if due dispositions are not applied. This will also happen if a new portion of illicit market is developed.

The new legal framework on deactivation of firearms will be complex. As a result, criminals wishing to infiltrate the market will need to adapt the organizational structure to the complexity of the regulatory system. Criminals will be required to possess specific skills and knowledge in matters ranging from forgery to corruption.

c. Victims

The number of victims will depend on the level of ITF.

d. Cost/Harms

Legitimate holders and anyone complying with the new strengthened regulation may suffer harms and costs due to the effect of illicit behaviours.

Policy Option 12: Exchange of information

a. Crime

Given the strengthening of the information exchange system, the amount of risk is likely to diminish. A stricter and more effective exchange information system will contribute to increasing the level of detection. However, some criminals could elude this policy option and engage in ITF. In this case, the profits for perpetrators are likely to increase.

b. Perpetrators/Authors

The number of perpetrators would decrease if there were an effective enhancement of the exchange information system. Otherwise it would remain stable.

The organizational structure will need to adapt its tools to a more complex environment in order to avoid compliance. The complexity of the organizational structure requires some specific individual skills and knowledge, even more when it comes to computerising data filing system.

c. Victims

If the policy option is implemented and enforced, the number of victims is likely to decrease. Otherwise it will remain constant.

d. Cost/Harms

The total cost of the crime is likely to change according to the amount of ITF and the related number of victims.

Policy Option 13: Semi-automatic firearms

a. Crime

The amount of risk is likely to decrease because of the new prohibitions/restrictions. However, in order to increase the likelihood of detection and to be effective, the provision should be accompanied by an increase in law enforcement resources and capacities. But a sudden withdrawal/restriction from the market of products in high demand for various reasons would be dangerous. A black market would develop to cater to the demand for these products. In this latter case, the expected profits for criminals are likely to increase.

b. Perpetrators/Authors

The number of perpetrators is likely to increase if adequate controls are not put in place. This will also happen if a black market develops.

New provisions introducing prohibitions/restrictions will render the organizational structure more complex. Accordingly, the individual skills and knowledge required to commit the crime are likely to increase.

c. Victims

The amount of victims is likely to increase because the restricted availability of semi-automatic firearms may increase the illicit trade in countries where those products are popular.

d. Cost/Harms

The total cost of the crime is likely to increase, given the stringent legislation that is to be put in force.

The social costs of the crimes envisaged are likely to decrease due to the introduction of restrictions and controls on deactivated firearms.

Policy Option 14: Category A Firearms

a. Crime

The amount of risk is likely to decrease due to the inclusion in Category A of different types of firearms (e.g. deactivated and semi-automatic firearms).

The risk of being detected is likely to increase because of the application of stricter rules. A tougher legal framework must be accompanied by an effective level of deterrence and enforcement.

However, potential criminals may develop a new portion of the illicit market: they could illicitly supply firearms falling within Category A in order to meet the demand for products of this kind. As a consequence, their expected profits may increase.

b. Perpetrators/Authors

The number of perpetrators is likely to vary according to the increase/decrease in the level of ITF and to the increase in controls and restrictions on the sector.

The organizational structure is likely to reach higher complexity given the strengthening of the regulatory system. Moreover, the individual skills, professional requirements, and knowledge necessary to commit the crime could become more specific.

c. Victims

The number of victims is likely to change as an effect of any variation in the level of ITF.

d. Cost/Harms

The total cost of the crime is likely to increase/decrease according to any variation in the number and characteristics of ITF-victims.

B) Results of the ECRA

The ECRA on the main policy options at risk was affected by scarce or unreliable information and data. Moreover, given that adoption of the 2015 EC Proposal for amending the Firearms Directive is still pending, the impact of its provisions can only be forecasted in light of the experience of the previous and current Firearms Directive.

Notwithstanding these limitations, the assessment highlighted that:

- The level of crime is likely to increase in most of the policy options under analysis due to the introduction of new or more burdensome obligations, the availability restrictions, the design of the new law enforcement framework, and the conferral of additional regulatory powers.

- The number of perpetrators/authors increases or decreases according to the specific policy options assessed. As a general comment, if the proposed provisions require additional skills and qualified professionalism, the number of perpetrators may decrease.
- The number and characteristics of victims is strongly related to the amount of crime and the number of perpetrators/authors: if the latter increase, the number of victims increases as well.
- The amount and quality of costs and harms are influenced by the level of crime: if it increases, the amount of costs increases as well.

9.4. Results of the Crime Proofing analysis of the 2015 EC Proposal for amending the Firearms Directive

Despite the comprehensive EU legal framework, there are still various aspects which give MSs flexibility in national interpretations and implementation: e.g. the definitions of dealers and brokers, the requirements for marking, registration, deactivation, and destruction, the EU Firearms Pass, alarm weapons and replicas.

The CP analysis of the 2015 EC Proposal for amending the Firearms Directive showed that the firearms market is likely to be vulnerable to different types of illicit activities and actors. Several of the policy options envisaged carry significant risks of creating unintended opportunities for ITF.

In general, the increased quality and number of investigations, checks, controls, and transnational cooperation may impact on the *modi operandi* of criminals in the firearms market. In addition, the sudden introduction of restrictions and prohibitions on highly demanded firearms could trigger a new black market to meet the demand.

Some elements will reduce crime risks: for instance, the implementation of further coordination in the law enforcement activities among MSs, and the adoption of common harmonised rules on marking and deactivation standards.

Further research and investigation are therefore recommended in order to improve the level of the legislation.

PART III. Recommendations on how to improve the prevention of and fight against ITF

Part III provides some recommendations on how to fight against and prevent ITF. It identifies the main ITF-related issues, and for each of them it specifies at which levels – of policy, legislation, enforcement, and research – it impacts.

All the issues and the recommendations derive from the interviews with experts (academics and researchers, law enforcement agents, and prosecutors), the review of the regulation, and the crime proofing analysis of the 2015 EC Proposal for amending the Firearms Directive.



10. Recommendations

1. Prioritizing ITF and firearm-related crimes

ITF has long been regarded a side issue incidental to other forms of crime. As an internal security threat in its own right, it has not received proper prioritization in the past. However, the supply of illicit firearms has recently started to gain more prominence on the European security agenda. In 2013, the EU council identified ITF – and generally reducing the risk of firearms to its citizens – as one of nine priority areas in the fight against serious and organised crime between 2014 and 2017 (EU policy cycle for organised and serious international crime). Since then, repeated terrorist attacks and other high-profile shootings have further highlighted the severe threat that firearms pose if employed for illicit purposes.

Policy level: ITF has long lacked proper prioritization on the policy agendas of both the EU and most of its MSs. The general lack of attention paid to the issue has trickled down to other levels and institutions, e.g. lawmakers, law enforcement agencies, and researchers.

Legislative level: Current legal frameworks on ITF do not sufficiently correspond to the complexity of the problem. Lack of prioritization means that the EU's and many MS' legislations in the field are outdated.

Enforcement level: The illicit use of firearms ranges across different contexts and crimes, for example organised crime, terrorism and interpersonal violence. Disregard of ITF as an internal security threat in its own right has led to a lack of prioritization in investigative and intelligence terms. When crimes involving illicit firearms occur, the rigorous investigation of the firearm's origin and the route that it followed before being acquired often receives less priority than other aspects of the crime in question.

Research level: The general lack of attention to ITF and other firearm-related crimes has led to a scarcity of European research in the field.

RECOMMENDATION: EU and MSs should continue to prioritise ITF and acknowledge it as an internal security threat in its own right, besides its relation with violent crime and violent extremism. Improvements to the legal framework should be continuously considered. Constant police attention and future research on the issue should be promoted. They should include, among other things, the systematic collection and sharing of data on firearms and ITF. Continuous research on ITF and other firearm-related crimes in the EU should be fostered.

2. Legislative harmonisation, coordinated implementation, and closure of legal loopholes

Despite existing EU legislation in the field, national legal frameworks addressing ITF lack harmonization and coordinated implementation. This includes, for example, the unequal punishment of both criminal and administrative offences relating to firearms possession and trafficking, but also other phenomena relevant to ITF, for example firearm conversion and the sale of firearms online.

Policy level: As far as ITF is concerned, not all policymakers and relevant stakeholders are committed to finding a harmonised European approach. The implementation of relevant EU law into national legislations is not sufficiently coordinated.

Legislative level: The legal framework for countering ITF is scattered. EU legislation in the field provides too much leeway for interpretation when being transposed into national laws. Legislative efforts at national levels are not sufficiently coordinated among MSs. Current legal frameworks contain loopholes that provide opportunities for criminals.

Enforcement level: Differences among MSs in legal definitions cause obstacles to cross-border collaboration and investigations.

Research level: Differences in legal definitions hinder a unified approach to data collection. This impedes a common problem definition and effective comparative research on the phenomenon.

RECOMMENDATION: Loopholes resulting from a lack of legislative harmonization and insufficiently coordinated implementation of EU law should be closed. Future EU legislation in the field should aim to reach a high degree of harmonization. This regards the punishment of both criminal and administrative offences, as well as other activities relevant to ITF, for example firearm conversion and cyber-related phenomena. MSs should more closely coordinate the implementation of EU legislation in the field and commit to a compliant and timely transposition. EU law should be oriented to a high level of technical detail, and its implementation should be steered by benchmarks based on best practices identified in national legislations (the 2015 EU Deactivation Regulation is a virtuous example in this regard).

3. Firearm conversion

Seizures of converted gas, replica and blank-firing firearms have increased in the past two decades, indicating that converted firearms have become an important source of illicit firearms. Police forces report that criminals increasingly choose converted firearms to carry out illicit activities.

Legislative level: Legislation in the field is not sufficiently harmonised. MSs have adopted different standards for the production of replica guns, blank-firing firearms and gas pistols. MSs also employ different criteria as to what guns they consider convertible.

Enforcement level: The proper identification and classification of converted firearms poses a problem for LEAs. Depending on the type of the original firearm and the quality of its conversion, converted firearms may be hard to distinguish from genuine ones. The problem is typically confined to first-stage assessments by non-forensic personnel, but it is often exacerbated by disconnections in the investigative chain between police officers and forensic experts.

Research level: Differences in defining convertible and converted firearms, and problems in properly identifying and classifying them, have led to inconsistent and hardly comparable information on the extent of the problem. Research on firearm conversion is therefore scarce.

RECOMMENDATION: The EU and MSs should commit to a harmonised implementation of the definition of convertible and converted firearms and establish best practices in countering firearm conversion. Knowledge on which firearms are converted, and how, should be shared in the form of dedicated databases. Moreover, best practices should address forensic and investigative techniques. Proper police training in recognizing converted firearms should be promoted. The aim should be to overcome disconnections in the investigative chain between police officers and forensic professionals. The latter should also be added to existing expert circles on firearms at EU level. Data on converted firearms should be gathered systematically. Research on firearm conversion should be fostered.

4. Firearm deactivation

Reactivation of previously deactivated firearms is an important source of illicit firearms in the EU. The issue remains critical, despite adoption in 2015 of the EU Commission's Implementing Regulation establishing common guidelines on deactivation standards and techniques for ensuring that deactivated firearms are rendered irreversibly inoperable.

Legislative level: Current EU legislation in the field gives MSs too much leeway in implementing common guidelines on the deactivation of firearms. There is insufficient coordination among MSs in establishing common technical definitions of firearm deactivation.

Enforcement level: Police and other LEAs report difficulties in identifying and classifying reactivated firearms. Once reactivated firearms are identified, also their traceability is a matter of concern.

Research level: Differences in defining irreversible deactivation, and problems in properly identifying and classifying reactivated firearms have led to inconsistent and hardly comparable information on the extent of the problem. Research on firearms reactivation is therefore scarce.

RECOMMENDATION: The EU and MSs should commit to a harmonised implementation of the common deactivation guidelines. MSs should commit to a coordinated approach in identifying best deactivation

practices and defining technical specifications of firearm deactivation. They should consider whether provisions on the marking of deactivated firearms as set out in the common guidelines could be made retroactively applicable, i.e. to firearms that have been deactivated prior to the entry-into-force of the common guidelines.

5. Firearm tracing, record keeping, and exchange of information

As durable goods, firearms constantly feed into the illegal gun market, and they may circulate among end users for decades. The EU lacks a common approach to collecting and sharing data on firearms, i.e. a comprehensive firearm marking and tracing system extending to the entire life cycles of firearms as well as to their essential parts and components.

Legislative level: Current EU legislation gives too much leeway to MSs in how marking and record keeping requirements are implemented. Furthermore, requirements do not currently cover the entire lifecycle of firearms (until their permanent destruction); nor do they address deactivated firearms and essential firearm parts and components.

Enforcement level: Prosecutorial services and LEAs report difficulties in tracing firearms due to the limited interoperability of national record-keeping systems or the absence or insufficient collection of appropriate data. Databanks are scattered across different information systems, both within and between MSs. This hinders the effective exchange of information.

Research level: The absence of a comprehensive and EU-wide firearms marking and tracing system makes it extremely difficult to collect data on illicit firearms flows, ITF and other firearm-related crimes in the EU. Also the absence of a common mechanism to collect statistical data from MSs and make it available to the public severely impedes research in the field.

RECOMMENDATION: The EU should establish a unique marking system based on the model provided by the permanent international commission for firearms testing (C.I.P). On the basis of such

a marking system, the EU should develop a comprehensive tracing and record-keeping system accessible to, shared among, and properly used by MS LEAs and beyond. Records should contain information on the entire life cycle of firearms and also cover parts and components as well as deactivated firearms. No time limits on record-keeping should apply. With a view to defining the exact layout and contents of a comprehensive firearms marking and tracing system, future research in the field should be fostered. Until a comprehensive marking and tracing system is established, available information from the MSs should be gathered at EU level. Existing information should be stored in a detailed and disaggregated manner. It should be made available for research purposes and shared with relevant non-governmental organisations and international organizations such as the UN as to further address the global dimension of illicit firearms flows.

6. International cooperation

Countering ITF plays a vital role in combatting transnational security threats in general, and organised crime and terrorism in particular. Besides threatening the internal security of the EU, ITF poses a global threat to security. The UN 2030 Agenda for Sustainable Development identifies the reduction of illicit arms flows as vital for the creation of peaceful and inclusive societies (United Nations General Assembly 2015). Internationally coordinated initiatives to counter illicit firearms flows require continuous attention and a harmonised approach that integrates the internal and external dimensions of European security.

Policy level: Legislation relevant to countering ITF is dispersed across national, European and international levels, and it exhibits a strong divide between internal and external security dimensions.

Legislative level: Following the divide in policy terms, European legislation relevant to the countering of ITF has emerged as part of the MS national legislations, as well as different EU instruments on the single market, the area of freedom, security, and justice, the EU's neighbourhood policy, development cooperation and the EU's CFSP, including aspects of its Common Security and Defence Policy (CSDP).

Enforcement level: There is a lack of coordination between the activities of the EU and its MSs in countering ITF as an internal security threat and how the EU addresses the issue as part of its neighbourhood and foreign policy instruments.

RECOMMENDATION: In addressing illicit firearms flows, the EU and its MSs should aim for a high level of coordination and coherence throughout all relevant policy areas. The EU should mainstream the topic of ITF into its neighbourhood policy, foreign policy instruments and security-related development cooperation. This includes, for example, the management of stockpiles, the establishment of a global firearms marking and tracing system, police cooperation with third countries, and a harmonised approach to the export of SALW. The EU should continue to engage in regional and international initiatives to counter ITF.

7. Police and judicial cooperation

Police and prosecutorial services report problems in cooperating with their counterparts both within and outside the EU. Similarly, European and international law enforcement and prosecutorial services, i.e. Europol, Eurojust, and Interpol, encounter barriers in coordinating their activities with national and local authorities.

Policy/Legislative level: On the basis of a SOCTA conducted by Europol, the EU Council has named ITF as a priority for the 2013-2017 policy cycle for organised and serious international crime. Relevant European and national entities have been tasked with the development and implementation of a multi-annual strategic plan, as well as the European Multidisciplinary Platform Against Criminal Threats (EMPACT) project and an operational action plan to fight firearms trafficking. However, many aspects of police cooperation, both between MSs and between MSs and third countries, are non-binding and remain subject to bilateral agreements. Despite making use of Joint Investigation Teams (JIT) and general increases in the role and functioning of Europol, the EU lacks a powerful framework for cooperation between LEAs in investigative matters. Too much leeway in implementing EU legislation relevant to ITF further adds to the problem. This

regards, for example, problems in coordinating the implementation of common definitions and classification systems on firearms, firearm deactivation and converted firearms; and it results in confusion among MSs' LEAs as to what constitutes ITF according to their own national provisions.

Enforcement level: Following the EU's policy cycle for organised and serious international crime, the implementation of the operational action plan on ITF is led by Spain and facilitated by an EMPACT Support Unit at Europol. Despite these efforts, Europol, Eurojust, and MSs' LEAs and prosecutorial services face obstacles in coordinating and supporting their activities or jointly investigating ITF. This regards, among other things, the exchange of information and sharing of intelligence. Problems in police cooperation are strongly affected by the absence of a common marking and tracing system and the limited interoperability of existing databases. As far as police cooperation with third countries is concerned, MSs tend to act on the basis of bilateral agreements rather than a harmonised European approach.

Research level: Information on how, how often, and on what issues police cooperate is not commonly released to the public. The study of police cooperation and joint investigations in countering ITF is therefore limited to the study of very few examples. Typically regarding successful large-profile cases, such case studies do not provide sufficient ground for critical and comprehensive research on the issue.

RECOMMENDATION: At both European and national levels, instruments for police cooperation should be further developed, and their more frequent use should be fostered. With regard to ITF, this should also include increasing the interoperability of existing databases and the setting up of common databases. A European knowledge base dedicated to the exchange of information on investigative techniques, judicial cases and criminal profiles should be built, taking, for example, the form of common catalogues and threat assessments. The setting-up of contact points within police and prosecutorial services as well as investigative teams dedicated to ITF should be fostered by the EU. In light of the further integration of the area of freedom, security, and justice, the EU should promote discussions on the future role of Europol and Eurojust. Also

the balancing of EU-wide frameworks for police and judicial cooperation with bilateral cooperation among MSs and with third countries should be discussed in that regard. Such a discussion should be accompanied by research in the field, facilitated by making relevant information on police and judicial cooperation accessible for research purposes.

8. Training

In many MSs, police officers and public prosecutors do not receive systematic training on ITF-related issues. The lack of training links to the limited priority that ITF has received in the past.

Policy/Legislative level: The establishment of common standards in training police officers on ITF and other firearm-related offences is not being properly addressed at European level.

Enforcement level: Following the EU's policy cycle for organised and serious international crime, Spain has recently organised training sessions for police officers involved in the fight against ITF. However, there is mostly a lack of the "entry-level" training which enables common policemen to identify and classify firearms properly. This includes, for example, the distinction among "real", deactivated, and replica firearms, as well as signs indicative of the reactivation or conversion of firearms. Moreover, there is a lack of common standards in firearms forensics.

RECOMMENDATION: The EU should promote the development of common standards and continuous exchange among MSs on training policemen, forensic personnel, and prosecutors in topics relevant to ITF and other firearm-related crimes. The role of CEPOL should be strengthened in this regard. The focus should be on actionable knowledge with which to distinguish "real", deactivated and replica/blank-firing firearms, as well as to recognize signs of firearms reactivation and conversion. Attention should be paid to overcoming the investigative gaps between entry-level policing and the involvement of forensic expertise at later stages of the investigation.

9. Physical Security and Stockpile Management (PSSM)

Stockpiles are surplus storages of reserve, unsold or obsolete firearms. Different types, for example military, police, or civilian stockpiles can be distinguished. Stockpiles have different purposes and origins. Most of them are maintained for military purposes and result from armed conflicts, changes in military doctrines and the restructuring of armed forces (OSCE 2003). Many illicit firearms in the EU originate from stockpiles, especially those in Eastern and South Eastern Europe that were raided in the 1990s. Theft and diversion from stockpiles have been facilitated by improper safeguarding, neglect and corruption (Greene 2000a).

Policy/Legislative level: The majority of firearms originating from stockpiles and trafficked into the EU originate from EU-neighbouring countries. The EU addresses the issue of PSSM in adjoining and third countries as part of its neighbourhood and foreign policy instruments.

Enforcement level: Agreements on the management of stockpiles are in place. In some cases, however, they lack technical details and proper implementation. This includes, for example, requirements to carry out timely inventory procedures, as well as record-keeping and proper exchange of information between military services and LEAs both within and between countries.

RECOMMENDATION: While recognizing that stockpile management is a national prerogative, the EU should continue to address the security and safety of firearm stockpiles in third countries as part of its neighbourhood and foreign policy. Especial attention should be paid to the technical depth, proper implementation, and monitoring of agreements in the field. This regards, for example, timely inventory measures, record-keeping, exchange of information between LEAs and military services, as well as the activation of prompt recovery measures in the case of losses and/or thefts. Furthermore, the EU and its MSs should consider committing to common PSSM standards within their own jurisdictions.

10. Border protection

The issue of border protection regards both the proper protection of the EU's external borders and the balancing of the abolishment of the EU's internal borders with common security concerns. Criminals make use of routes via land, air, and sea to traffic firearms into the EU. Other factors facilitating ITF include the existence of unlicensed gun fairs in border regions. At present, the protection of the EU's external borders is neither integrated nor sufficiently based on common standards to counter those threats. Owing to their durable nature, firearms also circulate within the EU. Alternatives to border protection, i.e. intelligence-led policing and effective police cooperation, lag behind the level of integration that the EU's single market has reached with abolishment of its internal borders.

Policy/Legislative level: Despite recent decisions to augment the role of Frontex, current EU legislation does not sufficiently provide for common standards nor an integrated protection of the EU's external borders.

Enforcement level: Protection of the EU's external borders is not sufficiently effective. Alternatives to internal border protection, i.e. effective police cooperation and intelligence-led policing based on well-established frameworks to collect and exchange information between MSs, are not sufficiently developed.

Research level: There are no reporting requirements regarding firearm seizures at borders, and respective data are available for only a few EU MSs. The consequent scarcity of official data hinders effective research in the field.

RECOMMENDATION: The EU should increase control over its external borders. Regarding abolishment of its internal borders, all MSs should prioritize the countering of illicit firearms flows as important for maintaining effective control over their territories. The EU should commit to the strengthening and further development of alternatives to border control, i.e. effective police cooperation and intelligence-led policing based on well-established methods to collect and exchange information. In order to increase scientific knowledge in the field, detailed and disaggregated information on firearm seizures in border regions should be gathered at EU level and made accessible to researchers.

11. Cyber exchange markets

Electronic communication tools provide opportunities for the illicit trafficking and acquiring of firearms. This specifically regards content provided through obfuscated layers of the World Wide Web, typically denoted as the "dark web". The latter enables the anonymous exchange of information and contains a variety of illicit marketplaces on which firearms are offered and acquired.

Legislative level: Owing to the dark web's transnational nature and its relative novelty, current legislation dealing with cyber-related threats including illicit online marketplaces is not keeping pace with advances in the field of electronic communication.

Enforcement level: The policing of cyber-related threats is bounded by jurisdictional issues and the limited capacity of police forces to deal with constant technological advances.

Research level: Owing to the relative recentness of the phenomenon, the illicit exchange of firearms through marketplaces on the dark web has not yet been studied systematically.

RECOMMENDATION: As suggested by the European Commission, only registered dealers and brokers should be allowed to sell firearms online (EU Commission 2015c). The EU and its MSs should develop legislation aimed at the facilitation of police cooperation on cyber-related threats. Police forces should be trained and empowered to actively investigate and constantly monitor the exchange of firearms on darknet marketplaces. Research in the field should be fostered.

11. Conclusions

ITF undermines European security by feeding into armed violence and terrorist attacks, and by heightening insecurity in the lives of states, societies and citizens (De Martino and Atwood 2015; EU Commission 2015c; McLean, Mariani, and Vatanka 2005).

ITF in the EU is of limited extent compared with other parts of the world. Europol maintains that “trafficking occurs on a small scale” and the market for illicit firearms remains “modest in size” (Europol 2013b, 34). Nevertheless, there is a constant demand for illicit firearms.

Firearms are concealable, portable, available, cheap, and simple to use. As durable goods they can be easily sold also among end-users (Arsovska and Zabyelina 2014; Greene 2000b; Grillot 2011; Hillier and Wood 2003; Joseph and Susiluoto 2002; Spapens 2007). Moreover, firearms conversion is gaining popularity because it furnishes weapons even in those countries where controls on weapons are stringent (De Martino and Atwood 2015; De Vries 2012; EY and SIPRI 2014, 20; Ferguson and Williams 2014; Hales, Lewis, and Silverstone 2006; HM Government 2013; King 2015; Parker 2011; SEESAC 2009; Spapens 2007).

The combination of a high availability of firearms, well-established criminal activities and routes, differences in legislations across countries, insufficient controls, and scarcity of available data and research results in the proliferation of ITF. Conflicts in neighbouring areas, like the Middle East and North Africa, could also increase ITF into the EU.

UN policies give evidence of the importance of arms control for sustainable development and peace (De Martino and Atwood 2015). Goal 16 of the 2030 Agenda for Sustainable Development focuses on “[...] *peaceful and inclusive societies* [...]”, and Target 16.4 specifically intends to “[...] *significantly reduce the illicit arms flows by 2030* [...]” (United Nations General Assembly 2015).

Project FIRE has conducted an exploratory analysis of ITF dynamics in the EU. Using an innovative methodology, the results obtained from diverse

sources shed light on the main ITF-related issues: supply of and demand for illicit firearms, products most trafficked, and the routes used to move firearms. The Project has also conducted critical analysis of the 2015 EC Proposal for amending the Firearms Directive showing the vulnerability of the firearms market to illicit activities.

Despite limitations due to scant availability of information and the use of open sources, the project provided an unprecedented sub-national analysis of firearm seizures and shootings committed with illicit firearms in the 28 EU MSs. It has furnished insights into the number and types of firearms seized/used in shootings, the ITF scale, the types of criminal actors involved in this market, as well as the characteristics of people suffering from the illicit use of firearms. It has also tried to forecast the criminal opportunities associated with the last 2015 EC Proposal for amending the Firearms Directive. The final result is a series of recommendations on how to improve the prevention of and fight against ITF.

The approach taken in Project FIRE allows for a new and integrative way to address the various aspects of ITF within the broader understanding of an illicit firearms market. Given the exploratory nature of the study, however, the approach should be understood as an approximation of the phenomenon that has several limitations. These limitations regard both 1) the operationalization of demand and supply within the illicit firearms market of the EU, and 2) the reliability of the data sources (online news reports) that have been analysed. Future research in the field may elaborate on improvements to the methodology that have been applied for Project FIRE. Indeed, the hope is that improvements to the quality and availability of official data sources may render the analysis of open sources unnecessary in the future. Moreover, forthcoming studies should also take account of third countries that affect ITF in the EU as supplying or destination countries (e.g. Turkey).

For now, however, Project FIRE is a first step towards a better understanding of ITF in the EU which may prove useful to policy makers and other stakeholders in the prevention of and fight against ITF.

References

- Albertson, Kevin, and Chris Fox. 2011. *Crime and Economics: An Introduction*. New York: Routledge.
- Alvazzi del Frate, Anna, and Luigi De Martino. 2016. "A New Development Agenda: Bridging the Development–Security Divide." Research Note.
- Anastasijevic, Dejan. 2006. "Organized Crime in the Western Balkans." Ljubljana. http://www.humsec.eu/cms/fileadmin/user_upload/humsec/Workin_Paper_Series/Working_Paper_Anastasijevic.pdf.
- Arasli, Jahangir. 2007. "The Rising Wind: Is the Caucasus Emerging as a Hub for Terrorism, Smuggling, and Trafficking?" *Connections: The Quarterly Journal* 6 (1): 5–26.
- Arsovska, Jana. 2014. "Introduction: Illicit Firearms Market in Europe and Beyond." *European Journal on Criminal Policy and Research* 20 (3): 295–305.
- Arsovska, Jana, and Panos A. Kostakos. 2008. "Illicit Arms Trafficking and the Limits of Rational Choice Theory: The Case of the Balkans." *Trends in Organized Crime* 11 (4): 352–78. doi:10.1007/s12117-008-9052-y.
- Arsovska, Jana, and Yuliya G. Zabyelina. 2014. "Irrationality, Liminality and the Demand for Illicit Firearms in the Balkans and the North Caucasus." *European Journal on Criminal Policy and Research* 20 (3): 399–420.
- Beamon, Benita M. 1998. "Supply Chain Design and Analysis: Models and Methods." *International Journal of Production Economics* 55 (3): 281–94.
- Beare, Margaret E., ed. 2012. *Encyclopedia of Transnational Crime and Justice*. Thousands Oaks, CA: Sage Publications, Inc.
- Beccaria, Cesare. 1973. *Dei delitti e delle pene*. Milano: Letteratura Italiana Einaudi.
- Becker, Gary S. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy* 76 (2): 169–217.
- Bennett, Sarah, David P. Farrington, and L. Rowell Huesmann. 2005. "Explaining Gender Differences in Crime and Violence: The Importance of Social Cognitive Skills." *Aggression and Violent Behavior* 10 (3): 263–88. doi:10.1016/j.avb.2004.07.001.
- Berlinck, Deborah, and Spyros Demetriou. 2001. "Fuelling the Flames: Brokers and Transport Agents in the Illicit Arms Trade." In *Small Arms Survey 2001: Profiling the Problem*, 95–139. Geneva: Small Arms Survey.
- Berman, Eric G. 2011. "Craft Production of Small Arms." Research Note 3. Geneva: Small Arms Survey. http://www.smallarmssurvey.org/fileadmin/docs/H-Research_Notes/SAS-Research-Note-3.pdf.
- Bevan, James. 2008. "Arsenal Adrift. Arms and Ammunition Diversion." In *Small Arms Survey 2008: Risk and Resilience*. Geneva: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2008/en/Small-Arms-Survey-2008-Chapter-02-EN.pdf>.
- Biggs, Adam Arthur. 2011. "Lawmakers, Guns, & Money: How the Proposed Arms Trade Treaty Can Target Armed Violence by Reducing Small Arms & Light Weapons Transfers to Non-State Groups." *Creighton Law Review* 44: 1311.
- Birtchnell, Thomas, and Robert Gorkin. 2013. "A Violent Debate: Could Guns Be Made at Home by 3D Printers?" *The Conversation*. January 18. <http://theconversation.com/a-violent-debate-could-guns-be-made-at-home-by-3d-printers-11406>.
- BKA. 2006. "2005 Organized Crime Situation Report - Federal Republic Of Germany." Germany: Bundeskriminalamt. http://www.bka.de/nn_218776/EN/SubjectsAZ/OrganisedCrime/organisedCrime__node.html?__nnn=true.
- . 2012. "Organised Crime - National Situation Report 2011." Germany: Bundeskriminalamt. http://www.bka.de/nn_218776/EN/SubjectsAZ/OrganisedCrime/organisedCrime__node.html?__nnn=true.
- Blumstein, Alfred. 2002. "Youth, Guns, and Violent Crime." *The Future of Children* 12 (2): 39–53. doi:10.2307/1602737.
- Borov, Zaur, and Stephen R. Bowers. 2002. "Illegal Weapons Traffic in Eastern Europe." Faculty publications and presentations 22. Liberty University. <http://ohanesian.files.wordpress.com/2013/07/romania-traffic-cu-arme-busuioc.pdf>.
- Bouchard, Martin, and Chris Wilkins. 2013. "Illegal Markets and the Economics of Organized Crime." *Global Crime* 10 (1–2): 1–5.
- Brauer, Jurgen, and Small Arms Survey. 2013. *The US Firearms Industry Production and Supply*. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/publications/by-type/working-papers.html>.

- Brennan, Iain R., and Simon C. Moore. 2009. "Weapons and Violence: A Review of Theory and Research." *Aggression and Violent Behavior* 14 (3): 215 – 225.
- Brewer, Jacqueline, and Michael Miklaucic. 2013. *Convergence: Illicit Networks and National Security in the Age of Globalization*. Washington, DC, United States: Center for Complex Operations.
- Bricknell, Samantha. 2012. "Firearm Trafficking and Serious and Organised Crime Gangs." AIC Reports 116. Research and Public Policy Series. Canberra: Australian Institute of Criminology. http://www.aic.gov.au/media_library/publications/rpp/116/rpp116.pdf.
- Brömmelhörste, Jörn, Silvia Cattaneo, Centre for Analysis of Strategies and Technologies, Peter Danssaert, Adedeji Ebo, Virginia Ezell, Peter Lock, et al. 2002. "A Sick or Dying Industry? Products and Producers." In *Small Arms Survey 2002: Counting the Human Cost*. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2002/en/Small-Arms-Survey-2002-Chapter-01-EN.pdf>.
- Busuncian, Tatiana. 2007. "Terrorist Routes in South Eastern Europe." *Connections: The Quarterly Journal* 6 (1): 85–102.
- Buttin, Felix. 2007. "A Human Security Perspective on Transnistria Reassessing the Situation within the 'Black Hole of Europe.'" *Human Security Journal*, no. 3: 13–28.
- Calderoni, Francesco. 2013. "Monitoraggio dell'Economia Trentina Contro Il Rischio Criminalità - Metric." Trento: Transcrime – Università degli Studi di Trento. <http://www.transcrime.it/wp-content/uploads/2013/10/METRIC-1+21.pdf>.
- Calderoni, Francesco, Serena Favarin, Lorella Garofalo, and Federica Sarno. 2014. "Counterfeiting, Illegal Firearms, Gambling and Waste Management: An Exploratory Estimation of Four Criminal Markets." *Global Crime* 15 (1–2): 1–30. doi:10.1080/17440572.2014.883499.
- Calderoni, Francesco, Mario Maggioni, Sara Martocchia, and Ernesto U. Savona. 2006. "A Study on Crime Proofing - Evaluation of Crime Risk Implication of the European Commission's Proposals Covering a Range of Policy Areas." Transcrime - Università degli Studi di Trento - Università Cattolica del Sacro Cuore.
- Calderoni, Francesco, Ernesto U. Savona, and Serena Solmi. 2012. "Crime Proofing the Policy Options for the Revision of the Tobacco Products Directive. Proofing the Policy Options under Consideration for the Revision of EU Directive 2001/37/EC against the Risk of Unintended Criminal Opportunities." Transcrime - Università degli Studi di Trento.
- Cheloukhine, Serguei, and M. R. Haberfeld. 2011. *Russian Organized Corruption Networks and Their International Trajectories*. London: Springer Science & Business Media.
- Clinard, Marshall. 1952. *Black Market: A Study of White Collar Crime*. Montclair, N.J.: Patterson Smith.
- Cooper, Nial, William Godnick, Rafique Al Islam, Derek Miller, Gerald Steinberg, Viva Rio, and Centre for Analysis of Strategies and Technologies (CAST). 2002. "The Legal-Ilicit Link: Global Small Arms Transfers." In *Small Arms Survey 2002: Counting the Human Cost*. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2002/en/Small-Arms-Survey-2002-Chapter-03-EN.pdf>.
- Cornish, Derek. 1994. "The Procedural Analysis of Offending and Its Relevance for Situational Prevention." Monsey, NY: Criminal Justice Press. http://www.popcenter.org/library/crimeprevention/volume_03/06_cornish.pdf.
- Council of the European Union. 2016. "Policy Debate on the Draft Directive of the European Parliament and of the Council Amending Council Directive 91/477/EEC." http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CONSIL:ST_6755_2016_INIT&from=EN.
- Courtney-Green, Peter. 2009. "NATO and Demilitarization of Surplus Weapons and Ammunition." In *The Politics of Destroying Surplus Small Arms. Inconspicuous Disarmament*, edited by Aaron Karp, 15–32. New York: Routledge.
- Crowley, Michael, Roy Isbister, and Sarah Meek. 2005. "Building Comprehensive Controls on Small Arms Manufacturing, Transfer and End-Use." British American Security Information Council. http://www.saferworld.org.uk/downloads/pubdocs/Btb_brf13.pdf.
- CSES. 2014. "Study to Support an Impact Assessment on Options for Combatting Illicit Firearms Trafficking in the European Union." Brussels: Centre for Strategy & Evaluation Services. http://ec.europa.eu/dgs/home-affairs/e-library/documents/policies/organized-crime-and-human-trafficking/general/docs/dg_home_-_illicit_firearms_trafficking_final_en.pdf.
- Cukier, Wendy. 2002. "Small Arms and Light Weapons. A Public Health Approach." *The Brown Journal of World Affairs* 9 (1): 261–80.

- . 2008. "The Illicit Trade in Small Arms: Addressing the Problem of Diversion." Small Arms Working Group. <http://dspace.cigilibrary.org/jspui/bitstream/123456789/23190/1/The%20Illicit%20Trade%20in%20Small%20Arms%20Addressing%20the%20Problem%20of%20Diversion.pdf?1>.
- Cukier, Wendy, Antonio Bandeira, Rubem Fernandes, Jacob Kamenju, Adele Kirsten, Greg Puley, and Carlos Walker. 2001. "Combating the Illicit Trade in Small Arms and Light Weapons: Strengthening Domestic Regulations." BASIC, International Alert, Saferworld. <http://www.ryerson.ca/SAFER-Net/interventions/BiteAbs3.html>.
- Cuprik, Roman. 2016. "Slovakia Was a Gun Shop for Terrorists, Crooks." *The Slovak Spectator*, March 8. <https://spectator.sme.sk/c/20229910/slovakia-was-a-gun-shop-for-terrorists-crooks.html>.
- Curtis, Glenn E., and Tara Karacan. 2002. "The Nexus Among Terrorists, Narcotics Traffickers, Weapons Proliferators, and Organized Crime Networks in Western Europe." US Federal Research Division Reports. Washington, DC, United States: Federal Research Division of the Library of Congress. http://www.loc.gov/rr/frd/pdf-files/WestEurope_NEXUS.pdf.
- Davis, Ian, Chrissie Hirst, and Bernardo Mariani. 2001. "Organised Crime, Corruption and Illicit Arms Trafficking in an Enlarged EU. Challenges and Perspectives." Saferworld. <http://www.saferworld.org.uk/resources/view-resource/76-organised-crime-corruption-and-illicit-arms-trafficking-in-an-enlarged-eu>.
- De Martino, Luigi, and David Atwood. 2015. "Reducing Illicit Arms Flows and the New Development Agenda." Research Note 50. Armed Violence. Geneva: Small Arms Survey. http://www.smallarmssurvey.org/fileadmin/docs/H-Research_Notes/SAS-Research-Note-50.pdf.
- De Vries, Marsha S. 2012. "Converted Firearms: A Transnational Problem with Local Harm." *European Journal on Criminal Policy and Research* 18 (2): 205–16. doi:10.1007/s10610-011-9157-8.
- Defense Distributed. 2013. *Liberator - Dawn of the Wiki Weapons*. YouTube video. <https://www.youtube.com/watch?v=drPz6n6UXQY>.
- Depauw, Sara. 2012. *The European Union's Involvement in Negotiating an Arms Trade Treaty*. Non-Proliferation Papers No.23 December 2012. Solna: SIPRI.
- DIA. 2006. "Relazione Del Ministro dell'Interno Al Parlamento Sull'attività Svolta E Sui Risultati Conseguiti Dalla Direzione Investigativa Antimafia. Luglio - Dicembre 2005." Rome: Direzione Investigativa Antimafia - Ministero degli Interni. http://www.interno.gov.it/dip_ps/dia/semestrali/sem/2005/2sem2005.pdf.
- . 2011. "Relazione Del Ministro dell'Interno Al Parlamento Sull'attività Svolta E Sui Risultati Conseguiti Dalla Direzione Investigativa Antimafia. Luglio - Dicembre 2010." Rome: Direzione Investigativa Antimafia - Ministero degli Interni. http://www1.interno.gov.it/dip_ps/dia/semestrali/sem/2010/2sem2010.pdf.
- . 2012. "Relazione Del Ministro dell'Interno Al Parlamento Sull'attività Svolta E Sui Risultati Conseguiti Dalla Direzione Investigativa Antimafia. Luglio - Dicembre 2011." Rome: Direzione Investigativa Antimafia - Ministero degli Interni. http://www1.interno.gov.it/dip_ps/dia/semestrali/sem/2011/2sem2011.pdf.
- . 2014. "Relazione Del Ministro dell'Interno Al Parlamento Sull'attività Svolta E Sui Risultati Conseguiti Dalla Direzione Investigativa Antimafia. Luglio - Dicembre 2013." Rome: Direzione Investigativa Antimafia - Ministero degli Interni. http://www1.interno.gov.it/dip_ps/dia/semestrali/sem/2013/2sem2013.pdf.
- DNA. 2010. "Relazione Annuale Sulle Attività Svolte Dal Procuratore Nazionale Antimafia E Dalla DNA Nonché Sulle Dinamiche E Strategie Della Criminalità Organizzata Di Tipo Mafioso Nel Periodo 1 Luglio 2009 - 30 Giugno 2010." Rome: Direzione Nazionale Antimafia. http://www.casadellalegalita.info/doc/SLOT/ALLEGATO_8_Relazione-DNA-Dicembre-2010.pdf.
- . 2011. "Relazione Annuale Sulle Attività Svolte Dal Procuratore Nazionale Antimafia E Dalla DNA Nonché Sulle Dinamiche E Strategie Della Criminalità Organizzata Di Tipo Mafioso Nel Periodo 1 Luglio 2010 - 30 Giugno 2011." Rome: Direzione Nazionale Antimafia. http://www.genovaweb.org/Relazione_DNA_Dicembre_2011.pdf.
- . 2012. "Relazione Annuale Sulle Attività Svolte Dal Procuratore Nazionale Antimafia E Dalla DNA Nonché Sulle Dinamiche E Strategie Della Criminalità Organizzata Di Tipo Mafioso Nel Periodo 1 Luglio 2011 - 30 Giugno 2012." Rome: Direzione Nazionale Antimafia. http://www.stampoantimafioso.it/wp-content/uploads/2013/01/DNA_Dicembre-20121.pdf.
- Duquet, Nils, and Maarten Van Alstein. 2015a. "Firearms and Violent Deaths in Europe: An Exploratory Analysis of the Linkages Between Gun Ownership, Firearms Legislation and Violent Death." Brussels: Flemish Peace Institute. http://www.vlaamsvredesinstituut.eu/sites/vlaamsvredesinstituut.eu/files/wysiwyg/firearms_and_violent_deaths_in_europe_web.pdf.

- . 2015b. "The Strategy of the EU to Tackle the Illicit Acquisition and Possession of Firearms." Unpublished paper.
- Eavis, Paul. 2001. "The Hidden Security Threat: Transnational Organised Criminal Activity." *The RUSI Journal* 146 (6): 45–50. doi:10.1080/03071840108446719.
- Edwards, Adam, and Pete Gill. 2002. "Crime as Enterprise? – The Case of `transnational Organised Crime`." *Crime, Law and Social Change* 37 (3): 203–23.
- EU. 1957. "Common Commercial Policy." European Union. http://europa.eu/legislation_summaries/institutional_affairs/treaties/amsterdam_treaty/a20000_en.htm.
- . 2008. "2008/51/EC Directive Amending Council Directive 91/477/EEC on Control of the Acquisition and Possession of Weapons." European Union. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:179:0005:0011:EN:PDF>.
- EU Commission. 2013a. "Firearms in the European Union. Flash Eurobarometer 383." Brussels: European Commission. http://ec.europa.eu/public_opinion/flash/fl_383_en.pdf.
- . 2013b. "COM[2013] 716 Firearms and the Internal Security of the EU: Protecting Citizens and Disrupting Illegal Trafficking." European Commission. <http://old.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0716:FIN:EN:PDF>.
- . 2015a. "Commission Proposals to Strengthen Control of Firearms: Questions & Answers." http://europa.eu/rapid/press-release_MEMO-15-6111_en.htm.
- . 2015b. "European Commission Strengthens Control of Firearms across the EU." http://europa.eu/rapid/press-release_IP-15-6110_it.htm.
- . 2015c. "Proposal for a Directive of the European Parliament and of the Council Amending Council Directive 91/477/EEC on Control of the Acquisition and Possession of Weapons." European Commission. <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-750-EN-F1-1.PDF>.
- . 2015d. "Report from the Commission to the European Parliament and the Council Evaluation of Council Directive 91/477/EC of 18 June 1991, as Amended by Directive 2008/51/EC of 21 May 2008, on Control of the Acquisition and Possession of Weapons." European Commission. <https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-751-EN-F1-1.PDF>.
- . 2015e. "Commission Implementing Regulation (EU) 2015/2403 of 15 December 2015 Establishing Common Guidelines on Deactivation Standards and Techniques for Ensuring That Deactivated Firearms Are Rendered Irreversibly Inoperable." Official Journal of the European Union. http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2015.333.01.0062.01.ENG.
- EU Council. 1991. "1991/477/EEC Control of the Acquisition and Possession of Weapons." Council of Europe. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31991L0477&from=en>.
- . 2015. "Conclusions of the Council of the EU and of the Member States Meeting within the Council on Counter-Terrorism." <http://www.consilium.europa.eu/en/press/press-releases/2015/11/20-jha-conclusions-counter-terrorism/>.
- European Commission. 2016. "Trafficking in Firearms." http://ec.europa.eu/dgs/home-affairs/what-we-do/policies/organized-crime-and-human-trafficking/trafficking-in-firearms/index_en.htm.
- European Parliament. 2016a. "Crime Prevention: Experts Speak out on New Gun Control Rules - European Parliament Article." European Parliament.
- . 2016b. "Briefing - EU Legislation in Progress - Control of the Acquisition and Possession of Weapons - European Parliament." European Union.
- Europol. 2005. "2005 EU Organised Crime Report. Public Version." The Hague: Council of the European Union. <https://www.europol.europa.eu/sites/default/files/publications/eu-organisedcrimereport2005.pdf>.
- . 2011. "OCTA 2011. EU Organised Crime Threat Assessment." European Police Office. <https://www.europol.europa.eu/sites/default/files/publications/octa2011.pdf>.
- . 2013a. "Italian Organised Crime - Threat Assessment." The Hague: Europol. https://www.europol.europa.eu/sites/default/files/publications/italian_organised_crime_threat_assessment_0.pdf.
- . 2013b. "SOCTA 2013. EU Serious and Organized Crime Threat Assessment." The Hague: European Police Office. <https://www.europol.europa.eu/sites/default/files/publications/socta2013.pdf>.

- . 2015. "Exploring Tomorrow's Organised Crime." The Hague: Europol. <https://www.europol.europa.eu/sites/default/files/edi/EuropolReportDigitalCove.html>.
- EY, and SIPRI. 2014. "Study to Support an Impact Assessment on a Possible Initiative Related to Improving Rules on Deactivation, Destruction and Marking Procedures of Firearms in the EU, as Well as on Alarm Weapons and Replicas." Brussels: SIPRI. http://ec.europa.eu/dgs/home-affairs/e-library/documents/policies/organized-crime-and-human-trafficking/general/docs/dg_home_ia_firearms_deactivation_final_en.pdf.
- Faltas, Sami. 2009. "Bulgaria and Romania: Quick Start, Ambiguous Progress." In *The Politics of Destroying Surplus Small Arms. Inconspicuous Disarmament*, edited by Aaron Karp, 81–106. New York: Routledge.
- FEDPOL. 2012. "Rapporto Annuale 2011. Lotta Della Confederazione Contro La Criminalità." Bern: Ufficio Federale di Polizia. <http://www.fedpol.admin.ch/dam/data/sicherheit/jb/jabe-2011-i.pdf>.
- . 2013. "Rapporto Annuale 2012. Lotta Della Confederazione Contro La Criminalità." Bern: Ufficio Federale di Polizia. <http://www.fedpol.admin.ch/dam/data/sicherheit/jb/jabe-2012-i.pdf>.
- Ferguson, Jonathan. 2014. *3D Printed Firearms: An Introduction*. Research Note 4. Unpublished paper.
- Ferguson, Jonathan, and Paul Williams. 2014. "Converted Firearms. Conversion of Blank Firing Weapons and of Semi-Automatic Weapons to Automatic Weapons. A Background Report from Armament Research Services." Churchlands, Australia: Armament Research Services.
- Florquin, Nicolas. 2002. "The Nature and Extent of Trafficking in Small Arms and Light Weapons with a Focus on Organized Crime." In *International Conference on "Trafficking. Networks and Logistics of Transnational Crime and International Terrorism*. Courmayeur Mont Blanc, Italy: International Scientific and Professional Advisory Council of the United Nations Crime Prevention and Criminal Justice Programme (ISPAC). <http://ispac.cnpds.org/publications-16-trafficking-networks-and-logistics-of-transnational-crime-and-international-16.html>.
- . 2011. "A Booming Business. Private Security and Small Arms." In *Small Arms Survey 2011: State of Security*. Gene: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2011/en/Small-Arms-Survey-2011-Chapter-04-EN.pdf>.
- Foster, Katelyn. 2012. "Croatia: Corruption, Organized Crime and the Balkan Route." Adriatic Institute for Public Policy. <http://adriaticinstitute.org/?action=article&id=32>.
- Glatz, Anne-Kathrin, and Lora Lumpe. 2007. "Probing the Grey Area: Irresponsible Small Arms Transfers." In *Small Arms Survey 2007: Guns and the City*, 73–115. Geneva: Small Arms Survey.
- Gobinet, Pierre. 2011a. "Procurement and Policy. Police Use of Emerging Weapons Technology." In *Small Arms Survey 2011: State of Security*. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2011/en/Small-Arms-Survey-2011-Chapter-03-EN.pdf>.
- . 2011b. "Significant Surpluses: Weapons and Ammunition Stockpiles in South-East Europe." Small Arms Survey - Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/C-Special-reports/SAS-SR13-Significant-Surpluses.pdf>.
- Gobinet, Pierre, and Jovana Carapic. 2015. "Less 'Bang' for the Buck: Stockpile Management in South-East Europe." In *Small Arms Survey 2015: Weapons and the World*. Geneva: Small Arms Survey, Graduate Institute of International and Development Studies.
- Greene, Owen. 2000a. "Stockpile Security and Reducing Surplus Weapons." Briefing 3. Biting the Bullet. Saferworld. <http://www.smallarmssurvey.org/fileadmin/docs/L-External-publications/2000/2000%20BtB%20stockpile%20security.pdf>.
- . 2000b. "Examining International Responses to Illicit Arms Trafficking." *Crime, Law and Social Change* 33 (1–2): 151–90. doi:10.1023/A:1008398420612.
- Griffiths, Hugh. 2008. "Serbia: Choosing Between Profit and Security." *Contemporary Security Policy* 29 (1): 175–201. doi:10.1080/13523260802131244.
- Griffiths, Hugh, and Aaron Karp. 2009. "Ukraine: Copying with Post-Soviet Legacies." In *The Politics of Destroying Surplus Small Arms. Inconspicuous Disarmament*, edited by Aaron Karp, 207–34. New York: Routledge.
- Grillot, Suzette R. 2011. "Global Gun Control: Examining the Consequences of Competing International Norms." *Global Governance: A Review of Multilateralism and International Organizations* 17 (4): 529–55. doi:10.5555/1075-2846-17.4.529.

- Hales, Gavin, Chris Lewis, and Daniel Silverstone. 2006. "Gun Crime: The Market in and Use of Illegal Firearms." 298. Home Office Research Study. London: Home Office Research, Development and Statistics Directorate. http://www.ligali.org/pdf/home_office_gun_crime_the_market_in_and_use_of_illegal_firearms.pdf.
- Hau, Lee, and Seungjin Whang. 2002. "The Impact of the Secondary Market on the Supply Chain." *Management Science* 48 (6): 719–31.
- Hillier, Debbie, and Brian Wood. 2003. "Shattered Lives: The Case for Tough International Arms Control." Oxfam. <http://www.pircenter.org/media/content/files/11/13639326530.pdf>.
- HM Government. 2013. "Serious and Organised Crime Strategy." London: HM Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/248645/Serious_and_Organised_Crime_Strategy.pdf.
- . 2015. "The Serious and Organised Crime Strategy: Annual Report for 2014." London: HM Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/415753/soc_strategy_annual_report_for_2014.pdf.
- Howard, Russell D., and Colleen Traughber. 2014. "The Nexus of Extremism and Trafficking: Scourge of the World or So Much Hype?" JSOU Press. http://jsou.socom.mil/JSOU%20Publications/13-6_Howard_Nexus_FINAL.pdf.
- Howard, Russell D., and Colleen M. Traughber. 2007. "The Routes of Terrorism and Trafficking from Central Asia to Western Europe." *Connections: The Quarterly Journal* 6 (1): 1–4.
- Huggler, Justin. 2016. "Calls for EU-Wide Gun Law as Munich Killer 'Buys Glock 9mm on Dark Web.'" *The Telegraph*, July 24. <http://www.telegraph.co.uk/news/2016/07/24/calls-for-eu-wide-gun-law-as-munich-killer-buys-glock-9mm-on-dar/>.
- Iadeluca, Fabio. 2012. *La criminalità mafiosa straniera in Italia. Le mafie straniere nel nostro Paese: struttura criminale, attività illecite, alleanze*. 1st ed. Roma: Armando Curcio editore.
- Jaeger, Conrad. 2012. *Enter the Darknet*. London: Smashwords. <http://www.barnesandnoble.com/w/enter-the-dark-net-the-internets-greatest-secret-conrad-jaeger/1115334634?ean=2940045062473>.
- Jenzen-Jones, Nic R. 2015. "Small Arms and Additive Manufacturing: An Assessment of 3D-Printed Firearms, Components, and Accessories." In *Behind the Curve: New Technologies, New Control Challenges*, edited
- by Glenn McDonald and Benjamin King. Occasional Paper 32. Geneva, Switzerland: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/B-Occasional-papers/SAS-OP32-Behind-the-Curve.pdf>.
- Joseph, Kate, and Taina Susiluoto. 2002. "A Role for Verification and Monitoring in Small Arms Control?" In *Verification Yearbook 2002*. London, United Kingdom: Verification Research, Training and Information Centre (VERTIC). <http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=13538>.
- Karp, Aaron. 2004. "From Chaos to Coherence? Global Firearms Stockpiles." *Small Arms Survey*, 71.
- . 2008. "A Semi-Automatic Process? Identifying and Destroying Military Surplus." In *Small Arms Survey 2008: Risk and Resilience*. Geneva: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2008/en/Small-Arms-Survey-2008-Chapter-03-EN.pdf>.
- . 2009. "Introduction: Inconspicuous Disarmament." In *The Politics of Destroying Surplus Small Arms. Inconspicuous Disarmament*, edited by Aaron Karp, 1–14. New York: Routledge.
- . 2011. "Estimating Civilian Owned Firearms." *Small Arms Survey Research Notes*, no. 9.
- Kasprzak, Jerzy. 2013. "Scope of Illegal Possession of Weapons in Poland and Character Study of a Perpetrator of This Crime." *The Central European Journal of Social Sciences and Humanities* 5 (1): 147–58.
- Killias, Martin, and Nora Markwalder. 2012. "Firearms and Homicide in Europe." In *Handbook of European Homicide Research*, edited by Marieke C. A. Liem and William Alex Pridemore, 261–72. Springer New York. http://link.springer.com/chapter/10.1007/978-1-4614-0466-8_16.
- Killicoat, Phillip. 2006. "Weaponomics: The Economics of Small Arms." Working Paper 257. Oxford: Centre for the Study of African Economies. <http://www.csae.ox.ac.uk/workingpapers/pdfs/2006-13text.pdf>.
- King, Benjamin. 2015. "From Replica to Real. An Introduction to Firearms Conversions." Issue Brief. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/G-Issue-briefs/SAS-IB10-From-Replica-to-Real.pdf>.

- Kinsella, David. 2014. "Illicit Arms Transfers to Africa and the Prominence of the Former Soviet Bloc: A Social Network Analysis." *Crime, Law and Social Change* 62 (5): 523–547.
- Kleemans, Edward. 2004. "Crossing Borders: Organised Crime in the Netherlands." In *Organised Crime in Europe*, edited by Dr Cyrille Fijnaut and Dr Letizia Paoli, 303–31. Studies Of Organized Crime 4. Springer Netherlands. http://link.springer.com/chapter/10.1007/978-1-4020-2765-9_11.
- KLPD. 2011. "The 'Ndrangheta in the Netherlands: The Nature, Criminal Activities and Modi Operandi on Dutch Territory." Amsterdam: National Crime Squad National - Police Agency of the Netherlands.
- KLPD - IPOL. 2009. "National Threat Assessment 2008. Organised Crime." Zoetermeer, Netherlands: Korps Landelijke Politiediensten - IPOL Department. http://www.politie.nl/binaries/content/assets/politie/documenten-algemeen/publicaties-archief/2008_ndb2008_georganiseerde_criminaliteit_engels.pdf.
- Krause, Keith. 2000. "Small Arms and Light Weapons: Proliferation Processes and Policy Options." Department of Foreign Affairs and International Trade. <http://www.international.gc.ca/arms-armes/assets/pdfs/krause2000.pdf>.
- Krunoslav, Antoliš. 2007. "Smuggling in South Eastern Europe." *Connections: The Quarterly Journal* 6 (1): 71–84.
- Kryvonos, Yuriy, and Elli Kytomaki. 2009. "The OCSE Experience with Surplus Small Arms and Ammunition." In *The Politics of Destroying Surplus Small Arms. Inconspicuous Disarmament*, edited by Aaron Karp, 33–54. New York: Routledge.
- Lakomaa, Erik. 2015. "Safe Storage and Thefts of Firearms in Sweden: An Empirical Study." *European Journal of Criminology* 12 (1): 3–16. doi:10.1177/1477370814543155.
- Landesco, John. 1932. "Prohibition and Crime." American Academy of Political and Social Science. <http://www.jstor.org/stable/1017691>.
- Lavorgna, Anita, Robert Lombardo, and Anna Sergi. 2013. "Organized Crime in Three Regions: Comparing the Veneto, Liverpool, and Chicago." *Trends in Organized Crime*, February, 265–85. doi:10.1007/s12117-013-9189-1.
- Lee, Rensselaer. 1994. "The Organized Crime Morass in the Former Soviet Union." *Demokratizatsiya* 2 (3): 392–411.
- Levitt, Steven D., and Thomas J. Miles. 2006. "Economic Contributions to the Understanding of Crime." *Annual Review of Law and Social Science* 2 (1): 147–64.
- Louwage, Florent E. 1951. "Delinquency in Europe after World War II." *Journal of Criminal Law, Criminology and Police Science* 42: 53–56.
- Marsh, Nicholas. 2002. "Two Sides of the Same Coin? The Legal and Illegal Trade in Small Arms." *The Brown Journal of World Affairs* 9 (1): 217–28.
- . 2015. "Role of Firearms in Cross-National Variations in Homicide." In "Gun and Governance Seminar". Brussels, 25th March 2015.
- Massari, Monica. 2013. "Guns in the Family. Mafia Violence in Italy." In *Small Arms Survey 2013: Everyday Dangers*. Small Arms Survey. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2013/en/Small-Arms-Survey-2013-Chapter-4-EN.pdf>.
- McDonald, Glenn. 2008. "Who's Buying? End-User Certification." In *Small Arms Survey 2008: Risk and Resilience*. Geneva: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2008/en/Small-Arms-Survey-2008-Chapter-05-EN.pdf>.
- McGowan, Scott. 2013. "World's First 3D Printed Metal Gun Manufactured by Solid Concepts." *Solid Concepts Inc*. <https://www.solidconcepts.com/news-releases/worlds-first-3d-printed-metal-gun-manufactured-solid-concepts/>.
- McLean, Andy, Bernardo Mariani, and Alex Vatanka. 2005. "Enhancing EU Action to Prevent Illicit Small Arms Trafficking." Background paper. Geneva: United Nations Institute for Disarmament Research. http://www.unidir.org/pdf/EU_background_papers/EU_BGP_04.pdf.
- Moore, Mark H. 1981. "Keeping Handguns from Criminal Offenders." *Annals of the American Academy of Political and Social Science* 455 (May): 92–109.
- Nadeau, Barbie Latza. 2016. "Italian Mob Trades Weapons for Looted Art From ISIS in Libya." *The Daily Beast*, October 18. <http://www.telegraph.co.uk/news/2016/07/24/calls-for-eu-wide-gun-law-as-munich-killer-buys-glock-9mm-on-dar/>.
- Naylor, R. T. 1997. "The Rise of the Modern Arms Black Market and the Fall of Supply-Side Control." In *Society Under Siege*, edited by V. Gamba, 1:43–72. Crime, Violence and Illegal Weapons. <http://issafrica.s3.amazonaws.com/site/uploads/SNAYLOR.PDF>.

- OSCE. 2003. "Handbook of Best Practices on Small Arms and Light Weapons." Organization for Security and Co-operation in Europe. <http://www.osce.org/fsc/13616>.
- Paoli, Letizia. 2013. "The Integration of the Italian Crime Scene." In *Crime, Criminal Law and Criminal Justice in Europe: A Collection in Honour of Prof. Em. Dr. Dr. H.c. Cyrille Fijnaut*, edited by Hans-Jörg Albrecht and André Klip, 3–41. Leiden: Nijhoff.
- Parente, Mario. 2010. "L'Arma dei Carabinieri e le attività di prevenzione e repressione delle organizzazioni criminali." *Rivista di Criminologia, Vittimologia e Sicurezza* 4 (1): 13–22.
- Parker, Sarah. 2011. "Balancing Act. Regulation of Civilian Firearm Possession." In *Small Arms Survey 2011: State of Security*. Geneva: Small Arms Survey, Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2011/en/Small-Arms-Survey-2011-Chapter-09-EN.pdf>.
- Peterson, Barry. 2012. "The Black and Gray Market Arms Trade in Support of Insurgencies." Intelligence and National Security Studies. The University of Texas–El Paso.
- Pierre, Andrew J. 2014. *The Global Politics of Arms Sales*. Princeton University Press.
- Polisen. 2015. "Så Blev Resultatet Av Vapenamnestin 2013." None. Polisen. Accessed June 10. <http://polisen.se/Aktuellt/Nyheter/Gemensam/2014/dec/4-automatkarbiner-och-4-kulsprutegevar/>.
- Pyadushkin, Maxim, Maria Haug, and Anna Matveeva. 2003. "Beyond the Kalashnikov: Small Arms Production, Exports, and Stockpiles in the Russian Federation." Small Arms Survey - Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/B-Occasional-papers/SAS-OP10-Russia.pdf>.
- Quirico, Domenico. 2016. "Arte Antica in Cambio Di Armi, Affari D'oro in Italia per L'asse Fra Isis E 'Ndrangheta." *La Stampa*, October 16. <http://www.lastampa.it/2016/10/16/esteri/arte-antica-in-cambio-di-armi-affari-doro-in-italia-per-lasse-fra-isis-e-ndrangheta-x9uX3cnjg6B3Bhble4nTKK/pagina.html>.
- Reeve, Roy. 2012. "Still Time to Act: Rising Conflict Fears in Kosovo." Saferworld Reports. London, United Kingdom: Saferworld. http://reliefweb.int/sites/reliefweb.int/files/resources/Kosovo-%20Still_time_to_act.pdf.
- Reuter, Peter. 1985. "Organization of Illegal Markets. An Economic Analysis." Washington, DC: National Institute of Justice - U.S. Department of Justice. <https://www.ncjrs.gov/pdffiles1/Digitization/97687NCJRS.pdf>.
- Roper, Steven D. 2001. "Regionalism in Moldova: The Case of Transnistria and Gagauzia." *Regional & Federal Studies* 11 (2): 101–22.
- Roselius, Ted, and Douglas Benton. 1973. "Marketing Theory and the Fencing of Stolen Goods." *Denver Law Journal* 50: 177–205.
- Ruggiero, Vincenzo. 1997. "Criminals and Service Providers: Cross-National Dirty Economies." *Crime, Law and Social Change* 28 (1): 27–38.
- Ryabikhin, Leonid, and Jevgenia Viktorova. 2004. "Weapons Transfers as a Soft Security Issue in Eastern Europe: Legal and Illicit Aspects." *European Security* 13 (1): 73–93. doi:10.1080/09662830490484818.
- Rynn, Simon, Philip Gounev, and Thomas Jackson. 2005. "Taming the Arsenal: Small Arms and Light Weapons in Bulgaria." Report. South Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons. <http://dSPACE.cigilibrary.org/jspui/handle/123456789/15032>.
- Sagramoso, Domitilla. 2001. "The Proliferation of Illegal Small Arms and Light Weapons in and around the European Union. Instability, Organised Crime and Terrorist Groups." Saferworld Reports. Saferworld. <http://www.isn.ethz.ch/Digital-Library/Publications/Detail/?ots591=0c54e3b3-1e9c-be1e-2c24-a6a8c7060233&lng=en&id=10251>.
- Savona, Ernesto U. 2006. "The Crime Risk Assessment Mechanism (CRAM) for Proofing EU and National Legislation against Crime. Final Report of Project MARC - Developing Mechanisms for Assessing the Risk of Crime due to Legislation and Products in Order to Proof Them against Crime at an EU Level." Università Cattolica del Sacro Cuore and Transcrime.
- Savona, Ernesto U., and Michele Riccardi. 2015. "From Illegal Markets to Legitimate Businesses: The Portfolio of Organised Crime in Europe. Final Report of Project OCP - Organised Crime Portfolio." Trento: Transcrime - Università degli Studi di Trento.
- Schelling, Thomas C. 1967. "Economics and Criminal Enterprise." *The Public Interest* 7: 61–78.
- Schroeder, Matt, Helen Close, and Chris Stevenson. 2008. "Deadly Deception. Arms Transfer Diversion." In *Small Arms Survey 2008: Risk and Resilience*. Geneva: Small Arms Survey, Graduate

- Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2008/en/Small-Arms-Survey-2008-Chapter-04-EN.pdf>.
- Schroeder, Matt, and Benjamin King. 2012. "Surveying the Battlefield. Illicit Arms in Afghanistan, Iraq, and Somalia." In *Small Arms Survey 2012: Moving Targets*. Geneva: Small Arms Survey. <http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2012/eng/Small-Arms-Survey-2012-Chapter-10-EN.pdf>.
- SEESAC. 2003. "Cross Border Trafficking in South Eastern Europe. Assessing Trafficking Activities in the Southern Adriatic Region." Belgrade: SEESAC Publications. <http://www.seesac.org/res/files/publication/392.pdf>.
- . 2006. "SALW Survey of Kosovo." Belgrade, Serbia: SEESAC Publications. http://mercury.ethz.ch/serviceengine/Files/ISN/25372/ipublicationdocument_singledocument/cbf5f702-2ec9-4ac6-897b-425431303242/en/SALW+Survey+of+Kosovo.pdf.
- . 2009. "Convertible Weapons in the Western Balkans." Belgrade, Serbia: SEESAC Publications. http://www.seesac.org/f/docs/SALW-Marking-and-Tracing-2/Convertible-Weapons-in-the-Western-Balkans-EN_1.pdf.
- . 2010. "SALW in South Eastern Europe. Parliamentary Handbook 2010." Belgrade: SEESAC. <http://www.seesac.org/res/files/publication/349.pdf>.
- Seniora, Jihan, and Cédric Poitevin. 2010. "Managing Land Borders and the Trafficking of Small Arms and Light Weapons." GRIP. <http://www.poa-iss.org/KIT/2010-GRIP-Report-EN.pdf>.
- Simon, Herbert. 1957. "A Bounded-Rationality Model of Rational Choice." In *Models of Man, Social and Rational: Mathematical Essays on Rational Human Behavior in a Social Setting*. New York: Wiley & Sons.
- Soccoja, Pierre-Christian. 2009. "Trafic D'armes En Provenance Des Balkans Occidentaux." Cahiers de La Sécurité. Ministère de l'Intérieur. <http://www.ambafrance-hr.org/IMG/pdf/Soccoja-2.pdf>.
- Spapens, Toine. 2007. "Trafficking in Illicit Firearms for Criminal Purposes within the European Union." *European Journal of Crime, Criminal Law and Criminal Justice*, 359–381.
- Stohl, Rachel J. 2004. "The Tangled Web of Illicit Arms Trafficking." In *Terror in the Shadows*. Center for American Progress. http://www.pogoarchives.org/strauss/cdi_archive/terrorinshadows-stohl-2004.pdf.
- Sutherland, Edwin H. 1940. "White-Collar Criminality." *American Sociological Review* 5 (1): 1–12.
- Technopolis, EY, and VVA. 2014. "Evaluation of the Firearms Directive. Full Report." Brussels: Technopolis. <http://ec.europa.eu/DocsRoom/documents/8385/attachments/4/translations/en/renditions/native>.
- Tessman, Kristin Ashley. 2014. "A Bright Day For the Black Market: Why Council Directive 2008/51/EC Will Lose the Battle against Illicit Firearm Trade in the European Union." *Georgia Journal of International and Comparative Law* 38 (September): 237–64.
- Thachuk, Kimberley, and Karen Saunders. 2014. "Under the Radar: Airborne Arms Trafficking Operations in Africa." *European Journal on Criminal Policy and Research* 20 (3): 361–78. doi:10.1007/s10610-014-9247-5.
- The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). 2013. *ATF Test of 3-D Printed Firearm Using VisiJet Material (Side View)*. YouTube video. <https://www.youtube.com/watch?v=ZL7y3YNUbiY&noredirect=1>.
- Thompson, Paul. 2016. "The Handgun Used by Munich Killer Was a Converted Replica Which Had Been Bought on the 'Dark Web' and Was Originally from Slovakia, Say Investigators." *The Daily Mail*, July 24. <http://www.dailymail.co.uk/news/article-3705572/The-handgun-used-Munich-killer-converted-replica-bought-dark-web-originally-Slovakia-say-investigators.html>.
- Traughber, Colleen. 2007. "Terror-Crime Nexus? Terrorism and Arms, Drug, and Human Trafficking in Georgia." The Fletcher School. <http://dl.tufts.edu/catalog/tufts:UA015.012.073.00018>.
- UN. 2001a. "Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, Supplementing the United Nations Convention against Transnational Organized Crime.pdf." http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/55/255&Lang=E.
- . 2001b. "UN Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, Supplementing the United Nations Convention against Transnational Organized Crime." <http://www.unodc.org/documents/treaties/UNTOC/Publications/A-RES%2055-255/55r255e.pdf>.

- . 2005. "International Instrument to Enable States to Identify and Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons." <http://www.unodc.org/documents/organized-crime/Firearms/ITI.pdf>.
- United Nations General Assembly. 2015. "The Sustainable Development Agenda." United Nations General Assembly. <http://www.un.org/sustainabledevelopment/development-agenda/>.
- UNODC. 2008. "Crime and Its Impact on the Balkans and Affected Countries." Vienna: United Nations Office on Drug and Crime. http://www.unodc.org/documents/data-and-analysis/Balkan_study.pdf.
- . 2010. "The Globalization of Crime. A Transnational Organized Crime Threat Assessment." New York: United Nations Office on Drugs and Crime. <http://www.unodc.org/documents/data-and-analysis/tocta/6.Firearms.pdf>.
- . 2012a. "Digest of Organized Crime Cases. A Compilation of Cases with Commentaries and Lessons Learned." Vienna: United Nations Office on Drugs and Crime.
- . 2012b. "Global Study on Homicide 2011: Trends, Contexts, Data." Vienna: United Nations Office on Drugs and Crime.
- . 2014. "Global Study on Homicide 2013." Vienna: United Nations Office on Drugs and Crime.
- . 2015. "Study on Firearms 2015. A Study on the Transnational Nature of and Routes and Modus Operandi Used in Trafficking in Firearms." Vienna: United Nations Office on Drug and Crime. http://www.unodc.org/documents/firearms-protocol/UNODC_Study_on_Firearms_WEB.pdf.
- Vreja, Lucia Ovidia. 2007. "Trafficking Routes and Links to Terrorism in South Eastern Europe: The Case of Romania." *Connections: The Quarterly Journal* 6 (1): 27–46.
- Weenink, Anton, and Franca van der Laan. 2007. "The Search for the Russian Mafia: Central and Eastern European Criminals in the Netherlands, 1989–2005." *Trends in Organized Crime* 10 (4): 57–76. doi:10.1007/s12117-007-9012-y.
- Weidacher, Reinhilde. 2005. "Behind a Veil of Secrecy: Military Small Arms and Light Weapons Production in Western Europe." Small Arms Survey - Graduate Institute of International and Development Studies. <http://www.smallarmssurvey.org/fileadmin/docs/B-Occasional-papers/SAS-OP16-West-Europe.pdf>.