

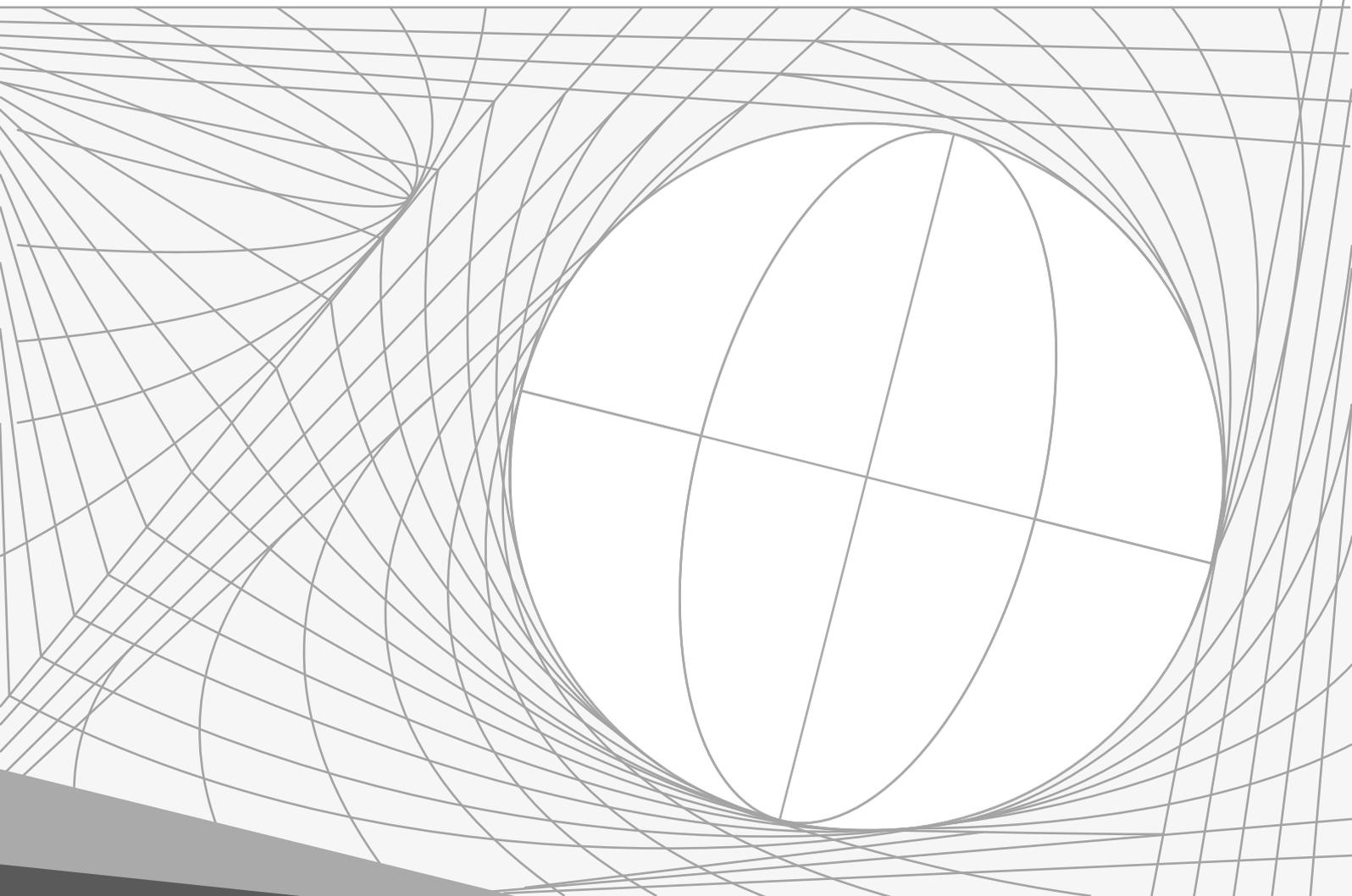


# **FROM ILLEGAL MARKETS TO LEGITIMATE BUSINESSES: THE PORTFOLIO OF ORGANISED CRIME IN EUROPE**

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**Final report of Project OCP  
Organised Crime Portfolio**

**Methodological Annex**





*From illegal markets to legitimate businesses: the portfolio of organised crime in Europe – Methodological Annex*

Methodological Annex of the Final Report of Project OCP – Organised Crime Portfolio  
(HOME/2011/ISEC/AG/FINEC/4000002220)

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*With the financial support of the Prevention of and Fight against Crime Programme – European Commission –  
Directorate-General Home Affairs.*

*Project OCP has been funded with support from the European Commission. This publication reflects the views only of the authors, and the European Commission cannot be held responsible for any use which may be made of the information contained therein.*

Suggested citation: Savona Ernesto U. & Riccardi Michele (Eds.). 2015. *From illegal markets to legitimate businesses: the portfolio of organised crime in Europe – Methodological Annex*. Methodological Annex of the Final Report of Project OCP – Organised Crime Portfolio. Trento: Transcrime – Università degli Studi di Trento.

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## Introduction

This methodological annex describes the methodology adopted to collect, organise, classify and analyse the information used in the main OCP report. It provides further details with respect to the information already provided in the main report (Chapter 2). In particular this annex includes:

- A description (Section A1.1) of the data on estimates and actors of illicit markets used in Part 1, and in particular of:
  - What and how many sources were collected;
  - How information was organised into a database;
  - How organised crime groups were defined and classified;
  - How geographic areas were classified.
- A detailed description of the methodology used by Transcrime to estimate, specifically for the purpose of Project OCP, the revenues of selected illicit markets: **illicit drugs** (A1.2.1), illicit trafficking in **firearms** (A1.2.2), **illicit trade in tobacco products** (A1.2.3), **counterfeiting** (A1.2.4) and **MTIC fraud** (A1.2.5). These estimates are reported and discussed in Part 1 of the main report and in particular in Chapters 3 and 4;
- A detailed description (Section 0) of the **model developed to estimate the portion of the illicit proceeds** generated by the heroin market available for investment in the legal economy (Chapter 6 of the main report)
- An illustration (see Section A2.1) of the data and information used in Part 2 for the analysis of organised crime investments, and in particular concerning:
  - What sources were collected in each OCP country;
  - How information was organised into a database (**Database on Organised Crime Investments - DOCI**)
  - How types of assets were classified;
  - How business sectors were classified;
- The **questionnaire** (see Section A3.1) developed by the OCP research team and administered to European asset recovery agencies to assess the availability of data on confiscated assets in Europe, reported in Part 3 of the report.
- Finally, a detailed illustration of some **OCP country-specific methodological issues**:
  - Finland (A4.1);
  - France (0);
  - Ireland (A4.3);
  - Italy (A4.4);
  - Netherlands (A4.5);
  - Spain (A4.6);
  - United Kingdom (A4.7).

To be noted that some methodological remarks considered crucial for full understanding of the results of OCP analyses have already been provided in the main report, in particular in **Chapter 2** (e.g. definition and classification of organised crime groups). This annex makes brief references to these parts while providing further details on other methodological issues.

# A1. METHODOLOGICAL ANNEX PART 1

The following Sections referring to Part 1 of the main report present the methodology used to **study illicit market proceeds and OCG involvement**. The starting point of the analysis was a review of existing studies and estimates of illicit markets focusing on the European geographical area and in particular the 7 OCP countries. The collection and the organisation of this existing information are presented in Section A1.1.

When estimates of the illicit markets were not available, new ones were made for selected markets. The methodology employed to develop new estimates is presented in Section A1.2.

Finally, Section 0 provides indications on the methodology employed to estimate the portion of the illicit proceeds generated by the heroin market which is available for investment in the legal economy (see Chapter 6 of the main report).

## A1.1. Illicit markets in Europe: general methodological notes

### *Definition of organised crime groups*

See Chapter 2 of the main report.

### *Selection of illicit markets*

See Chapter 2 of the main report.

Based on the list of serious crimes reported by art. 83(1) of the TFEU (Euro crimes), Project OCP has focused on 10 illicit markets and criminal activities considered central for the economy of organised crime groups from both a financial and strategic point of view. The criminal activities considered are:

- Illicit drugs market (in particular the trafficking of heroin, cocaine, cannabis, amphetamine and ecstasy - see Section 4.1 of the main OCP report);
- Trafficking in human beings (THB), in particular for sexual exploitation purposes (see 4.2);
- Illicit trafficking in firearms (ITF) (see 4.3);
- Illicit trade in tobacco products (ITTP) (see 4.4);
- Counterfeiting (see 4.5);
- Illegal gambling and match-fixing (see 4.6);
- Extortion racketeering (see 4.7);
- Usury (see 4.8);
- Fraud (see 4.9);
- Organised property crime (see 4.10).

### *Classification of organised crime groups*

As mentioned in Chapter 2, the OCP Report has adopted a simplified classification of criminal groups based on the dominant geographical provenance, nationality and/or ethnicity of their members. In particular, two levels of classification resulted (see Table A.1): one formed of **5 macro categories of OCGs** (first column); another one formed of **35 categories of OCGs** (second column). The third column presents examples of how criminal groups have been named in the literature.<sup>1</sup> If a group involved more than one nationality or ethnicity, the one most frequently mentioned was used for the whole group.

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<sup>1</sup> The only identified categories of criminal groups that have not been classified according to their geographical origin are Camorra OCGs, 'Ndrangheta OCGs, Cosa Nostra OCGs, Apulian OCGs and Motorcycle gangs (which may have different national chapters in different countries but maintain a well-defined criminal identity).

Some scholars question the use of ethnicity to categorise OCGs, arguing that such descriptions are often meaningless (e.g. Murji, 2007), also given the increasing role of multi-ethnic criminal groups (see e.g. Europol, 2013). However, it should be noted that this approach has been widely employed also by previous reports and studies, including Europol SOCTA 2013 (Europol, 2013).

This classification may be challenged in several ways. Limited information in LEA reports and open sources often makes it impossible to distinguish clearly among OCGs and provide meaningful descriptions on the basis of this criterion. The sources often use the same words to describe nationality and ethnic origin, but do not always indicate to what they refer exactly. For example, sources may say “A Vietnamese criminal group was found selling cannabis in the area of Bristol” without specifying if ‘Vietnamese’ refers to the nationality or the ethnic background, and without specifying if other non-Vietnamese individuals were part of the organisation.

Despite these issues, it was decided to adopt this classification in an attempt to standardise the information provided by the literature. The nationalities and ethnic categories were grouped using the *Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings of the United Nations Statistics Division* as a starting point.<sup>2</sup> Where possible, a more specific description was used. For example, when the source distinguished between the nationality of the individuals and their ethnic origin, both items of information were taken into account (e.g. British of South-Asian origin or Dutch of Surinamese origin).

**Table A.1 – Classification of criminal groups in the OCP project**

Macro category of OCG	Category of OCG	Examples of criminal groups found in the literature
<b>Chinese</b>	Chinese	Chinese triads
<b>Italian mafias</b>	Apulian Camorra Cosa Nostra Italian not specified 'Ndrangheta	e.g. Apulian, Camorra, Cosa Nostra, 'Ndrangheta, Italian mafias, <i>mafie</i> , <i>mafia</i> , etc.
<b>Motorcycle gangs</b>	Motorcycle gangs	e.g. Bandidos, Hells Angels, Outlaw motorcycle gangs, bikers, etc.
<b>Other OCGs</b>	African	e.g. Eritrean, Ethiopian, Ghanese, Nigerian, Senegalese, Sudanese, etc.
	Albanian	Albanian
	Balkan	e.g. Croatian, Macedonian, Serbian, Slovakian, Slovenian, etc.
	British	British
	Bulgarian	Bulgarian
	Colombian	Colombian
	Corsican	Corsican
	Dutch	Dutch, Dutch from Netherlands Antilles
	ETA	ETA
	Finnish	Finnish
	French	e.g. Banes issues des quartiers sensibles, French
	IRA	Irish paramilitary groups
Irish	Irish	

<sup>2</sup> “Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings of the United Nations Statistics Division”, revised 31 October 2013 (<http://millenniumindicators.un.org/unsd/methods/m49/m49regin.htm>).

	Japanese Yakuza	Japanese Yakuza, Yakuza
	Lithuanian	Lithuanian
	Mexican	Mexican
	Middle Eastern	e.g. Armenian, Iraqi, Israeli, Lebanese, Syrian, etc.
	North African	e.g. Algerian, Egyptian, Maghrebi, Moroccan, Tunisian, etc.
	North American	e.g. American (US), Canadian
	Other	e.g. International, Prison gang, etc.
	Other Asian	e.g. Indian, Iranian, Nepalese, Pakistani, Sri Lankan, Thai, Vietnamese, etc.
	Other Eastern European	e.g. Belarusian, Czech Republican, Estonian, Hungarian, Latvian, Moldavian, Polish, Ukrainian, etc.
	Other Western European	e.g. Austrian, Belgian, Danish, German, Greek, Portuguese, Swedish, Swiss, etc.
	Romanian	Romanian
	South American	e.g. Argentinian, Bolivian, Brazilian, Chilean, Cuban, Dominican, Ecuadorean, Guatemalan, Paraguayan, Peruvian, Uruguayan, Venezuelan, etc.
	Spanish	Spanish
	Turkish	Turkish
<b>Russian/Georgian</b>	Russian/Georgian	e.g. Georgian, Russian, Russian/Georgian, South Ossetian military, White Legion

#### *Data sources and collection*

For the analysis carried out in Part 1 of the report a variety of sources were consulted, including:

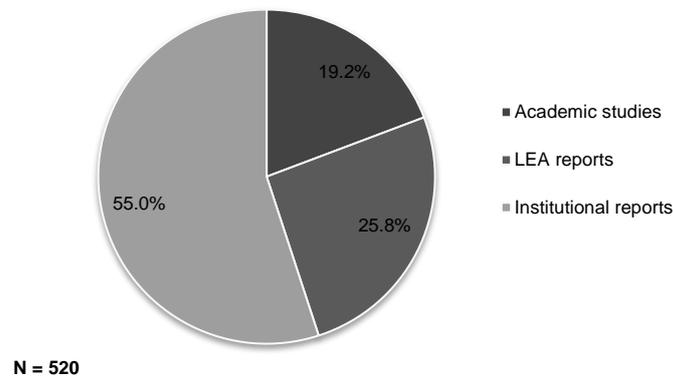
- Academic studies;
- LEA reports (e.g. annual reports by Italian DIA – *Direzione Investigativa Antimafia*, Dutch KLPD, etc);
- Institutional reports (e.g. FATF, OECD, TRACFIN etc.).

From these sources, as explained in Chapter 2 of the main report, both existing estimates and information on involved criminal actors were collected.

Precedence was given to estimates and information provided in sources from academic, LEAs, and other research institutions rather than media and online sources. This choice was made to favour sources with more reliability because they were based on official data, preferably with an available description of the methodology and metadata.

Only references after 2005 were included in order to give the most updated and cohesive picture possible.

Figure A.1 - Types of sources used in the review of illicit markets



Source: Transcrime elaboration on database on illicit markets

#### Organisation of the information: the database on illicit markets

The collected sources (according to the criteria above) were then organised in a database. Each item in the database represented:

- An **estimate** of a certain illicit market in a certain geographical area, and/or
- The activity of a **OCG in a certain illicit market** and in a certain geographical area.

Only references that met one or both of these criteria were included in the database.

Although the focus of the project was on the 7 OCP countries (Italy, Spain, France, Ireland, UK, the Netherlands and Finland) and although this review had not intended to present specific information on all the 28 EU MS, data on other European countries mentioned in consulted sources were collected and analysed.<sup>3</sup>

Multiple references were inferred from a single source.

#### Example 1:

“The police operation ALPHA dismantled a Turkish-speaking criminal group involved in heroin trafficking activities in Spain, France, Belgium, Netherlands and Germany”

→ 5 references: 1) Turkish OCG involved in heroin trafficking in Spain; 2) Turkish OCG involved in heroin trafficking in France; 3) Turkish OCG involved in heroin trafficking in Belgium; 4) Turkish OCG involved in heroin trafficking in the Netherlands; 5) Turkish criminal groups involved in heroin trafficking in Germany.

#### Example 2:

“Transcrime (2013) estimated the annual revenues from counterfeiting in Italy in 2010 at 5 billion euro and those from usury at 3 billion euro”.

→ 2 references: a record for the estimate on counterfeiting, specifying the country, the value, the reference year; another for usury, specifying the country, the value, the reference year;

For each item in the database the following information was recorded with the greatest level of detail available according to what the source provided:

<sup>3</sup> For example, if a report mentioned that “Turkish-speaking criminal groups are involved in heroin trafficking activities in Spain, France, Belgium, Netherlands and Germany”, information was not collected and imputed in the database only as regards Spain, France and the Netherlands (OCP countries) but also as regards Belgium and Germany

**Table A.2 – Variables included in the database on illicit markets**

Variable	Notes	Categories and Examples
<b>Market</b>	10 illicit markets were considered	Illicit drugs market e.g. Heroin, Cannabis (e.g. Hashish, Marijuana), Cocaine (e.g. Crack cocaine, Powder cocaine), “Illicit drugs”, Amphetamine, Ecstasy, NPS, etc.
		Trafficking in human beings e.g. Human Trafficking, Forced labour, Sexual exploitation, etc.
		Illicit trafficking in firearms (ITF) e.g. Illicit trafficking In firearms, smuggling of weapons and ammunitions, etc.
		Illicit trade in tobacco products e.g. Cigarette counterfeiting, Cigarette smuggling, Counterfeiting of tobacco products, Illicit trafficking of tobacco products, etc.
		Counterfeiting e.g. Counterfeit products, etc.
		Illegal gambling and match-fixing e.g. Illegal gambling, Illegal betting, Match-fixing, etc.
		Extortion racketeering e.g. Extortion/ Extortion racketeering, etc.
		Usury e.g. Usury, Loan Sharking, etc.
		Fraud e.g. Carbon Credit Fraud, Carousel fraud, Credit cards, EU Funds fraud, Trade based fraud, Insurance fraud, Mortgage fraud, VAT fraud, etc.
		Organised Property Crime e.g. Organised property crime, Pharmaceutical theft, Theft of food products, Organised vehicle theft, Organized metal theft, Plant theft, Road freight crime, Cash and valuables in transit, etc.)
		Other Markets e.g. Cybercrime, Environmental crime, Fuel laundering, Illicit waste management, etc.
<b>Author</b>	Author of the study (person or institution). For scientific literature and reports only.	e.g. Letizia Paoli, FATF, etc.
<b>Title</b>	Title of the source	e.g. “Forced Labor and Human Trafficking: Estimating the Profits”
<b>Institution/ Publisher</b>	Institution or publisher (for scientific literature and reports), or name of the newspaper which published the article (for newspaper articles)	e.g. <i>European Journal of Criminology</i> ; <i>Le Monde</i> , etc.
<b>Year Of Publication</b>	Date (dd/mm/yyyy) (for newspaper articles), or year of publication (for scientific literature and reports)	e.g. 2012; 14/05/2014
<b>Case Study/Country</b>	Indicates if the reference	• Case study

<b>Level</b>	was the report of case study or if the estimate was at the national level	<ul style="list-style-type: none"> <li>Country level</li> </ul>
<b>Year Of Investigation/Operation</b>	For case studies analysing investigative evidence, year of law enforcement operation	e.g. 2007
<b>Language(S)</b>	Language of the document	e.g. Finnish, Italian, English, etc.
<b>Type Of Documents</b>	Nature of the document from which the information was retrieved	<ul style="list-style-type: none"> <li>Academic studies</li> <li>FIU reports</li> <li>LEA reports</li> <li>Institutional reports</li> <li>Other research institute reports</li> <li>Open sources</li> </ul>
<b>Aim Of The Study</b>	Description of the aim of the study as indicated by the author	e.g. Estimating the magnitude of the proceeds from sexual exploitation in France
<b>Country Covered</b>	If the reference was at country level, the country covered by the estimate	e.g. Bulgaria
<b>Region/City Covered</b>	If the document referred to a case study, the region or city that was considered.	Paris
<b>EU MS/EU/extra EU</b>		See Table A.3
<b>Estimate</b>	Value of the estimate in euros and in the original currency	e.g. 27,800 USD
<b>Min</b>	If the estimate included a minimum and maximum value, both were indicated	e.g. 6,000 – 10,000 USD
<b>Max</b>		
<b>OCG</b>	If the study mentioned the involvement of a specific OCG	See Table A.1 – Classification of criminal groups in the OCP project

### Classification of geographic areas

For the purpose of the analysis, the countries, regions and continents mentioned in the literature were divided, when possible, into European and extra European areas (Table A.3) based on a geographical criterion using the United Nations' classification as a starting point.<sup>4</sup>

**Table A.3 – European and extra European areas**

Areas	Countries
<b>European Union</b>	28 EU MS*
<b>Europe (larger)</b>	EU MS, candidate and potential candidate countries (i.e. Iceland, Montenegro, Serbia, FYR Macedonia, Turkey; Albania, Bosnia and Herzegovina and Kosovo) and Norway, Switzerland, Andorra, Liechtenstein, Holy See, San Marino and Monaco
<b>Extra European areas</b>	All other countries not included in the previous categories
* For a list see <a href="http://europa.eu/about-eu/countries/index_en.htm">http://europa.eu/about-eu/countries/index_en.htm</a>	

### Estimates of illicit markets

As mentioned, OCP has provided one of the **first measurements** at European level of the scale of ten illicit markets: Illicit drugs market (in particular of heroin, cocaine, cannabis, amphetamine and ecstasy), Trafficking in human beings (THB), Illicit trafficking in firearms (ITF), Illicit trade in tobacco products (ITTP), Counterfeiting, Illegal gambling and match-fixing, Extortion racketeering, Usury, Fraud and Organised property crime.

- For all of them, OCP collected **existing estimates** from the literature, in some cases available for all the 28 MS (e.g. cannabis, amphetamines, ecstasy, cargo theft), in other cases only for a few countries (e.g. trafficking in human beings, illegal gambling and match-fixing, extortion racketeering and usury). Only the estimates that satisfied the following criteria were taken into account:
  - Produced or published in the last ten years;
  - Covering at least one of the seven OCP countries;
  - Using a transparent and verifiable methodology;
  - Measuring the revenues generated by illicit markets as a whole or earned by actors in the given market;
  - For which it was possible to determine the time-range in which the revenues were produced (e.g. annually, weekly, etc).
- For some markets (heroin, cocaine, illicit trafficking in firearms, illicit trade in tobacco products, counterfeiting, MTIC fraud), OCP also calculated **new estimates** for all the 28 EU MS;

Estimates (both gathered from the literature or calculated *ex novo*) usually refer to the magnitude of the revenues produced by these markets, i.e. to the value of the illicit goods and services sold, most often at the retail level. However, slight differences can be detected among different markets. A detailed description of what was precisely estimated for each illicit activity is provided in Chapter 4 of the main report and in the next Section (A1.2).

<sup>4</sup> Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings of the United Nations Statistics Division, revised 31 October 2013 (<http://millenniumindicators.un.org/unsd/methods/m49/m49regin.htm>).

## A1.2. Methodology for estimating the revenues of illicit markets

This section describes the methodology employed by OCP to calculate new estimates of the revenues produced by the following illicit markets:

- Illicit drugs (Heroin and Cocaine - section A1.2.1);
- Illicit trafficking in firearms (A1.2.2);
- Illicit trafficking in tobacco products (A1.2.3);
- Counterfeiting (A1.2.4);
- MTIC Fraud (A1.2.5).

The other illicit markets/activities for which no new estimates were produced (i.e. cannabis, ecstasy, amphetamine, trafficking of human beings, illegal gambling, extortion racketeering, usury, organised property crime – see above) are not covered here. For more details about the methodology adopted to estimate these markets, see Chapter 4 of the main report and the relevant publications mentioned in the references.

### A1.2.1. Illicit drugs market

As mentioned above, OCP produced its own estimate for the heroin and cocaine market, while it used the results reported by other studies for cannabis and amphetamine-type drug markets (respectively Kilmer & Pacula 2009 for cannabis and Caulkins, Kilmer, & Graf 2013 for amphetamine-type drugs). This Section reports the method, data and assumptions used to estimate the revenues from heroin and cocaine.

Although OCP provides country-specific measures of the illicit drug market, some recommendations should be taken into account before comparing these estimates across countries. Indeed, most of the data used to produce these estimates (e.g. drug use prevalence) are hardly comparable, as each country produces its own statistics based on different data collection processes and with regard to different time ranges. This study used the most recent data available. Generally, estimates for heroin and cocaine referred to 2010/11. However, given the non-systematic way in which data are collected, estimates may have referred to different years. Table A.4 reports reference years, sources and type of information used.

It is important to note that OCP estimates of heroin and cocaine indicate the monetary value of the total expenditure on drugs and not the income that criminal groups may collect from these markets. Indeed these values must be considered as *proxies* for the potential wealth that criminal groups may collect from drug trafficking.

Generally speaking, the Illicit drug market can be estimated by considering the supply of drugs (*supply-based approach*) or the demand for them (*demand-based approach*).

The first approach includes estimates based on the production and those considering the amount of a drug seized as a proxy for the quantity of the drug available in the market. Estimates based on production start with data on the surface area of soil used to grow drug crops, and they quantify the drug available in the market by considering production per hectare, seizures, drug imported/exported and average retail purity. These quantifications have found their main application in estimating the global production of cocaine and heroin (e.g. Gettman, 2007; ONDCP, 2012), while only a few authors have used this methodology at country level. In fact, it seems difficult to identify and assess drug routes in order to quantify the amount of cocaine nationally supplied starting from worldwide production. Moreover, many doubts exist about yield and harvest per hectare of soil used to grow drug crops.

Estimates based on seizures divide the quantity of drug seized by an assumed rate of drug seized on the total market (i.e. 10%). Seizures-based estimates are the easiest way to estimate the drug market, but many factors influence data on seizures besides the supply (Connolly, 2005). These factors are, for example, law enforcement efforts, trafficking routes and dealers' concealment strategies (MacCoun & Reuter, 2001).

The demand-based approach includes estimates based on consumption and spending on drugs. Both start by counting the number of users; but while the former multiplies by annual consumption (and then multiplies by the retail price), the latter considers the spending on the drug.

A significant number of countries collect information on how much users spend per year in order to finance their consumption. Hence, to date there have been several attempts to estimate the value of the illicit drug market starting from the expenditure per user (Legleye, Lakhdar, & Spilka, 2008). For all of these reasons, today the consumption-based approach is the one most widely used.

OCP, too, adopted a consumption-based method. In particular, it estimated the revenues ( $R$ ) from heroin and cocaine through, first, a quantification of the national consumption ( $NC$ ) of these drugs, which was then multiplied by the average drug retail price per gram ( $p_{RT}$ ):

$$R = NC \cdot p_{RT}$$

where consumption is estimated by multiplying the number of users ( $U$ ) by their average annual consumption ( $AC$ ):

$$NC = U \cdot AC$$

The following subsections describe in detail the assumptions used to estimate the market for heroin and cocaine. Table A.4 reports all the variables and data sources employed to produce these estimates.

**Table A.4 - Data and sources used to estimate the heroin and cocaine market**

Dimension	Variable	Description	Source
Number of users	Heroin users	Recurrent drug use causing actual harm (negative consequences) to the person (including dependence, but also other health, psychological or social problems), or placing the person at a high probability/risk of suffering such harm	EMCDDA
	Cocaine users	Percentage of people in the population aged 15–64 that used cannabis or amphetamines in the previous year	EMCDDA
	Underreporting	% of people who consumed cocaine but were not captured by household population surveys.	Kilmer & Pacula, 2009
Consumption	Heroin consumption	Quantity of pure heroin consumed per year	Paoli, Greenfield, & Reuter, 2009
	Frequency of cocaine consumption	Days of cocaine consumption per year per user	Frijns & van Laar, 2013
	Quantity of cocaine consumed per year	Quantity (gr.) of cocaine consumed per day of consumption	Frijns & van Laar, 2013
Prices and purity	Heroin and cocaine price	Cost of a gram of heroin/cocaine at retail	UNODC and EMCDDA
	Purity	Percentage of pure heroin per gram	EMCDDA 2008

### Heroin

Two main sources are used to estimate the number of drug users: self-report surveys or indirect methods (i.e. capture-recapture methods, multiplier methods, etc.). The latter is commonly used to estimate heavy users, defined by the EMCDDA as *high risk drug users* (HRDU). Among the illicit drugs consumed worldwide, heroin is probably the most addictive. Hence, the analysis uses high risk drug users for opioids in order to estimate heroin users. Although opioids users may cover several different substances (e.g. heroin, morphine, codeine, methadone pethidine, buorenorphine), according to the literature (Kilmer & Pacula, 2009), most of the opioid consumption in Western countries concerns heroin. Therefore, it is assumed that opioid use coincides with heroin use.

Heroin can be smoked or injected, yet many users consume heroin via injection (EMCDDA, 2008). Drawing on multiple and independent sources (such as Pudney et al., 2006), Paoli, Greenfield and Reuter (2009) estimated that the average user consumes about 100 mg of pure heroin per day, which is consistent with an estimate of 30 grams of pure heroin per year. Recently Kilmer et al. (2013) have confirmed the validity of this figure, estimating a benchmark consistent with the estimates by Paoli, Greenfield and Reuter (2009). Given the multiple confirmations, this analysis considers the figure of 30 pure grams of heroin per year per user.

Data on the purity of heroin across European countries are problematic. For instance, EMCDDA data may refer to different products: white, brown or undistinguished heroin. Moreover, ranges are often too wide. For example, data for France report a minimum of 0% and a maximum of 63% with mean, median and mode respectively equal to 7%, 5% and 0%. Differences for these ranges are too wide to be useful. Indeed, this study adjusts the pure consumption of heroin according to the typical purity of brown heroin in Europe (which is the most common form of heroin in Europe) ranging from 15% to 25% (EMCDDA, 2008, p. 4). Finally, the total consumption of heroin is multiplied by the retail price of heroin provided by the UNODC and EMCDDA.<sup>5</sup>

### Cocaine

Estimates of national expenditure start by using GPSs (*Global Population Surveys*) in order to estimate cocaine users. GPSs have well-known limitations (Fendrich et al., 2004; Turner et al., 2005; Harrison et al., 2007). The most important one is under-reporting by those who use drugs. Given this limitation, cocaine users are adjusted according to an underreporting rate. Estimating truthfulness in reporting cocaine consumption to surveys across countries would have fallen outside the scope of the OCP analysis, which applied a wide but still defensible range considering, as the lower bound, that all users truthfully report cocaine consumption and, as the upper bound, that just two thirds of them report cocaine use (Kilmer & Pacula, 2009).

Since few users are often responsible for most of the consumption, it is important to distinguish between heavy and light users. This study considers the results of the web survey carried out by Frijns and van Laar dividing cocaine users among infrequent (69%), occasional (21%) and frequent (10%) (Frijns & van Laar, 2013) These values are in line with the framework elaborated in Rydell and Everingham (1994) and adopted in other studies (e.g. Caulkins et al., 2004; Kilmer & Pacula 2009).

According to the web survey carried out by Frijns and van Laar (2013), the average number of days of consumption per year are 4.1 for infrequent, 25 for occasional, and 128 for frequent users. The results of this survey are used to update the estimates by Kilmer and Pacula, who applied a wide range for heavy users (85 - 169 days).

Consistently with the findings in the literature (ONDCP, 2014) Frijns and van Laar (2013) found that those who consume more frequently also use more cocaine per day. Hence, this study applies an average consumption of 0.49 grams/day for infrequent users, 0.82 grams/day for occasional and 1.28 grams/day for frequent users.

Finally the quantity of cocaine consumed at national level is multiplied by the retail price of cocaine as provided by the UNODC.<sup>6</sup> Table A.4 reports data and source employed, while the following formula summarizes the calculation process used to estimate the national expenditure on cocaine:

$$EXP_c = [U_u \cdot (D_u \cdot G_u)] \cdot p_{RET}$$

where  $U_u$  denotes the user's profile (infrequent, occasional, frequent),  $U$  users,  $D$  days of consumption per year,  $G$  grams of cocaine consumed per day of consumption, and  $p_{RET}$  the retail price of a gram of cocaine.

### Limits of the estimates

In the past few years, several studies have provided figures on the value of the illicit drug market (Caulkins et al., 2013; Transcrime, 2013). Given the sensitivity of the analysis to data and assumptions, so that minor changes can dramatically alter the final figures (Kilmer et al., 2011), there are remarkable differences among studies.

<sup>5</sup> Data on heroin prices for the following countries are collected by EMCDDA: Croatia, Czech Republic, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia. For the others, data are provided by UNODC.

<sup>6</sup> Data on cocaine prices for the following countries are collected by EMCDDA: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. For the others, data are provided by UNODC.

OCP used the methodology developed in Kilmer and Pacula (2009) in order to produce the first estimate at EU level of the illicit drug market of heroin and cocaine. Data and method were updated according to the most recent research. For heroin, the data and assumptions employed were almost specular to those used by Kilmer and Pacula (2009). The main difference regarded assumptions on heroin purity. While Kilmer and Pacula (2009) used a wide range (20% - 60%), the EMCDDA suggests an average 15%-25% purity for heroin at the retail level. The estimate for cocaine updated the previous attempt by Kilmer and Pacula (2009) with the recent results obtained by Frijns and van Laar (2013) which classifies users into three class of consumption (*infrequent, occasional and frequent*) and revises patterns of consumption.

There are two main issues in estimating the monetary expenditure on illicit drugs. The first is the limited knowledge about patterns of consumption for illicit drugs and the sensitivity of these analyses to changes in the assumptions (Kilmer et al., 2011).

The other issue pertains to estimation of the actual number of people consuming cocaine. People responding to surveys may not be willing to report their drug use truthfully. This is particularly for the case of heavy drugs, which are associated with a high social stigma. As already mentioned, estimating the underreporting of surveys on the use of cocaine would have fallen outside the scope of the OCP analysis.

Taking the limitations of these estimates into account, the OCP study reported values as ranges indicating a lower and upper bound as well as a best-value. This allowed limitations and uncertainties to be accounted for in the analysis, and which must be better justified.

### A1.2.2. Illicit trafficking in firearms

As illustrated in Chapter 4 of the main report, only a limited number of studies have attempted to estimate the scale of illicit trafficking in firearms (ITF) at a global level. As mentioned, even fewer have addressed this issue at European level. The literature discussing the magnitude of ITF suggests that this market may represent a share of the *licit* trade in firearms. UNODC reported in particular that “the most commonly cited estimates for the size of the illicit market [of firearms] is 10%-20% of the licit markets” (UNODC, 2010, p. 129). Indeed, other authors claim that this range is realistic (e.g. Marsh, 2002, p. 220). On the basis of the general consensus on this figure, these percentages were later adopted in the studies by Transcrime (Transcrime, 2013;Calderoni et al., 2014), which quantified the size of the firearms market in Italy.

Also the OCP report employed this approach and applied the 10-20% percentages to the licit market of firearms at EU level, assuming that this range can be extended to the whole European Union. In other words, the magnitude of the ITF estimated by OCP would correspond, roughly, to 10-20% of the EU legitimate market.

According to this methodological approach, the first types of data gathered were the statistics on the legal trade in firearms in the European Union provided by Eurostat. In particular, 2012 data (last available year) on the import, export and production values of three types of products were selected from the database *Prodcorn annual sold*:<sup>7</sup>

- Revolvers and pistols;
- Shotguns, rifles, carbines and muzzle-loaders;
- Cartridges and other ammunition, projectiles and parts;

which correspond to the definition of “small arms” indicated by the UN (1997).<sup>8</sup>

Other types of firearms, like military weapons, were excluded from the calculations, since it was assumed that most of the firearms trafficked in Europe are civilian firearms converted or used for criminal purposes.<sup>9</sup>

<sup>7</sup> Eurostat database code: ds\_066341. Accessed on March 20 2014, at [http://appsso.eurostat.ec.europa.eu/nui/show.do?query=BOOKMARK\\_DS-066341\\_QID\\_-47D72158\\_UID\\_-3F171EB0&layout=INDICATORS,C,X,0;DECL,L,Y,0;PRCCODE,B,Z,0;PERIOD,L,Z,1;&zSelection=DS-066341PERIOD,200952;DS-066341PRCCODE,07101000;&rankName1=PRCCODE\\_1\\_0\\_-1\\_2&rankName2=DECL\\_1\\_0\\_0\\_1&rankName3=INDICATORS\\_1\\_0\\_0\\_0&rankName4=PERIOD\\_1\\_0\\_-1\\_2&sortR=ASC\\_-1\\_FIRST&sortC=ASC\\_-1\\_FIRST&Stp=&cStp=&DCh=&cDCh=&rDM=true&cDM=true&footnes=false%E2%88%85=false&wai=false&time\\_mode=ROLLING%E2%8C%A9=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?query=BOOKMARK_DS-066341_QID_-47D72158_UID_-3F171EB0&layout=INDICATORS,C,X,0;DECL,L,Y,0;PRCCODE,B,Z,0;PERIOD,L,Z,1;&zSelection=DS-066341PERIOD,200952;DS-066341PRCCODE,07101000;&rankName1=PRCCODE_1_0_-1_2&rankName2=DECL_1_0_0_1&rankName3=INDICATORS_1_0_0_0&rankName4=PERIOD_1_0_-1_2&sortR=ASC_-1_FIRST&sortC=ASC_-1_FIRST&Stp=&cStp=&DCh=&cDCh=&rDM=true&cDM=true&footnes=false%E2%88%85=false&wai=false&time_mode=ROLLING%E2%8C%A9=en).

<sup>8</sup> See <http://www.un.org/Depts/dcdar/Firstcom/SGreport52/a52298.html>.

<sup>9</sup> Also UNODC discusses this issue, concluding that “In states where handguns are accessible, most criminals prefer to use them. Military weapons may be used, however, when criminal conflict becomes tantamount to a low intensity military conflict.” (UNODC, 2010, p. 131).

For each of the three types of firearms listed above, the corresponding code of the Statistical Classification of Economic Activities of the European Community (NACE Rev. 2) is listed in Table A.5.

**Table A.5 – NACE (Rev.2) code of firearms considered in the estimate**

Type of product	NACE (rev 2) 8-digit code
Revolvers and pistols	25401230
Shotguns, rifles, carbines and muzzle-loaders	25401230
Cartridges and other ammunition, projectiles and parts	25401300

After extracting the relevant data on production, import and export from the Eurostat for the three NACE codes, the figures were summed and then multiplied by 10% and 20%. In other words, the following formulas were applied:

$$ITF_{min}^{EU} = 0.1 \cdot (FT_{import}^{EU} + FT_{production}^{EU} - FT_{export}^{EU}) \quad (1)$$

$$ITF_{max}^{EU} = 0.2 \cdot (FT_{import}^{EU} + FT_{production}^{EU} - FT_{export}^{EU}) \quad (2)$$

where

- $FT_{import}^{EU} = \sum_i FT_{import\ i}^{EU}$  indicates the value in euros of the imports of all products  $i \in I$ ,
- $FT_{export}^{EU} = \sum_i FT_{export\ i}^{EU}$  indicates the value in euros of the exports of all products  $i \in I$ ,
- $FT_{production}^{EU} = \sum_i FT_{production\ i}^{EU}$  represents the value in euros of the production of all products  $i \in I$ .

The results of the application of (1) and (2) produce respectively the lower and the upper bound of the scale of the ITF in the European Union as reported in Chapter 4 of the main report. Given the methodological approach employed, considering both the production and the imports/exports, it was possible to provide an estimate of ITF only at EU aggregate level, and not for each EU country.

### A1.2.3. Illicit trade in tobacco products

This Section presents the methodology used to estimate the revenues from the illicit cigarette market in the EU Member States for 2013 described in Section 4.4 of the OCP main report. This study, relying on the results of recent research by Transcrime on the illicit cigarette market in the EU (Transcrime, 2015), estimated the revenues from the retail sale of illicit cigarettes. It is not possible, given the amount of available information, to determine the share of these revenues attributable to OCGs.

The estimate adopted a consumption-based method. It assumed that, in any EU Member State, the total revenues of the illicit market may be the product of a) the volumes of illicit cigarettes, expressed in equivalent 20-cigarette packs, and b) a proxy for the prices of such a pack on the illegal market. In particular, the estimate assumed that the price of a 20-cigarette pack on the illegal market is 2/3 of the price of a legal pack. This assumption is in line with available evidence from a number of EU countries (Calderoni et al., 2013a, 2013b; Calderoni, Aziani, & Favarin, 2013) and with the range of prices of illicit cigarettes identified by Joossens and colleagues (2009, p. 7). Given the variation of prices within each country (due to e.g. the quality of cigarettes, manufacturers' commercial strategies, and taxation), the estimate identified a minimum and a lower price: the former was based on the prices of Marlboro cigarettes, and the latter on the prices of the cheapest brand.

For any EU Member States, the main data sources are the national volumes of illicit cigarettes as estimated by KPMG (2014) (

Table A.6), and the prices of a 20-cigarette pack of Marlboros and the cheapest brand in 2013 as provided by Philip Morris International, the largest multinational cigarette manufacturer and market leader in the EU.

Table A.6 – KPMG estimates of counterfeit and contraband cigarettes, billion cigarettes (2013)

Country	Number of cigarettes
Austria	0.95
Belgium	0.79
Bulgaria	2.51
Croatia	0.25
Cyprus	0.07
Czech Republic	0.42
Denmark	0.23
Estonia	0.35
Finland	0.88
France	9.64
Germany	11.31
Greece	3.94
Hungary	0.72
Ireland	0.97
Italy	3.68
Latvia	0.68
Lithuania	0.97
Luxembourg	0.02
Malta	0.07
Netherlands	1.31
Poland	6.10
Portugal	0.19
Romania	2.90
Slovakia	0.11
Slovenia	0.22
Spain	4.43
Sweden	0.66
United Kingdom	4.25

Source: KPMG (2014)

Accordingly, the minimum (Rmin) and the maximum revenues (Rmax) were estimated as follows:

$$R_{min_c} = \left(\frac{1C_c}{20}\right) \cdot P_{min_c} \cdot \frac{2}{3}$$

$$R_{\max_c} = \left(\frac{IC_c}{20}\right) \cdot P_{\max_c} \cdot \frac{2}{3}$$

where, for every country  $c$ ,  $\frac{IC_c}{20}$  is the number of packs of illicit cigarettes consumed in country  $c$ , calculated by dividing the annual volume of illicit cigarettes ( $IC_c$ ) by the number of cigarettes contained in a pack (20);  $P_{\min_c}$  is the price of a 20-cigarette pack of the cheapest brand in country  $c$ ;  $P_{\max_c}$  is the price of a 20-cigarette pack of the Marlboro brand in country  $c$ . The average revenues ( $R_{av_c}$ ) are the arithmetic mean of the maximum and minimum revenues:

$$R_{av_c} = \frac{(R_{\min_c} + R_{\max_c})}{2}$$

#### **Limits of the estimates**

The limitations of these estimates concern the reliability of KPMG data on illicit cigarette volumes and the assumption that in all EU countries, the price of illicit cigarettes is 2/3 of the price of legal cigarettes.

As regards the first limitation, concerns have been raised about the KPMG Project Sun's methodology and overreliance on industry-based data (Gilmore et al., 2013; Joossens, Ross, & Stokłosa, 2014). Some authors argue that it cannot be used to estimate the illicit cigarette market in the EU because the report was commissioned to meet specific terms of reference agreed between Philip Morris International and KPMG (Joossens, Ross, & Stokłosa, 2014). Moreover, some authors have criticised its methodology in terms of lack of transparency and details on the data used in the model, overreliance on industry-produced data, risk of overestimation and lack of external validation (Gilmore et al., 2013). However, unless large-scale independent data collection plans are enacted, at present there is little alternative to the use of industry data for the estimates (Calderoni, 2014). Moreover, despite its possible biases, 'Project Star' still represents the best source of yearly estimates of the prevalence of the ITTP in the EU, enabling assessment of its evolution since 2006 using a constant methodology (Calderoni, 2014).

As far as the second limitation is concerned, the methodology assumes that in all EU countries the price of illicit cigarettes is 2/3 of the price of legal cigarettes. This assumption does not consider country specificities in terms of prices of illicit cigarettes. Indeed, there is no fixed price for illicit cigarettes: it can vary according to the sales point, the brand and their perceived quality (Joossens et al., 2009, p. 13). Moreover, the price of illicit cigarettes should provide profits to those who manufacture cigarettes, to those who organize their transport, and an attractive discount to consumers (Joossens et al., 2009, p. 13). These elements are intertwined with the level of taxation levied on cigarettes. Indeed, taxation is different across countries, and potential smugglers, through tax avoidance, can impose different prices accordingly. However, since data on the price of illicit cigarettes are neither yearly nor publicly available, the choice of using Philip Morris International data on cigarette prices as a starting point for calculating illicit cigarette prices is reasonable and plausible because it makes it possible to provide and replicate estimates of ITTP annual revenues also for the future years.

### **A1.2.4. Counterfeiting**

Given the widespread consensus that it is possible to approximate the size of counterfeit market as a share of the trade in legal goods (OECD, 2008, 2009; Frontier Economics, 2011), the OCP report has adopted two different methodological approaches in order to estimate the magnitude of the counterfeit market in each EU MS.

- The first approach has been used in several studies (e.g. KPMG, 2003; Transcrime, 2013; Calderoni, et al., 2014), which agree that the magnitude of counterfeit business ranges approximately between 5% and 10% of the legal trade in physical goods. Other studies, such as OECD (2008), indicate a slightly different range, between 5% and 7% of global (cross-border) trade.
- The second methodology adopted was a new demand-driven approach. This was created to address shortcomings in the existing methodologies, which fail to take account of country differences in consumers' propensities to buy counterfeit goods. In particular, the share of 5-10% applied by previous scholars to the volume of trade or turnover of the licit market was replaced with a new proxy percentage, which corresponded to consumers' willingness to accept counterfeit goods as reported by the Eurobarometer survey conducted in 2011.

The Eurobarometer survey (2011) measured the willingness to accept counterfeit products over a randomized sample of consumers selected in each EU country. Consumers were asked to indicate their level of acceptance (*totally agree – tend to agree – tend to*

*disagree – totally disagree*) of counterfeit products under four market conditions.<sup>10</sup> The results of the Eurobarometer survey are set out in

Table A.7.

**Table A.7 - Eurobarometer survey results**

EU MS	% of respondents who “totally agree” when ...				AVERAGE (1) through (4)
	...the price the original/authentic product is too high	...it concerns luxury products	...the original product is not or not yet available where you live	... when the quality of the product does not matter	
	(1)	(2)	(3)	(4)	
<b>Austria</b>	22	16	15	12	16.25
<b>Belgium</b>	12	8	7	10	9.25
<b>Bulgaria</b>	27	16	14	5	15.50
<b>Cyprus</b>	46	37	19	10	28.00
<b>Czech Republic</b>	12	6	8	10	9.00
<b>Denmark</b>	16	13	13	12	13.50
<b>Estonia</b>	16	8	9	10	10.75
<b>Finland</b>	9	7	6	7	7.25
<b>France</b>	15	12	6	7	10.00
<b>Germany</b>	14	8	9	8	9.75
<b>Greece</b>	29	14	12	10	16.25
<b>Hungary</b>	14	8	7	7	9.00
<b>Ireland</b>	11	9	8	6	8.50
<b>Italy</b>	12	9	6	6	8.25
<b>Latvia</b>	14	6	9	9	9.50
<b>Lithuania</b>	22	12	12	8	13.50
<b>Luxembourg</b>	11	7	4	5	6.75
<b>Malta</b>	22	12	16	11	15.25
<b>Netherlands</b>	12	7	9	13	10.25
<b>Poland</b>	7	4	4	6	5.25
<b>Portugal</b>	13	7	6	4	7.50
<b>Romania</b>	27	18	16	10	17.75
<b>Slovakia</b>	28	14	9	7	14.50
<b>Slovenia</b>	27	13	18	15	18.25

<sup>10</sup> The four market conditions are 1) “when the original price of the product is too high”; 2) “when it concerns luxury products”; 3) “when the original product is not or not yet available where you live” and “when the quality of the product does not matter” 4) (Eurobarometer, 2011, p. 197–200).

<b>Spain</b>	22	11	9	9	12.75
<b>Sweden</b>	16	12	15	19	15.50
<b>United Kingdom</b>	10	6	5	5	6.50
<b>EU 27</b>	<b>15</b>	<b>9</b>	<b>8</b>	<b>8</b>	<b>10.00</b>

Source: Eurobarometer (2011, pp. 197-200)

As can be ascertained from

Table A.7, according to the Eurobarometer survey significant differences across EU MS exist in terms of willingness to accept counterfeit products. This supports the idea that applying the same 5% -10 % range to all economies fails to take into account the existing heterogeneity in terms of social tolerance towards counterfeit products across different countries. For this reason, for the purpose of the OCP estimate, it was decided to adopt the second methodological approach described above.

#### *The selection of business sectors*

As suggested by the OECD (2008), not all manufacturing sectors are equally vulnerable to counterfeiting. The statistics on seizures of counterfeit products in fact reveal that violations of IPR (Intellectual Property Rights) are more common in certain sectors. In particular, the most seized products in 17 world economies are “articles of apparel and clothing accessories”, followed by “electrical machinery & equipment, telecommunication equipment, sound and television recorders” (OECD, 2008, p. 99). In the EU, the figures on border seizures reveal that 62.4% of seizures involve shoes, clothing, bags, wallets, purses and watches (EU TAXUD, 2013, p. 16).

The OECD (2008) did not simply consider the number of seizures of certain product categories around the world (which are of course proportional to the total volume of trade in the same product), but created an index that allows identification of the most vulnerable goods, called the GTRIC-P index.

The product categories most sensitive to counterfeiting were selected by the OCP study on the basis of this index, focusing on the top 20 categories according to the GTRIC-P. Since the GTRIC-P does not provide the exact correspondence of the products with the relevant NACE Rev.2 (Statistical Classification of Economic Activities in the European Community) business sector, the *closest* 10 NACE 4-digit sectors were selected to proxy the most vulnerable product according to the GTRIC-P ranking. They are reported in Table A.8 below.

**Table A.8 – List of NACE Rev 2 sectors most vulnerable to counterfeiting – Elaboration on OECD GTRIC-P index ranking**

<b>NACE sector</b>	<b>Corresponding code of NACE 4-digit</b>
<b>Retail sale of computers, peripheral units and software in specialised stores</b>	4741
<b>Retail sale of telecommunications equipment in specialised stores</b>	4742
<b>Retail sale of audio and video equipment in specialised stores</b>	4743
<b>Retail sale of electrical household appliances in specialised stores</b>	4754
<b>Retail sale of music and video recordings in specialised stores</b>	4763
<b>Retail sale of games and toys in specialised stores</b>	4765
<b>Retail sale of clothing in specialised stores</b>	4771
<b>Retail sale of footwear and leather goods in specialised stores</b>	4772
<b>Retail sale of cosmetic and toilet articles in specialised stores</b>	4775
<b>Retail sale of watches and jewellery in specialised stores</b>	4777

Source: Transcrime elaboration on NACE and OECD (2008) GTRIC-P index

Data on the turnover of these 10 business sectors were then gathered from the *Annual detailed enterprise statistics for trade published by Eurostat*.<sup>11</sup> Therefore, the size of the counterfeit market in each country was estimated by multiplying the sum of the turnover of these 10 NACE sectors (only retail sale in specialised stores) by:

- a) 5% and 10%, as done in the previous literature (*first approach*);
- b) The percentage of consumers strongly agreeing to accept counterfeit products in each EU MS according to Eurobarometer survey 2011, as in the last column of
- c) Table A.7 (*second approach*);

### First approach

Estimates of the upper and lower bounds of the revenues from counterfeiting were calculated as follows:

$$CMR_i^{MIN} = 0.05 \cdot LMR_i$$

$$CMR_i^{MAX} = 0.1 \cdot LMR_i$$

where  $CMR_i$  is the counterfeit market size in the country  $i$ , whereas  $LMR$  is the turnover (in euros) of the overall retail sales in the legal market of the most vulnerable NACE-4 digit sectors listed in table A.8. In particular  $LMR$  is calculated as:

$$LMR_i = \sum_{s=1}^{10} SSR_{s i}$$

where  $SSR_s$  is the turnover obtained from retail trade in one of the 10 most sensitive product sectors  $s$  (listed in Table A.8).

### Second approach

For the second estimate instead the calculation is:

$$CMR_i = W_i \cdot LMR_i$$

where  $W$  is the country-level willingness to accept counterfeit products according to the Eurobarometer survey (last column Table A.7) and  $LMR$  is the turnover of the vulnerable sectors as described above.

For example, the size of the counterfeit market in Spain is equal to:

- *First approach*: a range between 1,540 and 3,081 million euros calculated as

$$(CMR_{Spain}^{MIN} = 0.05 \cdot LMR_{Spain}) = 1,540 \text{ million euro and } (CMR_{Spain}^{MAX} = 0.1 \cdot LMR_{Spain}) = 3,081 \text{ million euro}$$

- *Second approach*: a turnover of 3,298 million euros obtained as

$$CMR_{Spain} = W_{Spain} \cdot LMR_{Spain} = 0.1275 \cdot LMR_{Spain} = 3,298 \text{ million euro}$$

This may then suggest that the size of the counterfeit market in Spain is more realistically/likely to be close to the upper bound? computed according to the first methodology, or may also be greater than it.

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<sup>11</sup> Eurostat database code: sbs\_na\_dt\_r2. Database available at [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs\\_na\\_dt\\_r2&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=sbs_na_dt_r2&lang=en).

### Limits of the estimates

The two illustrated methodologies have several limitations. In particular:

- All the sectors are considered equally vulnerable to counterfeiting, whereas statistics on seizures and, most of all, the GTRIC-P index computed by the OECD suggest different vulnerabilities across sectors;
- They include only some types of products, not comprising, for example, counterfeit medicine and counterfeit food products, which according to a large body of literature are constantly growing (UNICRI, 2012; Europol, 2013; Interpol, 2014a, 2014b);
- They consider only the turnover of products sold in legal specialised stores (see table A.8), while many counterfeit products are sold also via stalls and markets and through the internet (INTA, 2009). It is estimated, in fact, that over 50% of medicines sold on illegal websites that conceal their physical addresses are counterfeit (WHO, 2012), but a lack of statistics on e-commerce in pharmaceuticals hinders exact estimates.

Although the second methodology proposed is an advance on previous estimates, it too has limitations. In particular:

- It assumes that consumer demand (measured with the percentage of respondents who strongly accept counterfeit products according to Eurobarometer survey 2011) is fully satisfied by the supply of counterfeit product. In truth, it is likely that country-specific barriers to the supply of counterfeit products exist, so that the demand is not completely satisfied;
- It assumes an underlying willingness to accept counterfeit products regardless of the type of non-genuine product. It is more likely, in fact, that consumers are less willing to buy certain types of counterfeit goods, like fake medicines, because of the high threat they pose to health and safety.

## A1.2.5. MTIC Fraud

Section 4.9 of the main report presents the results of the calculation of the proportion of the VAT gap which could be attributed to MTIC fraud. Because many different actors contribute to the VAT gap (for a review see Borselli, 2011 and CASE & CPB, 2013), an indication of the proportion of the gap that could be specifically attributed to organised fraud was needed. Borselli (2011), based on data from HMRC (2011), reports that over the period 2000-2010, the percentage of MTIC fraud in relation to the VAT gap in the UK ranged between an average lower bound of 11% and average upper bound of 19.4%. Applying these percentage ranges to the overall VAT gap in the EU, Borselli found estimates of VAT loss due to MTIC fraud consistent with previous estimates.

To calculate the amount of VAT gap due to MTIC fraud for all the 28 EU MS, the same lower and upper bounds of 11% and 19.4% were used, and additionally their average was calculated (15.2%). The percentages were multiplied by to the most recent EU VAT gap estimates for each EU country. These were taken from the *Study to quantify and analyse the VAT Gap in the EU-27 Member States* (CASE & CPB, 2013), which uses data from 2011. This methodology results in the following formula for the calculation of the lower and upper bounds of the amount of VAT gap due to MTIC fraud for each EU country ( $i$ ):

$$MFR_i^{MIN} = 0.11 \cdot VAT\ gap_i$$

$$MFR_i^{MAX} = 0.194 \cdot VAT\ gap_i$$

where MFR indicates the revenues from MTIC fraud in the country  $i$ .

## A1.3. Background data for tables and maps in Part 1

Chapters 3 and 4 of the main OCP report provide a measure of the weight of the revenues from each illicit market on the economy of European countries. In particular, the percentage of the GDP of each EU country was calculated as the rate between the estimate of a certain illicit market and the consolidated EU GDP at current prices (ESA95) for the year 2010, i.e. the reference year for most of the estimates (and also the median year). The following tables present in detail the background data for each of the illicit markets for which an estimate was available or was produced.

**Table A.9 - Estimates of the revenues from the heroin market (EU 20 MS and Norway)**

Country	Estimate (million euros)	% of GDP 2010
Austria	318	0.11 %
Croatia	79	0.18 %
Czech Republic	64	0.04 %
Finland*	102	0.06 %
France	957	0.05 %
Germany	1,193	0.05 %
Greece	54	0.02 %
Hungary	19	0.02 %
Ireland	623	0.39 %
Italy	1,370	0.09 %
Latvia	205	1.14 %
Lithuania	36	0.13 %
Malta	18	0.28 %
Netherlands	54	0.01 %
Norway	163	0.05 %
Poland	84	0.02 %
Slovakia	29	0.04 %
Slovenia	37	0.10 %
Spain	270	0.03 %
United Kingdom	2,321	0.13 %

Source: heroin estimate: Transcrime-OCP elaboration; GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.10 - Estimates of the revenues from the cocaine market (EU 23 MS)**

Country	Estimate (million euros)	% of GDP 2010
Austria	131	0.05%
Belgium	87	0.02%
Bulgaria	17	0.05%
Croatia	32	0.07%
Czech Republic	56	0.04%
Denmark	82	0.03%
Estonia	18	0.12%
Finland	17	0.01%
France	755	0.04%
Germany	823	0.03%
Greece	16	0.01%
Hungary	21	0.02%
Ireland	90	0.06%
Italy	1,699	0.11%
Latvia	6	0.03%
Lithuania	7	0.03%
Netherlands	85	0.01%
Poland	83	0.02%
Portugal	24	0.01%
Romania	39	0.03%
Slovakia	11	0.02%
Slovenia	15	0.04%
Spain	1,199	0.11%
United Kingdom	1,452	0.08%

Source: cocaine estimate: Transcrime-OCP elaboration; GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.11 - Estimates of the revenues from the cannabis market (EU 27 MS)**

Country	Estimate (million euros)	% of GDP 2010
Austria	52	0.02%
Belgium	125	0.04%
Bulgaria	17	0.05%
Cyprus	7	0.04%
Czech Republic	47	0.03%
Denmark	41	0.02%
Estonia	7	0.05%
Finland	21	0.01%
France	1,277	0.07%
Germany	563	0.02%
Greece	28	0.01%
Hungary	43	0.04%
Ireland	47	0.03%
Italy	1,356	0.09%
Latvia	9	0.05%
Lithuania	15	0.05%
Luxembourg	5	0.01%
Malta	0.7	0.01%
Netherlands	305	0.05%
Poland	134	0.04%
Portugal	62	0.04%
Romania	8	0.01%
Slovakia	43	0.07%
Slovenia	45	0.13%
Spain	1,575	0.15%
Sweden	69	0.02%
United Kingdom	787	0.05%

Source: cannabis estimate: Caulkins, Kilmer, & Graf, 2013 GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.12 - Estimates of the revenues from the market for amphetamine and ecstasy (EU 25 MS)**

Country	Estimate (million euros)	% of GDP 2010
Austria	185	0.06%
Belgium	88	0.02%
Cyprus	13	0.07%
Czech Republic	462	0.31%
Denmark	69	0.03%
Estonia	27	0.18%
Finland	88	0.05%
France	245	0.01%
Germany	941	0.04%
Greece	44	0.02%
Hungary	128	0.13%
Ireland	46	0.03%
Italy	923	0.06%
Latvia	34	0.19%
Lithuania	11	0.04%
Luxembourg	4	0.01%
Malta	1	0.01%
Netherlands	92	0.02%
Poland	183	0.05%
Portugal	29	0.02%
Slovakia	108	0.16%
Slovenia	25	0.07%
Spain	896	0.09%
Sweden	79	0.02%
United Kingdom	1,513	0.09%

Source: amphetamine and ecstasy estimate: *Kilmer & Pacula, 2009*; GDP data: *Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])*

Table A.13 - Estimates of the revenues from the ITTP market (EU 28 MS)

Country	Estimate (million euros)	% on GDP 2010
Austria	133	0.05%
Belgium	130	0.04%
Bulgaria	195	0.54%
Croatia	23	0.05%
Cyprus	9	0.05%
Czech Republic	42	0.03%
Denmark	40	0.02%
Estonia	33	0.23%
Finland	146	0.08%
France	2,083	0.11%
Germany	1,805	0.07%
Greece	455	0.20%
Hungary	73	0.08%
Ireland	277	0.18%
Italy	546	0.04%
Latvia	61	0.34%
Lithuania	80	0.29%
Luxembourg	3	0.01%
Malta	9	0.14%
Netherlands	249	0.04%
Poland	601	0.17%
Portugal	25	0.01%
Romania	251	0.20%
Slovakia	12	0.02%
Slovenia	24	0.07%
Spain	635	0.06%
Sweden	132	0.04%
United Kingdom	1,304	0.08%

Source: ITTP estimate: Transcrime-OCP elaboration; GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.14 – Estimates of the revenues from the market in counterfeit products (EU 26 MS)**

Country	Estimate (million euros)	% of GDP 2010
Austria	1,899	0.67%
Belgium	1,320	0.37%
Bulgaria	244	0.68%
Cyprus	296	1.70%
Denmark	930.7	0.39%
Estonia	49	0.34%
Finland	280	0.16%
France	5,746	0.30%
Germany	8,198	0.33%
Greece	1,501	0.68%
Hungary	254	0.26%
Ireland	456	0.29%
Italy	4,596	0.30%
Latvia	53	0.29%
Lithuania	100	0.36%
Luxembourg	63	0.16%
Malta	61	0.94%
Netherlands	1,986	0.34%
Poland	676	0.19%
Portugal	512	0.30%
Romania	436	0.35%
Slovakia	257	0.39%
Slovenia	183	0.52%
Spain	3,928	0.38%
Sweden	1,706	0.49%
United Kingdom	4,569	0.26%

Source: counterfeit estimate: Transcrime-OCP elaboration on Eurostat data and Eurobarometer, 2011; GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.15 - Estimates of the revenues from MTIC fraud (EU 28 MS)**

Country	Estimate (million euros)	% of GDP 2010
Austria	527	0.19%
Belgium	755	0.21%
Bulgaria	92	0.26%
Czech Republic	645	0.43%
Denmark	390	0.17%
Estonia	46	0.32%
Finland	430	0.24%
France	4,899	0.25%
Germany	4,090	0.16%
Greece	1,484	0.67%
Hungary	562	0.58%
Ireland	168	0.11%
Italy	5,492	0.35%
Latvia	145	0.80%
Lithuania	206	0.74%
Luxembourg	84	0.21%
Malta	3	0.05%
Netherlands	610	0.10%
Poland	822	0.23%
Portugal	420	0.24%
Romania	1,573	1.27%
Slovakia	421	0.64%
Slovenia	50	0.14%
Spain	2,310	0.22%
Sweden	142	0.04%
United Kingdom	2,962	0.17%

Source: MTIC fraud estimate: Transcrime-OCP elaboration on CASE (2013 data); GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

**Table A.16 - Estimates of the revenues from cargo theft (EU 27 MS)**

Country	Estimate (million euro)	% on GDP 2010
Austria	1.9	0.0007%
Belgium	11.5	0.0032%
Bulgaria	0.03	0.0001%
Cyprus	0	0.0000%
Czech Republic	1.1	0.0007%
Denmark	2.7	0.0011%
Estonia	0.01	0.0001%
Finland	0.3	0.0002%
France	47.7	0.0025%
Germany	32.3	0.0013%
Greece	1.6	0.0007%
Hungary	1.7	0.0018%
Ireland	0.8	0.0005%
Italy	11.4	0.0007%
Latvia	0.5	0.0028%
Lithuania	0.2	0.0007%
Luxembourg	1.9	0.0047%
Malta	0.004	0.0001%
Netherlands	46.8	0.0080%
Poland	1.2	0.0003%
Portugal	0.2	0.0001%
Romania	0.3	0.0002%
Slovakia	0.5	0.0008%
Slovenia	0	0.0000%
Spain	21.2	0.0020%
Sweden	5.8	0.0017%
United Kingdom	232.8	0.0134%

Source: cargo theft estimate: Transcrime elaboration on Europol 2009, p. 5-6; GDP data: Eurostat (GDP 2010 and main components - Current prices [nama\_gdp\_c])

## A1.4. Methodology of Chapter 6: From the generation of illicit proceeds to the investment in the legal economy

This Section describes the methodology employed to estimate the portion of the illicit proceeds generated by the heroin market that is available for investment in the legal economy. The purpose of this model is to subtract the costs necessary to supply heroin from the revenues presented in Section 4.1.3 of the main report. In particular the costs taken into account by the model are:

- *raw material costs*, which means the economic resources necessary to buy the heroin (and also including the amount of heroin seized)
- *living expenses*, which are all the expenses that heroin suppliers may sustain for the direct satisfaction of their individual needs.<sup>12</sup>

The basic assumption of this model is that the heroin market is structured into four layers (see Chapter 6 of the main OCP report): three pertaining to the supply (respectively, from the bottom to the top) retail (RT), middle market (MM) and wholesale (WS) plus a final level representing heroin users: consumption (CS). Besides this basic assumption, this model has further characteristics.

- The first feature is that the number of actors and the price per gram increase at each level of the supply chain moving from the top to the bottom. Since actors are in the market to make money, they always sell heroin at a price higher per gram than what they have paid, in order to guarantee a profit margin.
- The second feature of the model is that the majority of heroin is seized at high levels of the supply chain. Indeed, the total amount of heroin seized in each country is divided as follows: wholesale (50%), middle market (30%), retail (20%). While several seizures may take place at consumption level, their impact on the total quantity of heroin seized in the country is presumed to be marginal.
- The third assumption is that this model does not foresee any cutting of the drugs (as in Reuter & Trautmann, 2009). In fact, given the high risk of apprehension connected with heroin trafficking, traffickers tend to sell their product as soon as possible. Cutting their product would require more means and infrastructure, and it would greatly increase the risk of being arrested, or having the product stolen or seized (Reuter & Trautmann, 2009). Hence, the quantity of drug available to consumers is the same as supplied by the wholesalers minus the quantity seized at each level of the supply chain.
- The fourth assumption is that revenues at the upper level are equal to costs at the lower level. In particular, expenditures at consumption are equal to revenues at retail because, logically, earning by retail sellers are equal to expenditures by users.

### The calculation of gross profits

For each level of the supply, revenues are equal to the quantity of the drug sold by its price ( $p$ ). The quantity of the drug sold at each level is equal to the quantity of the drug consumed ( $NC_{CS}$ ) plus a quantity that is assumed to be seized.<sup>13</sup> As said, the percentage of seizures is 20% at the Retail level, 50% at Middle Market and 100% at Wholesale. Respectively:

$$R_{RT} = (NC_{CS} + Seiz_{20\%}) \cdot p_{RT} = EXP_{CS}$$

$$R_{MM} = (NC_{CS} + Seiz_{50\%}) \cdot p_{MM} = RC_{RT}$$

$$R_{WS} = (NC_{CS} + Seiz_{100\%}) \cdot p_{WS} = RC_{MM}$$

where, for each level, revenues are equal to costs at the following level of the market. For the wholesale level, costs are calculated as follows:

<sup>12</sup>The living expenses considered are those identified by Eurostat and include: Operation of personal transport equipment, Transport services, Communications, Postal services, Telephone and telefax equipment, Telephone and telefax services, Recreation and culture, Audio-visual, photographic and information processing equipment, Other major durables for recreation and culture, Other recreational items and equipment, gardens and pets, Recreational and cultural services, Newspapers, books and stationery, Package holidays, Education, Pre-primary and primary education, Secondary education, Post-secondary non-tertiary education, Tertiary education, Education not definable by level, Restaurants and hotels, Catering services, Accommodation services, Miscellaneous goods and services, Personal care, Prostitution, Personal effects n.e.c., Social protection, Insurance, Financial services n.e.c., Other services n.e.c.

<sup>13</sup> For the estimate of the quantity of heroin consumed see Section A1.2.1.

$$RC_{WS} = (NC_{CS} + Seiz_{100\%}) \cdot p_{IMP}$$

where  $p_{IMP}$  is the price per gram that wholesale dealers pay to buy heroin. It is then possible to estimate the overall Gross profits ( $GP$ ) across the levels of the supply chain by subtracting the costs from the relevant revenues for each level of the supply:

$$GP = (R_{RT} - C_{RET}) + (R_{MM} - C_{MM}) + (R_{WS} - C_{WS})$$

**Table A.17 – Prices of heroin through the distribution system ca. year 2000 (per pure kilogram equivalent)**

Heroin	
Farmgate (Opium in Afghanistan)	550 \$
Export (Afghanistan)	\$2,000-4,000
Import - London	\$35,000
Wholesale - London (kilo)	\$50,000
Wholesale (Oz)	\$65,000
Retail - London (100 mg. pure)	\$135,000

Source: Reuter, 2009

The UNODC provides data on heroin prices at retail and wholesale level. However there are no data available on heroin prices at middle market nor at import level for the 7 OCP countries. Information on import and middle market prices are estimated from the values reported by Reuter (2009) and shown in Table A.17. The import price for the 7 OCP countries is easily estimated by calculating the price mark-up between the import and wholesale price according to the data reported by Reuter (2009). According to the data presented in Table A.17, the price of heroin increases by 43% between the import and the wholesale level. Hence, for each country  $i$  this mark-up is applied to wholesale prices reported in Table A.18 according to the following formula:

$$P_{IMP_i} = P_{WS_i} / \left( \frac{P_{WS}}{P_{IMP}} \right)$$

where the denominator is calculated according to the values reported in Table A.17.

**Table A.18 – Retail, middle market, wholesale and import prices for the 7 OCP countries. Prices per gram**

Price per gram (euro)	Retail*	Middle market**	Wholesale*	Import**
Finland	146.6	76.6	55.6	38.9
France	40.0	18.4	12.0	8.4
Ireland	199.8	66.9	27.1	18.9
Italy	52.4	34.0	28.5	20.0
Netherlands	38.4	21.7	16.7	11.7
Spain	59.3	38.3	32.0	22.4
United Kingdom	46.2	32.9	28.9	20.2

\*UNODC data.  
\*\* Elaboration on Reuter (2009).

Source: Transcrime – OCP elaboration

The information reported in Table A.17 by Reuter (2009) is also used to estimate the middle market price. In this case, the UNODC already reports the mark-up between wholesale and retail. However, it is necessary to estimate the share of this mark-up accruing between retail and middle market and the share between middle market and wholesale. According to the values reported by Reuter

(2009), 77% percent of the total mark-up between wholesale and retail price is generated between retail and middle market. Hence middle market prices for the 7 OCP countries are calculated as follows:

$$P_{MM} = P_{RT} - [(P_{RT} - P_{WS}) \cdot 77\%]$$

### The calculation of net profits

It is assumed that in order to estimate the net profits originated from the trafficking of heroin it is necessary to subtract other costs, including the actors' living expenses. This is equal to the number of actors ( $A$ ) involved in the supply of heroin multiplied by the living expenses ( $E$ ) for each of them:

$$E_T = (A_{RT} \cdot E) + (A_{MM} \cdot E) + (A_{WS} \cdot E)$$

This calculation requires estimation of the number of actors involved at each level of the supply chain. Actors, as in the rest of the model, are calculated by starting from the demand for heroin, i.e. from the number of people consuming the drug. Tremblay and Lacoste (1999), using *buy and bust* investigative files, estimated an average of 16 users for each heroin dealer. Considering that dealers may work part-time (a few days per week), Bouchard and Tremblay (2005) adjusted the estimate to 7.3 heroin users per dealer. Indeed, in order to quantify the dealer population, the OCP study multiplied heroin users by 1/7.3.

There is little information available to estimate the actors at a level higher than retail. However, the Matrix Knowledge Group (2007) reported, according to the calculation of an unpublished internal UK Home Office document, that in the United Kingdom there are 300 importers, 3000 wholesalers, and 70,000 street dealers. This model applies the rate between street dealers/wholesalers and wholesalers/importers as a proxy for, respectively, the rate between retail/middle market and middle market/wholesale. Indeed, middle market dealers are estimated by dividing retail dealers by 23, while wholesale dealers are estimated by dividing middle market dealers by 10.

In conclusion the net profits generated by the heroin market, i.e. the amount of proceeds available after subtracting raw material costs and living expenses, and hence available for reinvestment in the legal economy, can be estimated as follows:

$$NP = [(U \cdot AC) + Seiz_{25\%}] \cdot p_{RT} - [(U \cdot AC) + Seiz_{100\%}] \cdot p_{IMP} - (A_{RT} + A_{MM} + A_{WS}) \cdot E$$

This, as reported in Chapter 6 of the main report, is equal to:

$$NP = (R_{RT} - C_{RT} - E_{RT}) + (R_{MM} - C_{MM} - E_{MM}) + (R_{WS} - C_{WS} - E_{WS})$$

## A2. METHODOLOGICAL ANNEX PART 2

Part 2 of the OCP main report illustrates the results of the study of organised crime investments in the European legitimate economy, and in particular in the 7 OCP countries. As mentioned in the main report (see in particular Chapter 2), the lack of data in this field required an innovative methodology and the use of a wide range of sources, both qualitative and quantitative. The following Section A2.1 provides further details on how information and data on organised crime investments were selected, gathered and organised in order to allow the analysis then presented in the main report. Further country-specific methodological remarks and notes can be found in Section A4.

### A2.1. The collection and organisation of information on organised crime investments

#### *Definition of organised crime investments*

See Section 2.1 of the OCP main report for a detailed discussion of how *organised crime investments* were defined.

#### *Identification of the proxies*

See Section 2.2 of the OCP main report for a detailed discussion of how the notion of *organised crime investments* was operationalised.

#### *Data sources and data collection*

As said in Chapter 2, Section 2.2 of the OCP main report, evidence of *organised crime investments* was gathered from diverse sources, including:

- Judicial files;
- LEA reports and police operations files;
- Institutional reports (e.g. FATF, FIU reports, etc.);
- Academic studies;
- Media reports.

Only sources including evidence of criminal investments in the legal economy occurring between 2005 and December 2013 were considered.<sup>14</sup> Although the focus was primarily on the 7 OCP countries, the review of sources also yielded cases occurring in other EU member states.<sup>15</sup> As mentioned in Chapter 2 of the main report, Media reports were used as a residual source of data regarding police operations, seizures, and confiscations when it was not possible to gather information directly from the official sources. In particular, media reports were collected using media aggregators and search engines but also by developing a prototype software for the collection of newspaper articles specifically on organised crime investments, organised crime infiltration and money laundering cases, called iNotitium ([www.inotitium.com](http://www.inotitium.com)) (see Section 2.2 of the main OCP report).

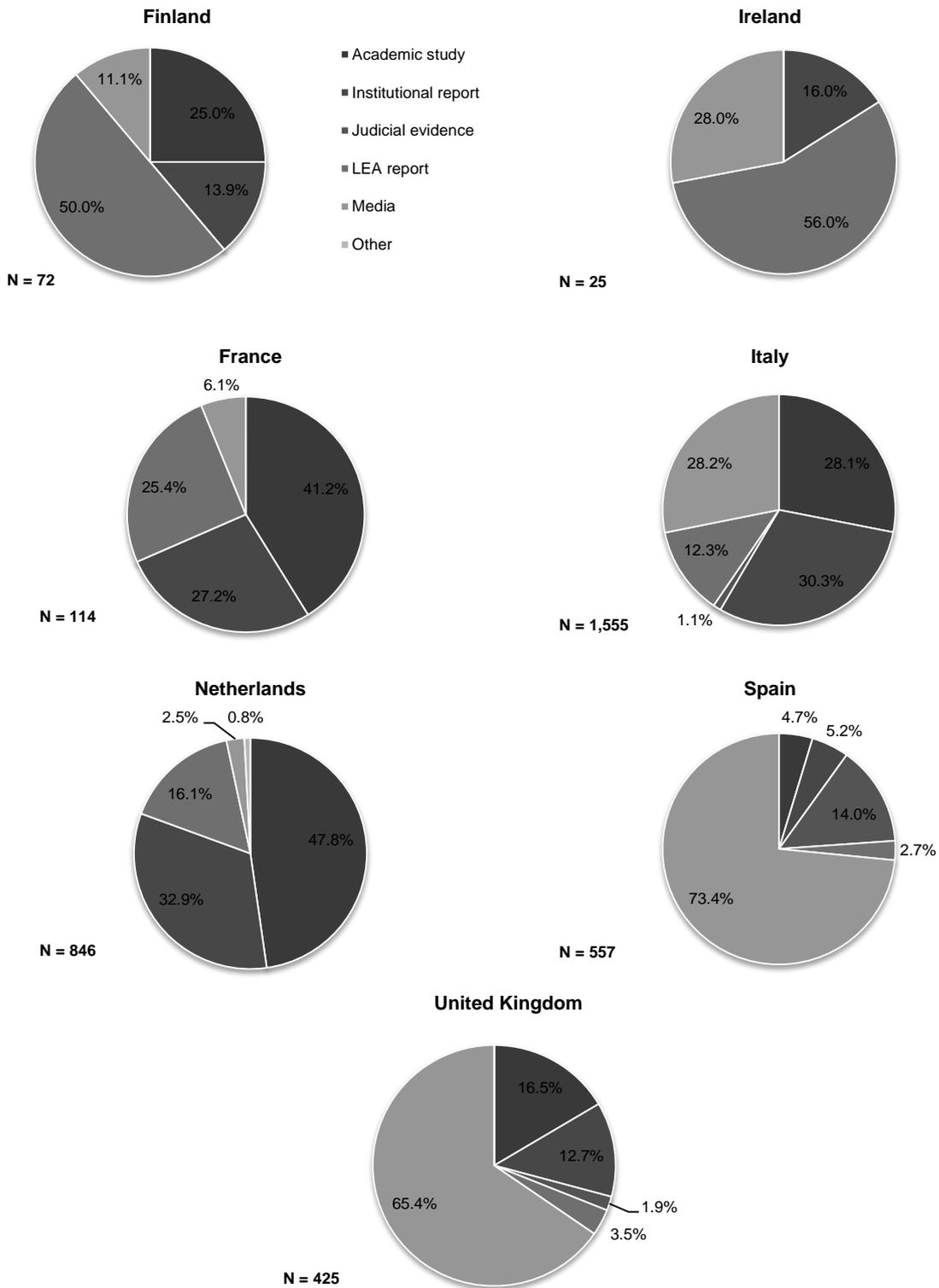
Substantial differences exist in terms of types of source used across the 7 OCP countries (Figure A.2). In some cases (e.g. France) most of the references to organised crime investments came from Academic studies; in others (e.g. Ireland) from LEA reports.

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<sup>14</sup> In some cases, it was not possible to determine the exact year and date of the investment. In this case, the date of the source (e.g. date of a media report) was taken as a proxy for the date of investment.

<sup>15</sup> For example, if a police operation conducted in an OCP country discovered that the OCG involved possessed or had acquired assets in another EU MS not covered by OCP.

Figure A.2 – Percentages of sources consulted for each OCP country by type of sources



**The collection of data and organisation into a database: the Database on Organised Crime Investments (DOCI)**

As mentioned in Chapter 2 of the main report, for each case of organised crime investment, information was collected, if available, on the geographic location of the investment, the type of asset, the related business sector (if the case referred to an investment in a company) and the related criminal group (as defined and classified above).

Once collected, this information was entered into a database called DOCI (Database on Organised Crime Investments). The database was structured so that each item of evidence on organised crime investment could generate multiple records, in the manner described below. In the main report, these records are called *references* to or *mentions* of organised crime investments.

**Example 1:**

“The police found evidence of infiltration of the Côte d’Azur economy by Russian criminal groups and Italian Camorra”.

➔ 2 references: 1) Russian criminal groups in Côte d’Azur and 2) Italian Camorra in Côte d’Azur.

**Example 2:**

“The *Caligola* Operation led to the confiscation of companies, controlled by the ‘Ndrangheta, in the construction, wholesale trade and manufacturing sectors”

➔ 3 references: 1) ‘Ndrangheta in the construction sector, 2) ‘Ndrangheta in the wholesale trade sector, 3) ‘Ndrangheta in the manufacturing sector

Each reference does not necessarily correspond to a single asset (i.e. if the sentence says that “Three companies were seized in the construction sector”, it is recorded only once as “construction”). Hence the number of references cannot be interpreted as the number of assets, of real estate properties, of companies, etc.

As a result of the collection of data, 4,859 references to organised crime investments were entered in the DOCI.<sup>16</sup>

For each reference in the database the following variables (Table A.19) were recorded with the greatest level of detail available according to the information provided in the source.

**Table A.19 – List of variables included in the DOCI**

Variable	Notes	Categories and Examples
<b>Author/Source</b>	Author of the study (person or institution). For scientific literature and reports only.	e.g. Federico Varese; SOCA, etc.
<b>Title of the study/article</b>	Title of the study/article as reported by the document	e.g. «When criminals invest in businesses. Are we looking into the right direction?»
<b>Institution/ publisher/ newspaper</b>	Institution or publisher (for scientific literature and reports), or name of the newspaper which published the report (for newspaper articles or media reports)	e.g. European Journal on Criminology; Italian Ministry of Interior; <i>Le Monde</i> , etc.
<b>Date/year of publication</b>	Date (dd/mm/yyyy) (for newspaper articles), or year of publication (for scientific literature and reports)	e.g. 14/05/2014
<b>Year of operation in case study</b>	Year of investment or of LEA operation or of judicial evidence	e.g. 2004-2009; 2005, etc.
<b>Type of document</b>	<ul style="list-style-type: none"> <li>• Academic study</li> <li>• Institutional report</li> </ul>	

<sup>16</sup> Note that also references collected through the ARIEL project ([www.arielproject.eu](http://www.arielproject.eu)) were included in the database and used for the purpose of the OCP analysis.

		<ul style="list-style-type: none"> <li>• LEA report</li> <li>• Judicial evidence</li> <li>• Media report</li> </ul>
<b>Unit of analysis:</b>		<ul style="list-style-type: none"> <li>• Case study</li> <li>• Aggregate analysis</li> </ul>
<b>Language</b>	Language of the document	e.g. Finnish, Italian, English, etc.
<b>Infiltrated territory (original wording)</b>	Area (region, province, city) of the organised crime investment, <i>as described in the document/article</i>	e.g. “Northern Italy”
<b>Country (NUTS 1 level)</b>	Country in which the reference indicates that the organised crime investment occurred or is present	e.g. Finland, Bulgaria, etc.
<b>NUTS 2 level</b>	The corresponding NUTS 2 level geographic area	e.g. Lombardy; Ile de France, etc.
<b>NUTS 3 level</b>	The corresponding NUTS 3 level geographic area	e.g. Province of Utrecht
<b>Type of asset (original wording)</b>	The type of asset in which the organised crime investment occurred, as described in the document/article	e.g. “Luxury cars”
<b>Type of asset classification (OCP)</b>	Type of asset in which the organised crime investment occurred, according to the OCP classification (see Table A.20 below)	
<b>Business sector (original wording)</b>	The business sector where the organised crime investment occurred (if type of asset is a company), <i>as described in the document/article</i>	e.g. “Car rental”
<b>Business sector classification (OCP)</b>	See Table A.21 – OCP classification of business sectors and related NACE	
<b>NACE label</b>	The general business sector of the company, as identified in the NACE classification (Rev. 2). The general business sector is identified with the letter only.	e.g. Accommodation and food service activities
<b>NACE 1-digit label</b>	The business sector of the company, as identified in the NACE classification. According to the business sector indicated in the document, partners are asked to identify, whenever possible, the respective NACE 1 or 2-digit sector and corresponding code.	e.g.
<b>NACE 2-digit label</b>		NACE 1-digit label: Real estate activities; NACE 2-digit label: Buying and selling of own real estate;
<b>NACE 2-digit code</b>		NACE 2-digit code: L68.1.
<b>Type of organised crime group</b>	Original wording found in the source.	e.g. ‘Ndrangheta; Russian criminal groups; Chinese triads
<b>OCG classification (OCP)</b>	Type of OCG according to the OCP classification (see Table A.1 – Classification of criminal groups in the OCP project)	
<b>Related illegal activities</b>	Illicit activity related to the organised crime investment (if mentioned by the source)	e.g. Prostitution; Drug trafficking

### Classification of assets

The different types of assets that can be the object of organised crime investment were classified according to the standardized categories listed in Table A.20. This classification (used throughout the main OCP report), is based on the categories used by previous studies, and in particular by the study on mafia investments in Italy (Transcrime, 2013).

To be noted is that the available information mentioned by the original source did not always make it possible to determine the exact types of assets, and hence to group them according to the classification illustrated below. For example, in most cases it was not possible to determine if an investment in a company referred to the ownership of a *majority* share or a *minority* share of the company's share capital. Similarly, in the case of an investment in real estate or a registered asset it was not possible to determine respectively the subtype of the building (e.g. a flat or a villa) or the vehicle (e.g. a car, a van or a motorbike). In all these cases, it was decided to attribute the closest *type* or *macrotype* of asset according to the OCP classification.

**Table A.20 – Classification of types of assets in the DOCI and in the OCP report**

Macrotype	Type	Subtype
Real estate	House	Apartment, Detached house, Villa, Other, Unknown
	Land	Farmland, Land with farm building, Land with zoning permit, Unknown
	Room	Basement, Garage, Parking space, Unspecified room, Unknown
	Industrial and commercial real estate	Construction site, Hotel or boarding house, Industrial facility, Quarry, Sports facility, Store/shop, Warehouse, Other building, Unknown
	Building	Building, Building in urban area with land, Other, Unknown
Companies	Stocks, Company shares (both <i>majority</i> and <i>minority</i> shares), Companies (including assets)	
Registered Assets	Boat	
	Farm machinery	
	Motor vehicle (including cars, motorbikes, etc)	
	Other registered asset	
Other movable assets	Animal (e.g. racehorse)	
	Bank account	
	Cash	
	Credits/Bonds	
	Jewels and valuables	
	Other movable assets	

### Business sectors

When evidence was found of organised crime investment in a company, an attempt was made to identify the related business sector. Again, it was decided to group the business sectors identified in the original sources according to a standardised classification. This was mainly based on the 21 sections (categories with the lowest level of disaggregation) of the Statistical Classification of Economic

Activities in the European Community (i.e. NACE Rev. 2)<sup>17</sup> and then customised into 29 categories (first column Table A.21) in order to allow a more detailed classification. Table A.21 reports, for each OCP category of business sectors, the related NACE (Rev. 2) section. To be noted is that, also in this case, the original source did not always enable exact determination of the business sector of the infiltrated company. In this case, it was decided to attribute the closest OCP business sector or to label it as N/A (not available).

**Table A.21 – OCP classification of business sectors and related NACE (Rev. 2) label**

OCP classification of business sectors (in alphabetical order)	Examples (original wording)	Related NACE (Rev. 2) label
<b>Agriculture and fishing</b>	<i>Companies active in breeding, husbandry, fishery, crops</i>	A - Agriculture, forestry and fishing
<b>Bars and restaurants</b>	<i>Coffee bars, cybercafés, restaurants, pizzerias, pubs, kebab restaurants, fast-food outlets</i>	I - Accommodation and food service activities
<b>Clubs</b>	<i>Dance clubs, night clubs, discotheques</i>	R - Arts, entertainment and recreation
<b>Construction</b>	<i>Construction of residential and non-residential buildings, roads, motorways; civil engineering; demolition, plumbing and construction-related activities</i>	F - Construction
<b>Petrol and gas supply</b>	<i>Petrol stations, distribution of LPG</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Renewable energy</b>	<i>Wind farm development, biomass, photovoltaic</i>	D - Electricity, gas, steam and air conditioning supply
<b>Banking and financial activities</b>	<i>Banks, insurance companies, financial services</i>	K - Financial and insurance activities
<b>Hotels and other tourist accommodations</b>	<i>Hotels, motels, tourist resorts, accommodation services, beach resorts</i>	I - Accommodation and food service activities
<b>Manufacturing</b>	<i>Manufacture of clothes, of machinery</i>	C - Manufacturing
<b>Mining and quarrying</b>	<i>Mining and quarrying, extraction of sands, manufacture of cement, plasters</i>	B - Mining and quarrying
<b>Money service businesses</b>	<i>Money service businesses, money transfer agencies</i>	K - Financial and insurance activities
<b>IT and other services</b>	<i>IT companies, travel agencies, call centres, labour unions, employment centres, renting videogames, entertainment</i>	N - Administrative and support service activities
<b>Maintenance and cleaning services</b>	<i>Maintenance and cleaning services</i>	N - Administrative and support service activities
<b>Sex, tattoo and other personal activities</b>	<i>Sex shops, tattoo shops, massage parlours, nails shops, nails bars, hairdresser's, beauty salons</i>	S - Other services activities
<b>Private security</b>	<i>Corporate security, bodyguards, bouncers</i>	N - Administrative and support service activities
<b>Real estate activities</b>	<i>Real estate agencies, buying, selling, renting of</i>	L - Real estate activities

<sup>17</sup> These are: A - Agriculture, forestry and fishing, B - Mining and quarrying, C - Manufacturing, D - Electricity, gas, steam and air conditioning supply, E - Water supply; sewerage; waste management and remediation activities, F - Construction, G - Wholesale and retail trade; repair of motor vehicles and motorcycles, H - Transporting and storage, I - Accommodation and food service activities, J - Information and communication, K - Financial and insurance activities, L - Real estate activities, M - Professional, scientific and technical activities, N - Administrative and support service activities, O - Public administration and defence; compulsory social security, P - Education, Q - Human health and social work activities, R - Arts, entertainment and recreation, S - Other services activities, T - Activities of households as employers; undifferentiated goods - and services - producing activities of households for own use, U - Activities of extraterritorial organisations and bodies.

<i>real estates</i>		
<b>Repair and retail of vehicles</b>	<i>Vehicle repair, car retailing, second-hand car retailing</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Casinos, VLT and betting activities</b>	<i>Casinos, slot machines, video lottery, VLT, gambling centres</i>	R - Arts, entertainment and recreation
<b>Sports and gaming</b>	<i>Sporting activities (e.g. gyms), football teams</i>	R - Arts, entertainment and recreation
<b>Transportation and renting of motor vehicles</b>	<i>Transports (both public and private), logistics and express courier, renting and leasing of cars/other motor vehicles (e.g. cranes)</i>	H - Transportation and storage
<b>Waste and scrap management</b>	<i>Waste recycling, waste management, scrap metals</i>	E - Water supply; sewerage; waste management and remediation activities
<b>Wholesale and retail of clothing and textiles</b>	<i>Wholesale and retail of clothing and textiles</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Wholesale and retail of food</b>	<i>Wholesale and retail of food products (e.g. dairy products, vegetables, etc.)</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Wholesale and retail of gold and jewellery</b>	<i>Wholesale and retail trade of gold (e.g. "compro oro"), jewellery, precious stones</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Wholesale and retail trade</b>	<i>Wholesale and retail trade where not specified or not belonging to any of the categories above</i>	G - Wholesale and retail trade; repair of motor vehicles and motorcycles
<b>Hospitals and residential care</b>	<i>Hospitals, private clinics, residential care homes, disabled people's accommodation, dentists</i>	Q - Human health and social work activities
<b>Legal and professional activities</b>	<i>Legal and accounting, management consultancy, advertising and marketing</i>	M - Professional, scientific and technical activities
<b>N/A</b>	<i>Business sector not indicated or not available</i>	-
<b>Other</b>	<i>Other sectors not classified in previous categories</i>	-

## A3. METHODOLOGICAL ANNEX PART 3

Part 3 of the main OCP report presents the results of the study of the confiscation of criminal assets in Europe, with a focus on the 7 OCP countries. In particular, as discussed in the main report, two analyses were conducted:

- An assessment of the level of availability of data on confiscated assets in Europe;
- An analysis, on the basis of the available data, of the assets confiscated in the 7 OCP countries.

While the main methodological remarks and assumptions behind Part 3 have been already discussed in Chapter 2 of the main report, the following section A3.1 provides further methodological details about the assessment of the availability of data (and in particular on the questionnaire disseminated among EU agencies), while Section A3.2 describes in detail how the available data on confiscated assets were organised and systematised in a standardised template.

### A3.1. Assessment of the availability of data on confiscated assets in Europe

As said in Chapter 2 of the main report, the assessment of the availability of data on confiscated assets in Europe was carried out through:

- a survey among the EU asset recovery and asset management offices of the 28 EU MS using primarily a questionnaire (reported below);
- the analysis of official reports published by the same agencies or of other previous research in this field, e.g. the work of the EU Asset Recovery Office Platform and of Europol Criminal Assets Bureau (ECAB).
- contacts and interviews with representatives of EU agencies involved in the recovery and management of criminal assets at European level.

#### *The questionnaire*

The survey was conducted primarily through the dissemination of a questionnaire. The questionnaire was sent to both the official Asset Recovery Offices designated at national level (through the EU ARO Platform network) and other public agencies that may collect, store or manage information on the asset recovery and management process.<sup>18</sup>

The questionnaire, entirely reported below (Table A.22), gathered information available for each confiscated asset. In particular, four categories of information were identified:

1. General information
2. Information about real estate
3. Information about companies
4. Information about registered (i.e. cars, motorcycles, boats and other vehicles) and other movable assets.

The general information (e.g. the date of confiscation or the location) concerned all types of assets, while other information applied only to certain categories (e.g. the make or the model of a confiscated car).

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<sup>18</sup> Council Decision 2007/845/JHA1 obliges Member States to set up or designate national Asset Recovery Offices ("AROs") as national central contact points which facilitate, through enhanced cooperation, the fastest possible EU-wide tracing of assets derived from crime. For a list of the designated national AROs, see [http://ec.europa.eu/dgs/home-affairs/news/intro/docs/1\\_en\\_act\\_part1\\_v8.pdf](http://ec.europa.eu/dgs/home-affairs/news/intro/docs/1_en_act_part1_v8.pdf). Note that in some countries more than one agency has been designated (e.g. in France both a police-based agency – PIAC – and a judicial agency – AGRASC – are ARO contact points at European level).

Three levels of information availability were classified:

- *Information available and public*: collected by the agency and made publicly available (e.g. through annual reports or on the official website);
- *Information available but not public*: collected at national level and not public but obtainable upon request from LEAs, FIUs, AMOs or in certain cases for statistical purposes;
- *Information not available*: not collected or not available at national level.

The items of information included in the questionnaire (listed below) reflected those included in the Italian database on seized and confiscated assets provided by the ANBSC for the *Mafia investments* project (Transcrime, 2013):

- Macrotype, type and subtype of asset (see Table A.20);
- Date of confiscation;
- Location of the confiscated asset (at least NUTS 2);
- Nationality of the owner(s)/shareholder(s);
- Criminal affiliation of the owner(s)/shareholder(s) (e.g. OC group, Camorra, Hells Angels MC, etc.);
- Offence(s) related to the confiscation;
- Type of confiscation (e.g. conviction based confiscation, etc.);
- Business form (if the confiscated asset is a company);
- Business sector (if the confiscated asset is a company).

**Table A.22 – Questionnaire for assessing the availability of data on confiscated assets**

Items of information		Examples	Information available and public	Information available but not public	Information not available	Comments <sup>19</sup>
<b>Applicable to ALL MACROTYPES of confiscated assets</b>						
<b>A.1</b>	Macrotype	e.g. Real estate, Company, Registered assets, Other movable assets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.2</b>	Date of confiscation		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.3</b>	Date of seizure		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.4</b>	Number/ID of confiscation decree/Judicial authority which issued the decree		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.4 bis</b>	Country of the authority requesting the confiscation of the asset		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.5</b>	Location of the confiscated asset <sup>20</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	A.5.1	NUTS 2 level <sup>21</sup> e.g. Region Lombardy, Cataluña, Île de France, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>19</sup> For example comments could clarify whether alternative or additional classifications are adopted in your EU MS.

<sup>20</sup> This refers to the location of the confiscated good (if the good is a legal entity, its registered seat).

<sup>21</sup> The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing the territory of the EU in countries, regions, provinces and other territorial units. For more information visit [http://ec.europa.eu/eurostat/ec.europa.eu/portal/page/portal/nuts\\_nomenclature/introduction](http://ec.europa.eu/eurostat/ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction).

	A.5.2	NUTS 3 level	e.g. Province of Utrecht, Department of Savoie, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	A.5.3	LAU 2 level (Municipality)	e.g. Milan, Lyon, Pamplona, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	A.5.4	Street / Number	e.g. Largo Gemelli 1, Via Mazzini 14, Rue de Bergerac 28, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	A.5.5	Coordinates	Latitude/Longitude	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.6</b>	% Share of the asset confiscated <sup>22</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.7</b>	Name of the owner(s)/shareholder(s) <sup>23</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.8</b>	Nationality of the owner(s)/shareholder(s)	e.g. French, Spanish, Albanian, unknown, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.9</b>	Criminal affiliation of the owner(s)/shareholder(s)	e.g. Organised crime group, Camorra OCG, 'Ndrangheta OCG, Hells Angels MC, Other OCG, non OC group, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.10</b>	Offence(s) related to the confiscation <sup>24</sup>	Terrorism, Trafficking in human beings, Sexual exploitation of women and children, Illicit drug trafficking, Illicit arms trafficking, Corruption, Counterfeiting of means of payment, Computer Crime, Participation in a criminal organisation <sup>25</sup> , other.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.11</b>	Type of confiscation	e.g. Conviction-based confiscation, nonconviction-based confiscation, extended confiscation, confiscation from a third party	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.12</b>	Value of the asset <sup>26</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.13</b>	Condition of the asset	e.g. dilapidated, need of maintenance/restoration works, in good condition, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>A.14</b>	Legal situation of the asset <sup>27</sup>	e.g. Acquired with an hire purchase contract	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>22</sup> In the case of a company or other legal entity, this refers to the fraction of the share capital confiscated.

<sup>23</sup> This refers to the name of the natural or legal person who possesses the exclusive right to hold, use, benefit from, enjoy, convey, transfer, and otherwise dispose of the confiscated asset or of the share of the property which has been confiscated.

<sup>24</sup> This refers to the offence(s) in the area of serious crime in relation to which the confiscation was carried out. The list of offences reported reflects the one adopted by the Proposal for a Directive on the freezing and confiscation of proceeds of crime in the EU, based on Article 83(1) of the Treaty on the Functioning of the European Union (TFEU).

<sup>25</sup> Following the Proposal for a Directive on the freezing and confiscation of proceeds of crime in the EU, the area of "participation in a criminal organisation" must be taken to include other criminal activities not specifically listed in Article 83(1) of the TFEU where activities are committed by participating in a criminal organisation as defined in the Framework Decision 2008/841/JHA on the fight against organised crime.

<sup>26</sup> This refers to the market value or the book value of the real estate property estimated at the moment of seizure/confiscation.

		<sup>28</sup> , Mortgage on the property <sup>29</sup> , Occupied property/rented to third persons <sup>30</sup> , illegally occupied, property under joint ownership, etc.				
<b>Applicable to confiscated REAL ESTATE</b>						
<b>A.15</b>	Type	E.g. House (apartment, detached house, villa, etc.), Land, Room, Industrial and commercial real estate (e.g. industrial facility, quarry, store/shop, warehouse, etc.), generic building, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.16</b>	Characteristics of the surrounding area <sup>31</sup>	E.g. rural area, industrial area, residential area, other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Applicable to confiscated COMPANIES</b>						
<b>A.17</b>	Company name	Name of the company in detail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.18</b>	Company ID number <sup>32</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.19</b>	Company VAT Number	E.g. Partita IVA, VAT identification number, NIF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.20</b>	Business form	E.g. Individual company, Private limited liability company <sup>33</sup> , Public limited liability company <sup>34</sup> , unlimited company, cooperative, legal arrangement, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.21</b>	Business sector	e.g. <sup>35</sup> A - Agriculture, forestry and fishing, B - Mining and quarrying, C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<sup>27</sup> This refers to the legal situation of the property at the time of confiscation.

<sup>28</sup> This refers to an agreement to pay for goods in parts or a percentage at a time (e.g. monthly).

<sup>29</sup> A loan issued by a bank, mortgage company or other financial institution for the purchase of a property.

<sup>30</sup> Occupied by relatives, friends, etc. or rented to other subjects.

<sup>31</sup> This refers to the type/characteristics of the area where the confiscated good is located.

<sup>32</sup> This refers to the ID number of the company which is attributed by the relevant company registry.

<sup>33</sup> The term "private limited liability company" refers to the following types of companies: Gesellschaft mit beschränkter Haftung (Germany); société de personnes à responsabilité limitée / de personenvennootschap met beperkte aansprakelijkheid (Belgium); anpartsselskaber (Denmark); société à responsabilité limitée (France); Εταιρεία περιορισμένης ευθύνης (Greece); private companies limited by shares or by guarantee (Ireland); società a responsabilità limitata (Italy); société à responsabilité limitée (Luxembourg); de besloten vennootschap met beperkte aansprakelijkheid (The Netherlands); private companies limited by shares or by guarantee (United Kingdom); sociedad de responsabilidad limitada (Spain); sociedade por quotas (Portugal); Aktiengesellschaft, Gesellschaft mit beschränkter Haftung (Austria); Osakeyhtiö/aktiebolag (Finland), Aktiebolag (Sweden).

<sup>34</sup> The term "public limited liability company" refers to the following types of companies: Aktiengesellschaft, die Kommanditgesellschaft auf Aktien (Germany); société anonyme / de naamloze vennootschap, la société en commandite par actions / de commanditaire vennootschap op aandelen (Belgium); aktieselskaber, kommanditaktieselskaber (Denmark); société anonyme, société en commandite par actions (France); η ανώνυμη εταιρία (Greece); public companies limited by shares or by guarantee (Ireland); società per azioni, la società in accomandita per azioni (Italy); société anonyme, la société en commandite par actions (Luxembourg); de naamloze vennootschap (The Netherlands); public companies limited by shares or by guarantee (The United Kingdom); sociedad anónima (Spain), Sociedade anónima de responsabilidade limitada (Portugal), Aktiengesellschaft (Austria); Osakeyhtiö/Aktiebolag (Finland), Aktiebolag (Sweden).

<sup>35</sup> The classification of economic sectors reported here is based on the NACE Rev. 2 - Statistical classification of economic activities. For more details please refer to [http://epp.eurostat.ec.europa.eu/portal/page/portal/product\\_details/publication?p\\_product\\_code=KS-RA-07-015](http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-RA-07-015).

		– Manufacturing, F- Construction, etc.				
<b>A.22</b>	Number of employees <sup>36</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.23</b>	Total revenues <sup>37</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.24</b>	Total assets <sup>38</sup>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Applicable to REGISTERED ASSETS</b>						
<b>A.25</b>	Type	e.g. Boat, Motor vehicle, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.26</b>	Make		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>A.27</b>	Model		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>OTHER MOVABLE ASSETS</b>						
<b>A.28</b>	Type	e.g. Animals, Bank Account, Cash, Jewels and valuables, other, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

#### Respondents to the survey

It was possible to collect detailed information through the questionnaire for the following seventeen agencies: *Organe Central pour la Saisie et la Confiscation* (Central Office for Seizure and Confiscation – COSC), Belgium; Ministry of the Interior (MUP), Criminal Police Directorate, National Police Office for Suppression of Corruption and Organized Crime, Economic Crime and Corruption Department, Croatia; Unit for Combating Money Laundering (MOKAS-FIU), Cyprus; Unit Combating Corruption and Financial Crimes (UOKFK), Czech Republic; State Prosecutor for Serious Economic Crime (*Statsadvokaten for Særlig Økonomisk Kriminalitet*), Denmark; National Police Board, Ministry of the Interior, Finland; Agency for the management and recovery of seized and confiscated assets (*Agence de gestion et de recouvrement des avoirs saisis et confisqués* - AGRASC), France; Federal Office of Justice (Division III 1: Extradition, Transfer of Prisoners, Mutual Legal Assistance, European Judicial Network in Criminal Matters), Germany; Criminal Assets Bureau (CAB), Ireland; *Agenzia Nazionale Beni Sequestrati e Confiscati* (ANBSC), Italy; *Guardia di Finanza* (GdF), Italy; *Servizio Analisi Criminale* (SAC), Ministry of the Interior, Italy; Criminal Police (Lietuvos kriminalines policijos biuras), Lithuania; Criminal Assets Deprivation Bureau of the Public Prosecution Service (*Bureau Ontnemingswetgeving Openbaar Ministerie* - BOOM), Netherlands; The Public Prosecutor's Office for serious fraud, environmental crime and asset confiscation (PPO), Netherlands; *Fiscalía Especial para la Prevención y Represión del Tráfico Ilegal de Drogas*, Spain; *Plan Nacional Sobre Drogas* (PNSD), Spain. In addition, a feedback was collected from other seven agencies: Bundeskriminalamt (Division SO 35 – VIVA - Asset Recovery Office), Germany; Ministry of Justice (*Sistema Informativo Prefetture e Procure dell'Italia* - SIPPI), Italy; National Office for Crime Prevention and for Asset Recovery, Ministry of Justice, Romania; Financial Intelligence Unit of the Bureau of Combating Organised Crime of the Presidium of the Police Force, Slovakia; Crown Prosecution Service (CPS), United Kingdom; National Crime Agency, United Kingdom; Organised Crime and Counter Terrorism Unit (OCCT) of Police Scotland, United Kingdom.

<sup>36</sup> This refers to the number of employees of the company at the time of seizure.

<sup>37</sup> This refers to the total revenues of the company reported in the financial statement of the year or the last available year before the seizure.

<sup>38</sup> This refers to the total assets of the company reported in the balance sheet of the year or the last available year before the seizure.

## A3.2. The organisation of data on confiscated assets

When possible, and in particular for the 7 OCP countries, data on confiscated assets (*per each confiscated asset*) were collected for the purpose of the analysis presented in Chapter 12. Data were standardised according to the template below (Table A.23).

However, as widely discussed in Chapter 12 of the main OCP report, it should be noted that, given the lack of disaggregate information, the template was used (partially) only for few countries (Finland, France, Ireland and Italy – see Section A4 for more details). In the case of all the other countries, information was available only in aggregate format.

Table A.23 – Template for the organisation of data on confiscated assets

Variables	Categories/examples
<b>Location of the asset - Country</b>	e.g. Italy
<b>Location - NUTS 2 level</b>	e.g. Lombardia
<b>Location - NUTS 3 level</b>	e.g. Milano (province)
<b>Location – LAU 2 level</b>	e.g. Casorezzo
<b>Macrotype of asset</b>	See Table A.20
<b>Type</b>	See Table A.20
<b>Subtype</b>	See Table A.20
<b>Date of confiscation</b>	e.g. 13/04/2010
<b>Date of seizure</b>	e.g. 11/07/2006
<b>Country of the authority requesting confiscation of the asset</b>	e.g. Finland
<b>Nationality of the owner(s)/shareholder(s) (all types of assets)</b>	e.g. Italian
<b>Criminal affiliation of the owner(s)/shareholder(s) (all types of assets)</b>	Organised crime group (specify)
	Non-organised crime group
	Unknown
<b>Organised crime groups</b>	e.g. Bandidos MC
<b>Type of confiscation (all types of assets)</b>	Conviction-based confiscation Non conviction-based confiscation Extended confiscation Confiscation from a third party
<b>Business sectors NACE (Rev. 2) classification (only for “companies”)</b>	A - Agriculture, forestry and fishing B - Mining and quarrying C - Manufacturing D - Electricity, gas, steam and air conditioning supply E - Water supply; sewerage, waste management and remediation activities F - Construction G - Wholesale and retail trade; repair of motor vehicles and motorcycles H - Transportation and storage I - Accommodation and food service activities J - Information and communication K - Financial and insurance activities L - Real estate activities M - Professional, scientific and technical activities N - Administrative and support service activities O - Public administration and defence; compulsory social security

	<p>P - Education</p> <p>Q - Human health and social work activities</p> <p>R - Arts, entertainment and recreation</p> <p>S - Other service activities</p> <p>T - Activities of households as employers; undifferentiated goods and services - producing activities of households for own use</p> <p>U - Activities of extraterritorial organisations and bodies</p>
<b>Business legal form</b> (only for “companies”)	<p>Individual company</p> <p>Private Limited Liability Company</p> <p>Public Limited Liability Company</p> <p>Unlimited Company</p> <p>Cooperative</p> <p>Legal arrangement</p> <p>Other</p>
<b>Offence(s) related to the confiscation</b>	<p>Terrorism</p> <p>Trafficking in human beings</p> <p>Sexual exploitation of women and children</p> <p>Illicit drug trafficking</p> <p>Illicit arms trafficking</p> <p>Corruption</p> <p>Counterfeiting of means of payment</p> <p>Computer crime</p> <p>Organised crime</p> <p>Other (specify)</p>
<b>Value of the asset</b>	e.g. 100,000 euros
<b>Condition of the asset</b> (all types of assets)	<p>Dilapidated/Abandoned</p> <p>Need to maintenance/restoration works</p> <p>In good condition</p> <p>Unknown</p>
<b>Legal situation of the asset</b> (all types of assets)	<p>Bought with a hire purchase contract</p> <p>Mortgage on the property</p> <p>Occupied property/rented to third persons</p> <p>Illegally occupied</p> <p>Property under joint ownership</p> <p>Other (specify)</p> <p>Unknown</p>
<b>Characteristics of the surrounding area</b> (only for “real estate”)	<p>Rural area</p> <p>Industrial area</p> <p>Residential area</p> <p>Other</p>

## A4. METHODOLOGICAL ANNEX – OCP COUNTRIES

### A4.1. Finland

*Sarianna Petrell and Jarmo Houtsonen (Police University College, Finland)*

#### *Methodology of Section 5.1*

The literature review on research publications on illicit markets in Finland produced very few results. Owing to gaps and imprecisions in knowledge, it is very hard to furnish reliable estimates of the size of illegal markets or the relative share of OC in those markets in Finland. First, scientific research on OC in Finland is scant. There are only a few research publications on OC. These studies do not specify the role or share of organised crime in illegal markets, but merely depict the markets as a whole and the different actors, circumstances, substances, routes, and victims. There are only a few estimates of illegal turnover gained from transactions in illegal markets. The number of OCGs involved in several aggravated criminal cases and the amount of assets confiscated from the OCG members show that drug trafficking and financial crime are the two most profitable illegal markets in Finland. Because drug trafficking is a politically interesting subject, it has been monitored efficiently and examined carefully. That is why illicit drugs are quite well covered by the literature, whereas most of the other illicit markets lack public analysis.

Also the availability of detailed information on various criminal actors is quite inadequate in Finland. It is not feasible to analyse the specific roles of the OCGs, or categorize which particular OCG exploits which illegal market because illicit markets, e.g. the smuggling of different drugs, are not strictly divided among different actors in Finland. OCGs pursue profits and adjust to the changing situations in the illegal markets. Overall, the level of corruption and infiltration into legal business is relatively low in Finland. (NBI, 2013; see also Transparency International, 2013)

Owing to the lack of research literature, scientific articles and case studies, the main sources used in the country profile of Finland were the crime situation reports, threat assessments, and annual reports produced by the National Bureau of Investigation. The main task of the NBI is to combat serious, international and organised crime and produce up-to-date and reliable situational awareness on crime with especial emphasis on serious and organised crime. NBI has the most extensive updated information on OC in Finland. Its surveys are based on criminal intelligence gathered in cooperation among police authorities, Finnish Customs and the Finnish Border Guard Service. The reports also include police and other agencies' reports, judiciary evidence, crime and administrative statistics and open sources. Most of the reports of the NBI are not publicly available since they contain confidential information. It is for this reason that they are referenced only with the name of the institution and the year of publication. The other significant source used in the country profile of Finland was the biggest and most influential Finnish newspaper, *Helsingin Sanomat*.

#### *Methodology of Section 8.1*

As with illicit markets, there is a lack of research literature and information on OC investments in Finland. Moreover, the use of reliable fronts as *facades* behind which criminals use and control their property hinders investigations and makes it difficult for law enforcement and other authorities to gain an overall picture of the situation. Again, the main sources used regarding OCG investments in Finland were the crime situation reports, threat assessments, and annual reports of the NBI and the newspaper *Helsingin Sanomat*. Also the results of the searches in the Police Information System, PATJA (maintained by the National Police Board under the Ministry of the Interior) regarding confiscated assets in the Section 12.2, were discussed in this Chapter. Section 12.2 gives a similar picture: The assets of the most experienced OCGs are hard to trace and most of the activities of the Finnish lower-level OCG members are quite small scale. It was found that confiscated assets mostly consist of cash and motor vehicles. This could be for the following reasons: (1) those types of assets are the preferred investment objects, (2) those types of assets are easier to confiscate because other assets are behind the legal fronts and facades, or (3) the law enforcement and other authorities have limited abilities to confiscate companies and real estate properties in the first place. The most likely explanation is the second one.

### *Methodology of Section 12.2*

Data on assets confiscated from OCGs or persons involved in organised crime are not classified and recorded systematically by any organisation in Finland, except for the Police. Therefore, the Finnish Asset Recovery Office, Financial Intelligence Unit, National Administrative Office for Enforcement, National Board of Patents and Registration of Finland, and the Legal Register Centre were unable to provide this project with data on assets confiscated specifically from OCGs. Since the databases of these organisations do not include a specific category for OC, it is an extremely laborious undertaking to find cases dealing with organised crime in any official database except Police Information System, Patja.

Options regarding the registers and databases of the above-mentioned organisations would have been either to make searches with titles of crimes typical of organised crime, or to use the identity numbers of OCG members as points of departure for linking personal information with other information obtained from, e.g., business registers and crime registers. The latter approach would have enabled us to verify whether the top members of OCGs own companies and real estate properties, or hold positions of trust in corporations.

Both of these approaches pose serious difficulties, particularly due to the limited resources available. First, typical crimes committed by OC members or OCGs constitute a wide variety of crime titles, as well as many cases with no OC connection, thus producing simply too many cases for the analysis. Second, the use of the personal details and identity numbers of members of OCGs would have required separate permission from the National Police Board and the Office of the Data Protection. The identification of these individuals would have been very difficult in the first place. There is no public information available on the members of OCGs, and the Finnish media rarely mention names in crime stories. The National Bureau of Investigation holds information about OC suspects, but this information is classified and confidential. Finally, a search of the registers would also have required extra effort and cost a considerable sum of money (service charge per search) which was outside the initial scope of the project and the related budget.

An additional problem in Finland is that the most typical way to launder illegal proceeds is to report them as the property of close relatives or other intimates. Especially the possessions and ownerships of the organised upper-level criminals and OCG members are often reported under the names of straw men (see Section 9.1. for a more detailed analysis on the use of straw men and reliable fronts). Unlike in some other countries, OCG members are not openly listed as owners, managers or employers in Finland and it is unusual for the names of the criminals to appear e.g. in company documents. A common method is to find a reliable front, e.g. wife, cohabitee, lawyer, friend or any other reliable person, who may legally own and run businesses, so that the authorities are unable to confiscate the assets or capital under the front's name. The use of fronts as facades behind which criminals use and control their property hinders investigations and makes it difficult to gain an overall picture of the situation (Junninen, 2006). It is known that OCGs use illicit proceeds to cover the costs of illegal activities, to buy property, and to invest in the illegal and legal economy. In the case of Finland, it is difficult to find specific information on trends or to make estimates on how illicit proceeds are divided according to different needs, goals, markets, offences, and OC actors. It is also difficult to conduct analysis by type of market, investment or confiscated asset.

In order to obtain quantitative and qualitative information on property and confiscated assets related to OC, the best option in Finland was to use the Police Information System, Patja, which is maintained by the National Police Board (under the Ministry of the Interior). There is a classification for OC in Patja: when a case is registered, it can be classified as being connected to OC. The police records in Patja information about crime reports and measures of executive assistance. Patja is a permanent personal information system that contains information about suspects and their personal identity and description marks, crimes, coercive measures, locations with GPS coordinates, addresses, wanted persons and searched vehicles, arrested persons, crime-related property and assets, criminal sanctions, modus operandi, on-the-spot fines, summary penal orders, and so on.

There are some inconsistencies in the Patja register. The OC classification is not used systematically, e.g. if the connection to OC is discovered later during the investigation, it is not necessarily always marked retrospectively. Similarly, nor are changes in the state of the seizure recorded in the Patja retrospectively after the trial, so that the final outcome of the seizure or the type of confiscation, e.g. if it is forfeiture based on criminal offence decided by the court, is unknown. It is also impossible to say in which phase of the confiscation process the data have been collected, so that the state of the confiscation can be "precautionary measure", "seizure", "confiscation" or "returned to owner". The dates of the seizures and confiscations together with the type/state of the confiscation are not recorded

systematically in the Patja, nor marked retrospectively after the trial. They consequently had to be excluded from the analysis. Moreover, some Parts and cases in Patja contain confidential and restricted information, so that the results of the searches are not comprehensive.

### The classification of organised crime cases in the Patja

A case can be classified as an organised crime case in the Patja if the actions meet all the four minimum Finnish criteria of organised crime, which slightly differ from the European Union criteria for OC:

- 1) There is cooperation between more than two persons.
- 2) There is a suspicion of the commission of serious offences.
- 3) It has been going on for a long time.
- 4) The motive is substantial profit or power.

Two searches were made in the Patja register, both of them with the timeframe from the beginning of 2005 until the end of June 2013. Accordingly, the results were originally collected in two databases that were later merged into a single database presented in Section 12.2. The first search in Patja used as criteria cases with OC classification and some confiscated assets between 1 January 2005 and 30 June 2013. A total of 149 OC cases were found with these search criteria, corresponding to 168 confiscated assets. The second search in Patja used as criteria those cases that included both the name of one of the four biggest OCGs in Finland and the title of one of the most typical OC offences. The organised crime groups included four? outlaw motorcycle gangs, Hells Angels MC, Bandidos MC, Cannonball MC, and United Brotherhood. The typical OC offences were aggravated narcotics offences, money laundering, fraud, payment card fraud, tax fraud, extortion, receiving offence, accounting offence, registration offence, usury and alcohol offence, including also aggravated forms of these crimes. Again the search covered the time period from 1 January 2005 to 30 June 2013. In total, 358 cases were found using these search criteria in which there were 134 confiscated assets. The same case can appear more than once in the total number of cases if it includes several crimes. It is also possible that a case appeared in both searches and was counted twice in the total amount of cases. However, the confiscated assets were recorded only once. The results were basically similar in both searches. Because both databases contain common features the results are analysed jointly in Section 12.2.

## A4.2. France

*Cristina Soriani (Università Cattolica del Sacro Cuore – Transcrime, Italy)*

### *Methodology of Section 12.3*

As said in Section 12.3 of the main report, the information on seized and confiscated assets analysed for the purpose of Project OCP was gathered from two types of statistical sources:

- Aggregate data on seized and confiscated assets from the AGRASC's annual reports for 2011, 2012 and 2013;
- Data on confiscated assets provided by AGRASC for the purpose of the OCP project (June 2013), and corresponding to 56 confiscated assets between 2008 and 2012 with detailed information on:
  - Macrottype;
  - Type;
  - Subtype;
  - Specific type/Description;
  - Date of confiscation;
  - Country of the authority requesting confiscation of the asset;
  - Location - NUTS 2 level;
  - Location - NUTS 3 level;
  - Location - LAU 2 level;
  - % share of the asset confiscated;

- Nationality of the owner(s)/shareholder(s);
- Criminal affiliation of the owner(s)/shareholder(s);
- Main related offence;
- Type of confiscation;
- Value of the assets;
- Condition of the asset;
- Legal situation of the asset;
- Characteristics of the surrounding area.

As for the latter group of data, they were harmonized in a database to conduct the analyses according to the following classification:

**Table A.24 – Classification of data on confiscated assets in France**

Information	OCP Classification	Original Wording (English translation)	Description
<b>Years</b>			2008-2012
<b>Related offence</b>	Drug Trafficking	Drug trafficking	
	Trafficking In Human Beings	Sexual exploitation of women	
		Pimping	
	Illegal Gambling	Illegal gambling offences	
	Fraud	Fraud ("Rip deal" modus operandi)	
		Fraud	
		Fraudulent obtaining of goods conspiracy	
	Counterfeiting	Use of forgeries	
		Other offences: Forgery	
		Other offences: Forgery/Use of forgeries	
	Organised Crime	Joint criminal organization	OC related offences have been classified into two categories namely "Joint criminal organization" and "Joint criminal association"
		Joint criminal association	
	Money Laundering	Money laundering	
		Money laundering (main offence: illegal work)	
Money laundering (main offence: drug trafficking)			

	Other	Unexplained wealth
		Refusal to remedy the squalor of a building
		Stolen goods receiving
		Embezzlement
		False accounting
		Misuse of corporate assets
		Other offences
		Illegal work
		Other offence: Illegal arms possession
		Illegal work activity
		Professional activity without proper allowance
		<b>Organised crime group (Specify)</b>

## A4.3. Ireland

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### *Methodology of Section 12.4*

As mentioned in Section 12.4, data on confiscated assets in Ireland were provided by the Criminal Assets Bureau (CAB). In particular data were retrieved from the three different data sources listed in the table below (Table A.25).

**Table A.25 – Data on confiscated assets in Ireland provided by CAB**

Data source/Type of confiscation	Available information	Description
<b>Confiscations under Part Parts 4 and 4A of POCA 1996/2005</b>	Asset Identification Number; Macrotype of Asset; Original Currency; Location of Property; Nationality of Owner/Shareholder; Criminal Affiliation of Owner / Shareholder; Business Form;	301 assets from 2005 to 2012

	Business Sector; Date of Order; Order Type; Offence Related to Confiscation	
<b>Confiscations issued by the Office of the Director of Public Prosecutions (DPP) under Parts 4, 9 and 39 Criminal Justice Act (CJA) 1994</b>	Date of Order; Order Type; Offence Related to Confiscation; Sum Confiscated (euros)	385 confiscation orders
<b>Confiscations from the Revenue Customs under Part 39 CJA 1994</b>	Original Currency; Euro equivalent; Macrottype of Asset; Date Seized; Nationality of Subject; Funds seized at Import or Export; Suspected Crime; Order Type; Date Forfeiture Order Granted	87 records

The data were integrated and harmonised in a unique database for the purpose of the analysis. The template used was the one presented above in Section A3.2 (Table A.26). In particular the information on the related offence was grouped according to the classification provided in Table A.26 below:

**Table A.27 – Classification of information on offences related to confiscated assets in Ireland**

Information	OCP Classification	Original Wording	Description
<b>Related offence</b>	Drug Trafficking	Drugs	
		Drugs (Animal Growth Hormones)	
	Trafficking In Human Beings	Drugs/CCJ Evasion	
		Prostitution	
	Fraud	Fraud	
		Credit Card Fraud	
		VAT/VRT Evasion	
		Tax evasion	
		Excise - Cigarettes	
		Tax evasion/Social Welfare Fraud	
		Tax Evasion/Money Laundering	
		Fraud - Financial	
		Excise - Alcohol	

	Money Laundering	Tax Evasion/Money Laundering
		Money Laundering
Other		Theft
		Smuggling
		Not stated in Report
		Smuggling Jewellery
		Oil Smuggling

## A4.4. Italy

Cristina Soriani (Università Cattolica del Sacro Cuore – Transcrime, Italy)

### Methodology of Section 12.5

As mentioned in Section 12.5 of the final report, data on confiscated assets in Italy are held in several databases at national level, while a centralised dataset tracing criminal assets from the beginning to the end of the process is at present unavailable (Transcrime, 2013). Among the various databases available, the analysis focused on the data concerning definitively confiscated assets provided by ANBSC and data on seized and confiscated assets provided by Guardia di Finanza, which are the only two sources available for each asset. In Section 12.5 some references can be found also to the SIPPI and SAC databases, for which access only to information at aggregate level was possible (see Section 12.5 for details).

### Data provided by ANBSC

Managed by the ANBSC – Agenzia Beni Sequestrati e Confiscati, of the Minister of the Interior, the database includes data on assets definitively confiscated because of organised and mafia-related crimes in Italy since 1983.<sup>39</sup> Information is available at disaggregate level for each asset, but does not include information on the specific related offence or on the criminal/criminal group to which beneficial ownership of the asset can be attributed (Transcrime, 2013).<sup>40</sup>

The attribution of the assets to the relevant criminal organisation was retrieved from previous studies (above all Transcrime, 2013). In particular, starting from the available information on the assets (e.g. names of the companies confiscated, names of the relevant owners/shareholders, etc.) it was possible to collect information about the relevant *criminal affiliation* using different methods, which are listed and briefly illustrated below (for a more detailed description see Transcrime, 2013, p. 387-388):

- 1) *The analysis of judicial documents* (e.g. trial files, arrest warrants, etc.): for example, if the owner of a confiscated company (e.g. Marco Rossi) was mentioned in a judicial document as belonging to a 'Ndrangheta clan, then the same company was 'labelled' as pertaining to 'Ndrangheta;

<sup>39</sup> Assets confiscated as a result of preventative and criminal confiscation orders in relation to serious and organised crime offences foreseen by article 51, Section 3-bis of the Italian Code of Criminal Procedure, e.g. mafia-related crimes, organised crime, counterfeiting, trafficking in human beings, etc.

<sup>40</sup> As said, the database is still under development and has increased the amount of information stored so as to include data on related offence(s), previous owners, and information that would ensure full traceability of the asset from the beginning of the asset recovery process to the end (Transcrime, 2013, p. 366). At present, it does not include information on the criminal/criminal group from whom the asset has been confiscated. As mentioned in Chapter **Errore. L'origine riferimento non è stata trovata.**, previous research (Standridge, 012; Transcrime, 2013; Soriani, 2013; Riccardi, 2014; Dugato, Favarin, & Giommoni, forthcoming) has established a connection between assets (only companies and real estate) and the criminal group by relying on open sources. Some findings of the analysis on confiscated assets and criminal groups are reported in Chapter **Errore. L'origine riferimento non è stata trovata.**

- 2) *The analysis of open sources* (e.g. DIA annual reports, DNA annual reports, archives of national and local newspapers, reports of the Anti-mafia Committee of the Italian Parliament): as above, if the owner of a confiscated company (e.g. Marco Rossi) was mentioned in a judicial document as belonging to an 'Ndrangheta clan, then the same company was 'labelled' as 'Ndrangheta';
- 3) *The analysis of the decree of confiscation*: Assuming that a confiscation order usually affected a single criminal group, all assets confiscated by the same decree could be attributed to the same group. Therefore, if the decree indicated a specific criminal organisation as linked to a company, it was possible to link all the assets confiscated under the same decree to the same criminal organisation;
- 4) *The geographical location of the confiscated asset*.<sup>41</sup> This method was applied only residually and only in the four Italian regions – Calabria, Campania, Apulia and Sicily – where assets could be easily assigned to the criminal organisation holding a semi-monopolistic presence in the region, i.e. respectively the 'Ndrangheta, Camorra, Apulian OC and Cosa Nostra (see Transcrime, 2013, pp. 387-388 for details).

All these methods made it possible to identify a *criminal affiliation* for almost all (97.3%) of the 1944 companies confiscated and for most of the confiscated real estate properties. As regards the taxonomy used for the classification and attribution of Italian mafia groups, see Transcrime (2013, p. 387-388).

#### Data provided by Guardia Di Finanza

The data provided by Guardia Di Finanza (GDF) for the purpose of the OCP Project referred to seized and confiscated assets in relation to serious and organised crime offences (see below for details) between 2000 and 2013 on the Italian territory. In particular, the following information was made available for the purpose of the project:

- Year of seizure/confiscation (*Anno*);
- Month (only for 2013) (*mese - solo per il 2013*);
- Code of the regional GDF headquarters (*codice comando regionale*);
- Code of the department unit (*codice reparto*);
- Description of the department unit (*descrizione reparto*);
- Identification number (*Stat*);
- Main related offence (see Table A.28) (*settore*);
- Code type of the asset (*genere*);
- Description of the asset (*descrizione genere*);
- Unit of measurement (*unità misura*);
- Quantity (*quantità sequestrata*);
- Type of seizure/confiscation (see below Table A.28) (*tipo sequestro*);
- Location of the asset (GDF code) (available after 2007) (*località servizio*);
- Location of the asset (name) (available after 2007) (*descrizione località*).

In addition, in order to standardize and harmonize the information, some additional variables were added to the database by Transcrime:

- NUTS 2 code (2010) to the location of the relevant GDF department unit and asset;
- ISTAT code Italian regions and provinces (ISTAT) to the location of the relevant GDF department unit and asset;<sup>42</sup>
- Macrotypes of asset (according to the OCP classification - see Table A.20 above);
- Type of asset (see Table A.20);
- Subtype of asset (see Table A.20).

<sup>41</sup> This criterion was used in few cases and only residually when it was not possible to use the three previous methods of attribution.

<sup>42</sup> Retrieved from <http://www.istat.it/it/archivio/6789>.

As mentioned, the main related offence was classified according to the classification provided in Table A.28 below. In this regard, it is important to note that the category “Criminal association for the commission of serious offences” includes crimes related to trafficking of human beings, counterfeiting and illicit trade of tobacco products.

**Table A.28 – Classification of main related offences in the GDF database**

Macro classification of offences	Macro classification – Original wording	Main related offence – Original wording	Code of the main related offence	Relevant legislation
<b>Drug trafficking</b>	Stupefacenti	ASSOCIAZIONE TRAFFICO STUPEFACENTI	ASTUP	art. 74, L. 309/90
<b>Criminal association for the commission of serious offences</b>	Codice penale e leggi di P.S.	ASSOCIAZIONE PER DELINQUERE	ASDEL	art. 416, Criminal Code
	Codice penale e leggi di P.S.	ASSOCIAZIONE PER DELINQUERE FINALIZZATA A COMMITTERE I DELITTI DI CUI AGLI ARTT. 600, 601, 602 C.P. – ART. 416, SESTO COMMA, C.P. (da 01/2012)	ASDE 1	Criminal association for the commission of trafficking of human beings (art. 600, 601, 602, Criminal Code); art. 416, Section 6, Criminal Code)
	Codice penale e leggi di P.S.	ASSOCIAZIONE PER DELINQUERE FINALIZZATA ALLA CONTRAFFAZIONE, ALTERAZIONE O USO DI SEGNI DISTINTIVI DI OPERE DELL'INGEGNO O PRODOTTI INDUSTRIALI (ART. 473 C.P.) – ART. 416 C.P. CON ART. 473 C.P. (da 01/2012)	ASDE 2	Criminal association for the commission of counterfeiting (art. 473, Criminal Code); art. 416, Criminal Code with art. 473 Criminal Code)
	Codice penale e leggi di P.S.	ASSOCIAZIONE PER DELINQUERE FINALIZZATA ALL'INTRODUZIONE NELLO STATO E COMMERCIO DI PRODOTTI CON SEGNI FALSI (ART. 474 C.P.) – ART. 416 C.P. CON ART. 474 C.P. (da 01/2012)	ASDE 3	Criminal association for the sale of counterfeiting (art. 474, Criminal Code); art. 416, Criminal Code with art. 474 Criminal Code)
	Codice penale e leggi di P.S.	ASSOCIAZIONE PER DELINQUERE FINALIZZATA AL CONTRABBANDO DI TABACCHI LAVORATI ESTERI – ART. 291 – QUATER DPR 43/1973 (da 01/2012)	ASDE 6	Criminal association for the commission of ITTP (art. 291-quater, DPR 43/1973)
<b>Organised crime and mafia related crimes</b>	Legge antimafia contrasto alla criminalità organizzata	ASSOCIAZIONI DI TIPO MAFIOSO	ASMAF	art. 416-bis and art. 12-sexies, D.L. n. 306/92

DELITTI COMMESSI AVVALENDOSI DELLE CONDIZIONI PREVISTE DALL'ART. 416-BIS OVVERO AL FINE DI AGEVOLARE L'ATTIVITA' DELLE ASSOCIAZIONI PREVISTE DALLO STESSO ARTICOLO - ART. 7 D.L. 152/1991 (da 01/2012)	ASMA1	art. 7, D.L. 152/1991
CONCESSIONE APPALTI A SOGGETTI SOSPESI/REVOCATI	CONAP	
ILLECITA CONCORRENZA	CONCO	
CUSTODIA CANTIERE NON AUTORIZZATA	CUSTO	
INDIZIATI ASSOCIAZIONE MAFIOSA - ART. 1 L.575/1965	INASM	art. 1, L. 575/1965
INDIZIATO DI TRAFFICI DELITTUOSI/ATTIVITA' DELITTUOSE - ARTICOLO 1, NUM.1 E 2 L.1423/1956 (da 01/2012)	INAAD	Art. 1, p.1 and 2, L.1423/1956
PERSONA FISICA RICOLLEGABILE A SOGGETTO "INAA1" (da 01/2012)	INAA1	
PERSONA GIURIDICA RICOLLEGABILE A SOGGETTO "INAA2" (da 01/2012)	INAA2	
INDIZIATO DI UNO DEI REATI PREVISTI DALL'ART. 51, COMMA 3-BIS CPP (da 01/2012)	INARC	art. 51, p. 3-bis, Criminal Procedure Code
PERSONA FISICA RICOLLEGABILE A SOGGETTO "INAR1" (da 01/2012)	INAR1	
PERSONA GIURIDICA RICOLLEGABILE A SOGGETTO "INAR2" (da 01/2012)	INAR2	
PERSONA FISICA RICOLLEGABILE A SOGGETTO "INAS 1" (da 01/2012)	INAS 1	
PERSONA GIURIDICA RICOLLEGABILE A SOGGETTO "INAS 2" (da 01/2012)	INAS 2	

		INDAGATO PER UNO DEI REATI PREVISTI DALL'ART. 12-SEXIES (da 01/2012)	INCCO	art. 12-sexies, D.L. n. 306/92
		PERSONA FISICA RICOLLEGABILE AD UN SOGGETTO "INCCO" (da 01/2012)	INCO 1	
		PERSONA GIURIDICA RICOLLEGABILE A UN SOGGETTO "INCCO" (da 01/2012)	INCO 2	
		CONCESSIONE SUBAPPALTO/COTTIMO SENZA AUTORIZ.NE	SUBAP	
		TRACCIABILITA' DEI FLUSSI FINANZIARI: OPERAZIONI ESEGUITE SENZA AVVALERSI DEGLI "INTERMEDIARI" – ART. 6 COMMA 1 L. 136/2010 (da 01/2013)	TRAC 1	art. 6, L. 136/2010
		TRACCIABILITA' DEI FLUSSI FINANZIARI: EFFETTUAZIONE DI OPERAZIONI NON PIENAMENTE TRACCIABILI OVVERO OMESSA INDICAZIONE CIG7CUP – ART. 6 COMMA 2 L. 136/2010 (da 01/2013)	TRAC 2	art. 6, p.2, L. 136/2010
		TRACCIABILITA' DEI FLUSSI FINANZIARI: REINTEGRO DEL CONTO DEDICATO CON MODALITA' NON CONFORMI – ART. 6 COMMA 3 L. 136/2010 (da 01/2013)	TRAC 3	art. 6, p.3, L. 136/2010
		TRACCIABILITA' DEI FLUSSI FINANZIARI: OMESSA, TARDIVA O INCOMPLETA COMUNICAZIONE DI ELEMENTI INFORMATIVI - ART. 6 COMMA 4 L. 136/2010 (da 01/2013)	TRAC 4	art. 6, p.4, L. 136/2010
		TRASFERIMENTO FRAUDOLENTO DI VALORI	TRAFV	
		OMESSA DENUNZIA DI VARIAZIONI PATRIMONIALI	VAPAT	
<b>Illicit trafficking of waste</b>	Tutela ambiente	ATTIVITA' ORGANIZZATE PER TRAFFICO ILLECITO DI RIFIUTI -ART. 260 DLGS 152/2006 (da 01/2012)	RIFIU	art. 260, D.lgs 152/2006

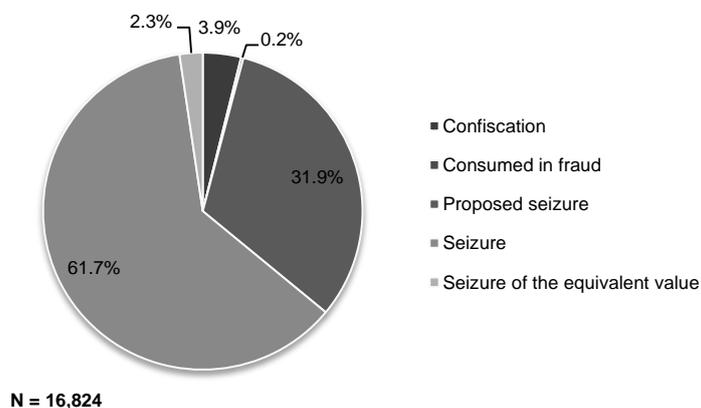
Regarding the type of seizure, the GDF database included the categories listed in Table A.29 below.

**Table A.29 – Classification of types of seizure/confiscation in GDF data**

Type of seizure	Type of seizure/confiscation Original wording	Code
<b>Seizure</b>	Sequestro	S
<b>Proposed seizure</b>	Proposta sequestro	P
<b>Confiscation</b>	Confisca	F
<b>Seizure of the equivalent value</b>	Sequestro per equivalente	E
<b>Seizure of assets that cannot be recovered</b>	Consumato in frode	C

'Seizure of assets that cannot be recovered' (*consumato in frode*) refers to goods that were already consumed or were missing (e.g. if the proceeds resulting from a fraudulent activity were transferred through a money transfer agency to another country). To be highlighted is that most of the assets included in the database are 'seizures' or 'proposed seizures' (see Figure A.3).

**Figure A.3 – Breakdown of the types of seizure included in the GDF database**



Source: Transcrime elaboration of GDF database

## A4.5. The Netherlands

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### Data selection

Use was made of the database of the Dutch Public Prosecution Office (PPO) which contains all files<sup>43</sup> (closed and ongoing) opened by the Dutch PPO from 2003 onwards. Access was also granted to the underlying case files, but this access is not digital and therefore very time-consuming (many of the big files have closets full of folders of information, or sometimes even complete rooms full of

<sup>43</sup> Each file has 1 suspect and possibly multiple crimes of which he or she is suspected

information, generally not digital). The results in this study are based on a data file extracted from the Dutch PPO database on 2 September 2014.

Since the amount of files was too large to analyse (a rough estimate would be around 2.2 million records) and because it contained all files and not only those pertaining to organised crime, the data were filtered as follows. First, all files handled at the local level were excluded. Therefore only the files of the national prosecutor (*Landelijk Parket*), which deals with (international) organized crime and terrorism, and the functional prosecutor (*Functioneel Parket*), which deals with environmental crime,<sup>44</sup> economic crime and fraud, were selected. Consequently, all on-going files were excluded, since it is for those files by definition unknown that the final seizure, confiscation, judgment and estimated illegally obtained benefit will be made. This resulted in 25,958 files, roughly the top 1% of all files. Each file consisted of 1 suspect and 1 or more crimes (up to 22 in our data). Although this led to a selection of all serious crimes, these did not *per se* constitute organized crime. Therefore only those files stored by the Dutch PPO as a “case,”<sup>45</sup> which are generally the more important files or combination of files, were selected. This resulted in 12,946 suspects and 4,397 cases, which means that the cases consisted on average of about 3 suspects.

### Crime classification

Since the Dutch PPO database categorizes the crimes differently from the classification adopted in the OCP Project (see Chapter 2 and Section A.1 above), the crimes were reclassified to make them consistent with the crimes distinguished by the OCP Project. The conversion table used is shown below.

**Table A.30 – Reclassification of crimes found in the PPO database**

OCP category	Category used in NL	Dutch data names in the database	Legal articles mentioned in the database
<b>Cocaine</b>	Drugs	Heroïne/cocaine + Overige harddrugs + Synthetische drugs + Hennepteelt + Handelingen ihkv coffeshop	OW 10/1/A;OW 10/3;OW 10/4;OW 10/5;OW 10A/1/1;OW 10A/1/2;OW 10A/1/3;OW 11A/1;OW 2/1/A;OW 2/1/C;OW 2/A;OW 2/B;OW 2/C;OW 2/D;OW 10/2;OW 11/2;OW 11/4;OW 3/1/A;OW 3/1/B;OW 3/1/C;OW 3/A;OW 3/B;OW 3/C;OW 3B/1
<b>Heroin</b>		The legal articles refer to drugs in general, which makes distinctions among them impossible	
<b>Cannabis</b>		The legal articles refer to drugs in general, which makes distinctions among them impossible	
<b>Other illicit drugs</b>		The legal articles refer to drugs and general, which makes distinction among them impossible	
<b>Human trafficking and smuggling</b>	Human trafficking and smuggling	Mensenhandel + overige mensensmokkel+fraude met identiteitsdocumenten – mensenhandel	SR 197A/1;SR 197A/2;SR 197A/3;SR 197A/4;SR 273A/1/1°;SR 273A/1/2°;SR 273A/1/6°;SR 273A/3/1°;SR 273A/4;SR 273B/1;SR 273F/1/1°;SR 273F/1/2°;SR 273F/1/3°;SR 273F/1/4°;SR 273F/1/6°;SR 273F/1/9°;SR 273F/3/1°;SR 273F/3/2°
<b>Weapons trafficking</b>	Weapons trafficking	Bezit/handel overige wapens + bezit/handel vuurwapens en munitie	WWM 13/1;WWM 14/1;WWM 26/1;WWM 31/1;WWM 55/1;WWM 55/3/A;WWM 55/3/B;WWM 6;WWM 9/1
<b>ITTP</b>	ITTP	Only in database as specified theme by the PPO	
<b>Counterfeiting</b>	Counterfeit	Intellectuele eigendomsfraude –	AUTW12 31;AUTW12 31A/A;AUTW12

<sup>44</sup> We excluded all basic environmental crimes.

<sup>45</sup> This basically means the database called “national overview of cases” (in Dutch LZOO: *Landelijk Zicht Op Zaken*) was used. Note that in general this was done to connect different files part of the same investigation (mostly networks/organisations), it could still be that single files were classified as a case due to their nature and importance. The reverse could also be true: some organized crime cases might not have been classified as cases, but left as single suspects in the general database.

	ing	auteursrecht + Intellectuele eigendomsfraude – CDs,software,video + Intellectuele eigendomsfraude – Merkenvervalsing (I left out counterfeiting of documents here and included them in frauds)	31A/B;AUTW12 31A/C;AUTW12 31B;AUTW12 32A/A;SR 337/1/A;SR 337/1/B;SR 337/1/C;SR 337/1/D;SR 337/1/E;SR 337/3
<b>Illegal gambling</b>	Illegal Gambling	Kansspelen	WOK 1/A;WOK 1/B
<b>Extortion racketeering</b>	-		Does not appear in the database
<b>Usury</b>	-		Does not appear in the database
<b>Frauds</b>	Frauds	46 different categories, which all have the word 'fraud' in them	AWIR 51;AWIR 68/1/A;AWIR 68/1/B;AWIR 68/1/C;AWIR 68/1/D;AWIR 68/2;AWIR 68/2/A;AWIR 68/2/B;AWIR 68/2/C;AWIR 68/2/D;AWIR 68/2/E;AWIR 69/1;AWIR 69/2;LAB 1/1;LAB 12/1;LAB 13/1/A;LAB 13/1/B;LAB 13/2;LAB 8/1;SR 140/1;SR 140/2;SR 140/3;SR 140A/1;SR 225/1;SR 225/2;SR 227/1;SR 227A;SR 227B;SR 231/1;SR 231/2;SR 326;SR 326/1;SR 326A;SR 326C/1;SR 341/A/1°;SR 341/A/2°;SR 341/A/3°;SR 341/A/4°;SR 341/B/1°;SR 341/B/4°;SR 343/2;SR 343/3;SR 343/4;SR 363/1;SR 363/1/1°;SR 363/1/2°;SR 363/1/3°;WA 5/1/A;WA 5/1/B;WA 97;WA 98;WFT 2:3A/1;WFT 2:55/1;WFT 5:56/1/A;WFT 5:56/1/C;WFT 5:56/3/A;WFT 5:57/1/A;WFT 5:58/1/D;WTEV95 28/3;WTEV95 3/1;WTEV95 46/1/A;WTEV95 46/1/B;WTEV95 46/3/A;WTEV95 46A/1/A;WTEV95 46B/1;WTEV95 46B/1/D;WTEV95 46B/3;WTEV95 6C/2;WTEV95 7/1;SR 321;SR 322;SR 323
<b>Other illicit markets</b>	Other Illicit Markets	All other crimes, a list of 49 categories in total	354 different articles

Sometimes, the PPO already classifies the case into a crime category; if so, this categorisation was used. Otherwise the crimes of which the suspect was suspected/convicted were used. Because someone may be suspected/convicted of multiple crimes at once, the crime mentioned first (generally the main crime) was used to classify each suspect. A case was classified as the crime of which most suspects were suspected within the case. If this was tied (which rarely happened), the case was classified by hand into the most relevant crime category. With this procedure, 78.6% of all cases were classified into the different OCP categories; the remaining cases were classified in "other illicit markets". The results of the classification are set out in the table below.

**Table A.31 – Number of cases for each crime category**

OCP crime category	Number of cases
<b>Drugs</b>	320
<b>Human trafficking and smuggling</b>	126
<b>Weapons trafficking</b>	21
<b>ITTP</b>	13
<b>Counterfeiting</b>	223

<b>Illegal gambling</b>	5
<b>Frauds</b>	2614

With the majority of crimes being a type of fraud, one might wonder whether this is a reflection of the focus of the PPO in their cases or a reflection of the frequency of the different crimes committed in the Netherlands. Unfortunately, there is no way to distinguish between these two effects with the Dutch PPO database.

#### **OCG classification**

All cases with "1% MC" as the theme of the investigation were selected and classified as Motor Cycle gangs.<sup>46</sup> Then, the country of birth was used as a proxy for the nationality of the suspect to classify cases in one of the OCP OCG categories. The table below stipulates how nationality was used to classify the suspects in OCGs.

**Table A.32 – Classification of OCGs**

<b>Country of Birth (original wording)</b>	<b>OCP OCG classification</b>
<b>Afghanistan</b>	Other Asian
<b>Albanië</b>	Albanian
<b>Algerije</b>	North African
<b>Angola</b>	African
<b>Argentinië</b>	South American
<b>Aruba</b>	South American
<b>Australië</b>	Other
<b>Barbados</b>	South American
<b>België</b>	Other Western European
<b>Bolivia</b>	South American
<b>Bondsrepubliek Duitsland</b>	Other Western European
<b>Brazilië</b>	South American
<b>Brits Guyana</b>	South American
<b>Brits Indië</b>	Other Asian
<b>Brits Oostafrika</b>	African
<b>Brits Westindië</b>	Other Asian
<b>Bulgarije</b>	Bulgarian
<b>Burma</b>	Other Asian
<b>Canada</b>	North American
<b>Ceylon</b>	Other Asian
<b>Chili</b>	South American

<sup>46</sup> Unfortunately, it is unclear whether this means that all motor cycle gangs were selected, since the consistency of classifying them as such by the PPO is unclear.

China	Chinese
Colombia	Colombian
Costa Rica	South American
Cuba	South American
Cyprus	Other Eastern European
Denemarken	Other Western European
Dominicaanse Republiek	South American
Duitse Democratische Republiek	Other Western European
Duitsland	Other Western European
Ecuador	South American
Egypte	Middle Eastern
Estland	Other Eastern European
Ethiopië	African
Filipijnen	Other Asian
Finland	Finnish
Frankrijk	French
Frans Somaliland	African
Ghana	African
Goudkust	African
Griekenland	Other Eastern European
Groot-Brittannië	British
Guinee	African
Guinee-Bissau	African
Guyana	South American
Hongarije	Other Eastern European
Hongkong	Other Asian
Ierland	Irish
India	Other Asian
Indonesië	Other Asian
Irak	Middle Eastern
Iran	Middle Eastern
Israël	Middle Eastern
Italiaans Somaliland	African
Italië	Italian

Jamaica	South American
Japan	Japanese Yakuza
Joegoslavië	Balkan
Kaapverdië	African
Kameroen	African
Kenya	African
Koeweit	Middle Eastern
Kongo	African
Kongo Kinshasa	African
Korea	Other Asian
Land onbekend	Other
Letland	Other Eastern European
Libanon	Middle Eastern
Liberia	African
Libië	North African
Litouwen	Lithuanian
Maleisië	Other Asian
Malta	Other Eastern European
Marokko	North African
Mexico	Mexican
Nederland	Dutch
Nederlands Indië	Other Asian
Nederlands Nieuwguinea	Other Asian
Nederlandse Antillen	Dutch
Nigeria	African
Oost Afrika	African
Oostenrijk	Other Western European
Pakistan	Other Asian
Palestina	Middle Eastern
Panama	South American
Paraguay	South American
Peru	South American
Polen	Other Eastern European
Portugal	Other Western European

<b>Portugees Indië</b>	Other Asian
<b>Portugees Oost Afrika</b>	African
<b>Portugees Timor</b>	Other Asian
<b>Portugees West Afrika</b>	African
<b>Roeanda-Oeroendi</b>	African
<b>Roemenië</b>	Romanian
<b>Rwanda</b>	African
<b>Seychellen</b>	African
<b>Sierra Leone</b>	African
<b>Singapore</b>	Other Asian
<b>Soedan</b>	African
<b>Somalië</b>	African
<b>Sovjetunie</b>	Russian Georgian
<b>Spanje</b>	Spanish
<b>Sri Lanka</b>	Other Asian
<b>Suriname</b>	South American
<b>Syrië</b>	Middle Eastern
<b>Taiwan</b>	Other Asian
<b>Tanzania</b>	African
<b>Thailand</b>	Other Asian
<b>Togo</b>	African
<b>Tsjaad</b>	African
<b>Tsjechoslowakije</b>	Other Eastern European
<b>Tunesië</b>	North African
<b>Turkije</b>	Turkish
<b>Venezuela</b>	South American
<b>Verenigde Staten</b>	North American
<b>Vietnam</b>	Other Asian
<b>Zaire</b>	African
<b>Zuid-Afrika</b>	African
<b>Zuid-Korea</b>	Other Asian
<b>Zuidrhodesië</b>	African
<b>Zweden</b>	Other Western European
<b>Zwitserland</b>	Other Western European

Consequently, each case was classified into the nationality most frequently appearing among the suspects. Cases where all suspects were companies were not classified (this applies to 252 of the 4176 cases). The handful of cases left unclassified were classified by hand. Last, an attempt to separate the Italians into the different mafias was made, but this proved impossible, since no indications for the relevant mafia-type criminal group were found in the data. Therefore, all Italian mafias were grouped as Italian. The results of the classification are shown in the table below.

**Table A.33 – Number of cases for each OCG**

OCG classification	Investigations Cases
Dutch	2670
Turkish	326
South American	181
Middle Eastern	141
African	108
Other Asian	105
North African	84
Other Western European	67
Other Eastern European	38
British	33
Chinese	30
Colombian	27
Russian Georgian	26
Balkan	23
Bulgarian	14
North American	12
Romanian	9
Other Italian	8
Lithuanian	6
Albanian	4
Motorcycle gang	4
Irish	3
French	2
Japanese Yakuza	1
Mexican	1
Spanish	1
<b>Total</b>	<b>3924</b>

## A4.6. Spain

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### Methodology of Section 5.6.2: Drug trafficking attributable to Organised Crime in Spain

Briefly described below is the methodology used in Section 5.6.2 of the main report to estimate the volume of the drug market attributable to organised crime in Spain. As mentioned above, the estimates of the drug market volume of organised crime in Spain are based on the calculations produced by Transcrime for the purpose of the OCP project or on other previous studies (see Section A.1 and Part 1 of the main report). To calculate the share of these estimates attributable to OCGs in Spain, the figures for each main illicit drug market in Spain (heroin, cocaine, hashish/ cannabis and ecstasy) were multiplied by the average percentage seized from organised crime groups (2011-2013) according to the CICO report, as follows:

$$\text{Annual Revenues of OC} = \text{market estimated value} \cdot \text{average \% confiscated to OC}$$

### Methodology of Section 8.6: the use of open sources and the development of iNotitium software

Empirical data regarding organised crime investments in Spain seem to be scarce in the academic literature, and this made it necessary to obtain information also from open sources such as media or other reports. However, generic tools for open sources such as Google News and LexisNexis did not meet the requirements of our investigation. It was decided in the project to develop a new tool to address the need to obtain relevant information from open sources, mainly from online newspapers, analyse such information, and cluster it into six main groups: Cases, Investments, Infiltration, Illegal Markets, Money Laundering, and Economic Crime. This search engine platform was called *iNotitium* (see also Chapter 2 in main OCP report).

The current pilot version of the platform reduced the average time spent on searching for specific news regarding OC, and it made it possible to overview international cases from the perspective of different countries. The *iNotitium* search engine used Natural Language Processing techniques based on logical operators to combine specific keywords provided by the experts to filter and save only news and articles containing information relevant to organised crime across Europe. Each newspaper and news portal search had a specific crawler that gathered all the news in six languages (English, French, Italian, Spanish, Dutch and Finnish) from 150 sources (see Table A.34). After the daily crawling, the news were filtered and clustered based on the specific combination of keywords that were previously provided. Thanks to the participation of all the partners of the project the keywords provided in Table A.35 were adapted to the different languages implemented in *iNotitium*.

**Table A.35 – Classification of keywords used for iNotitium (English version)**

Category	Keywords
<b>Case</b>	("organised crime" OR "organized crime" OR "criminal association" OR "criminal organisation" OR "criminal organization" OR "organised crime group" OR "organized crime group" OR "mafia") OR ("Cosa Nostra" OR Ndrangheta OR Camorra OR "sacra corona unita" OR "Hells Angels" OR "vor v zakone" OR "vory v zakone" OR triad OR "ETA" OR "IRA" OR "Local terrorist group" OR "Motorcycle Gangs" OR "White Legion" OR "Yakuza" OR "Bloods")
<b>Investments</b>	((("organised crime" OR "organized crime" OR "criminal association" OR "criminal organisation" OR "criminal organization" OR "organised crime group" OR "organized crime group" OR "mafia") OR ("Cosa Nostra" OR Ndrangheta OR Camorra OR "sacra corona unita" OR "Hells Angels" OR "vor v zakone" OR "vory v zakone" OR triad OR "ETA" OR "IRA" OR "Local terrorist group" OR "Motorcycle Gangs" OR "White Legion" OR "Yakuza" OR "Bloods")) AND (company OR companies OR firm OR business OR enterprise OR "screen company" OR "screen companies" OR "front company" OR "front companies" OR "bank account" OR "bank accounts" OR "real estate" OR vehicle OR car OR asset OR investment OR "legal economy"))

<b>Infiltration</b>	((("organised crime" OR "organized crime" OR "criminal association" OR "criminal organisation" OR "criminal organization" OR "organised crime group" OR "organized crime group" OR "mafia") OR ("Cosa Nostra" OR Ndrangheta OR Camorra OR "sacra corona unita" OR "Hells Angels" OR "vor v zakone" OR "vory v zakone" OR triad OR "ETA" OR "IRA" OR "Local terrorist group" OR "Motorcycle Gangs" OR "White Legion" OR "Yakuza" OR "Bloods"))) AND (infiltrated OR infiltration)
<b>Illegal markets</b>	((("organised crime" OR "organized crime" OR "criminal association" OR "criminal organisation" OR "criminal organization" OR "organised crime group" OR "organized crime group" OR "mafia") OR ("Cosa Nostra" OR Ndrangheta OR Camorra OR "sacra corona unita" OR "Hells Angels" OR "vor v zakone" OR "vory v zakone" OR triad OR "ETA" OR "IRA" OR "Local terrorist group" OR "Motorcycle Gangs" OR "White Legion" OR "Yakuza" OR "Bloods"))) AND (Trafficker OR smuggler OR trafficking OR smuggling OR "Drug trafficking" OR "drug smuggling" OR cocaine OR crack OR heroin OR Cannabis OR Marijuana OR Grass OR Hemp OR Weed OR Pot OR Hash OR Dope OR hashish OR "synthetic drugs" OR meth OR ecstasy OR "MDMA" OR "LSD" OR speed OR "Human trafficking" OR "sexual exploitation" OR prostitution OR "sex trafficking" OR "trafficking in persons" OR "forced labour" OR "trafficking in firearms" OR "weapons trafficking" OR "arms trafficking" OR "small arms trafficking" OR "light weapons trafficking" OR "chemical arms trafficking" OR "Illegal brokers" OR "trafficking of tobacco products" OR "cigarette smuggling" OR "tobacco smuggling" OR "Illegal gambling" OR Extortion racketeering OR fraud OR Usury OR "Loan sharking" OR Counterfeiting OR counterfeit OR couterfeiter OR "Environmental crime" OR "illegal fishing" OR "illegal waste" OR "hazardous waste" OR "waste dumping" OR "waste disposal" OR "waste trafficking" OR "wildlife trafficking" OR theft OR "organized theft" OR "organised theft" OR "pharmaceutical theft")
<b>Money laundering</b>	((("organised crime" OR "organized crime" OR "criminal association" OR "criminal organisation" OR "criminal organization" OR "organised crime group" OR "organized crime group" OR "mafia") OR ("Cosa Nostra" OR Ndrangheta OR Camorra OR "sacra corona unita" OR "Hells Angels" OR "vor v zakone" OR "vory v zakone" OR triad OR "ETA" OR "IRA" OR "Local terrorist group" OR "Motorcycle Gangs" OR "White Legion" OR "Yakuza" OR "Bloods") AND (laundering OR "economic crime" OR "financial crime")
<b>Financial crime</b>	(crime) AND (economic OR financial OR "tax evasion" OR tax OR launder* OR corruption OR scam)

As mentioned earlier, the iNotitium crawling system was launched automatically on a daily basis in 2013. During the developing process, OCP partners provided over 150 different sources, mainly newspapers, for iNotitium to crawl for information. The table below shows the different sources and crawlers developed.

**Table A.36 – Crawlers and Sources developed for iNotitium (2013-2014)**

Paper	Sources	Language	Country	Coverage
<b>El Mundo</b>	<a href="http://www.elmundo.es/">http://www.elmundo.es/</a>	Spanish	Spain	National
<b>El País</b>	<a href="http://economia.elpais.com/">http://economia.elpais.com/</a>	Spanish	Spain	National
<b>El País</b>	<a href="http://www.elpais.com/">http://www.elpais.com/</a>	Spanish	Spain	National
<b>Europa Press</b>	<a href="http://www.europapress.es/economia/">http://www.europapress.es/economia/</a>	Spanish	Spain	National
<b>Independent</b>	<a href="http://www.independent.co.uk/news/business/news/">http://www.independent.co.uk/news/business/news/</a>	English	United Kingdom	National
<b>ABC</b>	<a href="http://www.abc.es/">http://www.abc.es/</a>	Spanish	Spain	National
<b>ABC</b>	<a href="http://www.abc.es/economia/finanzas.asp">http://www.abc.es/economia/finanzas.asp</a>	Spanish	Spain	National
<b>BBC</b>	<a href="http://www.bbc.co.uk/mundo/economia/">http://www.bbc.co.uk/mundo/economia/</a>	English	United Kingdom	National
<b>ABC</b>	<a href="http://www.abc.es/economia-">http://www.abc.es/economia-</a>	Spanish	Spain	National

mercados/bolsa-ibex.asp				
<b>BBC</b>	<a href="http://www.bbc.co.uk/news/business/">http://www.bbc.co.uk/news/business/</a>	English	United Kingdom	National
<b>International Herald Tribune</b>	<a href="http://www.iht.com/pages/business/global/index.html">http://www.iht.com/pages/business/global/index.html</a>	English	France	National
<b>The Economist</b>	<a href="http://www.economist.com/opinion/">http://www.economist.com/opinion/</a>	English	United Kingdom	National
<b>The Economist</b>	<a href="http://www.economist.com/business-finance">http://www.economist.com/business-finance</a>	English	United Kingdom	National
<b>Mail</b>	<a href="http://www.dailymail.co.uk/money/index.html">http://www.dailymail.co.uk/money/index.html</a>	English	United Kingdom	National
<b>Chicago Tribune</b>	<a href="http://www.chicagotribune.com/business/">http://www.chicagotribune.com/business/</a>	English	United States	Local
<b>London Evening Standard</b>	<a href="http://www.thisislondon.co.uk/standard-business/">http://www.thisislondon.co.uk/standard-business/</a>	English	United Kingdom	Local
<b>Financial Times</b>	<a href="http://www.ft.com/markets">http://www.ft.com/markets</a>	English	United States	National
<b>Financial Times</b>	<a href="http://www.ft.com/markets/currencies">http://www.ft.com/markets/currencies</a>	English	United States	National
<b>Cinco Días</b>	<a href="http://www.cincodias.com/mercados">http://www.cincodias.com/mercados</a>	Spanish	Spain	National
<b>Cinco Días</b>	<a href="http://www.cincodias.com/economia">http://www.cincodias.com/economia</a>	Spanish	Spain	National
<b>Cinco Días</b>	<a href="http://www.cincodias.com/empresas">http://www.cincodias.com/empresas</a>	Spanish	Spain	National
<b>El Economías</b>	<a href="http://www.eleconomista.es/empresas-finanzas/index.html">http://www.eleconomista.es/empresas-finanzas/index.html</a>	Spanish	Spain	National
<b>El Economista</b>	<a href="http://www.eleconomista.es/economia/index.html">http://www.eleconomista.es/economia/index.html</a>	Spanish	Spain	National
<b>El Mundo</b>	<a href="http://www.elmundo.es/mundodiner">http://www.elmundo.es/mundodiner</a>	Spanish	Spain	National
<b>Expansión</b>	<a href="http://www.expansion.com/inversion/">http://www.expansion.com/inversion/</a>	Spanish	Spain	National
<b>Expansión</b>	<a href="http://www.expansion.com/economia-politica/">http://www.expansion.com/economia-politica/</a>	Spanish	Spain	National
<b>Expansión</b>	<a href="http://www.expansion.com/empresas/">http://www.expansion.com/empresas/</a>	Spanish	Spain	National
<b>Invertia</b>	<a href="http://www.invertia.com/mis-finanzas/portada.asp">http://www.invertia.com/mis-finanzas/portada.asp</a>	Spanish	Spain	National
<b>Bloomberg</b>	<a href="http://www.bloomberg.com/?b=0&amp;Intro=intro3">http://www.bloomberg.com/?b=0&amp;Intro=intro3</a>	English	United States	National
<b>Express</b>	<a href="http://www.express.co.uk/finance">http://www.express.co.uk/finance</a>	English	United Kingdom	National
<b>The Guardian</b>	<a href="http://www.guardian.co.uk/business">http://www.guardian.co.uk/business</a>	English	United Kingdom	National
<b>The Guardian</b>	<a href="http://www.theguardian.com/uk/money">http://www.theguardian.com/uk/money</a>	English	United Kingdom	National
<b>The Herald Scotland</b>	<a href="http://www.heraldscotland.com/business">http://www.heraldscotland.com/business</a>	English	United Kingdom	Local
<b>Reuters</b>	<a href="http://www.reuters.com/finance/markets">http://www.reuters.com/finance/markets</a>	English	United States	National
<b>Reuters</b>	<a href="http://es.reuters.com/news/business">http://es.reuters.com/news/business</a>	English	United States	National
<b>The Telegraph</b>	<a href="http://www.telegraph.co.uk/finance">http://www.telegraph.co.uk/finance</a>	English	United Kingdom	National
<b>This is Money</b>	<a href="http://www.thisismoney.co.uk/markets">http://www.thisismoney.co.uk/markets</a>	English	United Kingdom	National
<b>This is Money</b>	<a href="http://www.thisismoney.co.uk/money/investing/index.html">http://www.thisismoney.co.uk/money/investing/index.html</a>	English	United Kingdom	National

<b>USA Today</b>	<a href="http://www.usatoday.com/money/default.htm">http://www.usatoday.com/money/default.htm</a>	English	United States	National
<b>Cronista</b>	<a href="http://www.cronista.com/seccion/ultimas_noticias/">http://www.cronista.com/seccion/ultimas_noticias/</a>	Spanish	Argentina	National
<b>Intereconomía</b>	<a href="http://www.intereconomia.com/negocios">http://www.intereconomia.com/negocios</a>	Spanish	Spain	National
<b>Inversión &amp; Finanzas</b>	<a href="http://www.finanzas.com/noticias/">http://www.finanzas.com/noticias/</a>	Spanish	Spain	National
<b>CNN Money</b>	<a href="http://edition.cnn.com/business/">http://edition.cnn.com/business/</a>	English	United States	National
<b>CNN Money</b>	<a href="http://money.cnn.com/news/companies">http://money.cnn.com/news/companies</a>	English	United States	National
<b>The Economist</b>	<a href="http://www.economist.com/business-finance">http://www.economist.com/business-finance</a>	English	United States	National
<b>New York Times</b>	<a href="http://www.nytimes.com/pages/business/index.html">http://www.nytimes.com/pages/business/index.html</a>	English	United States	National
<b>The Independent</b>	<a href="http://www.independent.co.uk/">http://www.independent.co.uk/</a>	English	United Kingdom	National
<b>Leicester Mercury</b>	<a href="http://www.leicestermercury.co.uk/">http://www.leicestermercury.co.uk/</a>	English	United Kingdom	Local
<b>Herald Scotland</b>	<a href="http://www.heraldsotland.com/">http://www.heraldsotland.com/</a>	English	United Kingdom	Local
<b>The Scotsman</b>	<a href="http://www.scotsman.com/">http://www.scotsman.com/</a>	English	United Kingdom	Local
<b>Belfast Telegraph</b>	<a href="http://www.belfasttelegraph.co.uk/">http://www.belfasttelegraph.co.uk/</a>	English	United Kingdom	Local
<b>South Wales Argus</b>	<a href="http://www.southwalesargus.co.uk/">http://www.southwalesargus.co.uk/</a>	English	United Kingdom	Local
<b>Review St Albans &amp; Harpenden</b>	<a href="http://www.stalbansreview.co.uk/">http://www.stalbansreview.co.uk/</a>	English	United Kingdom	National
<b>Southern Daily Echo</b>	<a href="http://www.dailyecho.co.uk/">http://www.dailyecho.co.uk/</a>	English	United Kingdom	Local
<b>Manchester Evening</b>	<a href="http://www.manchestereveningnews.co.uk/">http://www.manchestereveningnews.co.uk/</a>	English	United Kingdom	Local
<b>Wales Online</b>	<a href="http://www.walesonline.co.uk/">http://www.walesonline.co.uk/</a>	English	United Kingdom	Local
<b>Liverpool Echo</b>	<a href="http://www.liverpoolecho.co.uk/">http://www.liverpoolecho.co.uk/</a>	English	United Kingdom	Local
<b>Chronicle Live</b>	<a href="http://www.chroniclive.co.uk/">http://www.chroniclive.co.uk/</a>	English	United Kingdom	Local
<b>Yorkshire Post</b>	<a href="http://www.yorkshirepost.co.uk/">http://www.yorkshirepost.co.uk/</a>	English	United Kingdom	Local
<b>Birmingham Post</b>	<a href="http://www.birminghampost.co.uk/">http://www.birminghampost.co.uk/</a>	English	United Kingdom	Local
<b>Nottingham Post</b>	<a href="http://www.nottinghampost.com/">http://www.nottinghampost.com/</a>	English	United Kingdom	Local
<b>Bristol Post</b>	<a href="http://www.bristolpost.co.uk/">http://www.bristolpost.co.uk/</a>	English	United Kingdom	Local
<b>Plymouth Herald</b>	<a href="http://www.plymouthherald.co.uk/">http://www.plymouthherald.co.uk/</a>	English	United Kingdom	Local
<b>London Evening Standard</b>	<a href="http://www.standard.co.uk/">http://www.standard.co.uk/</a>	English	United Kingdom	Local
<b>Irish Times</b>	<a href="http://www.irishtimes.com/">http://www.irishtimes.com/</a>	English	Ireland	National
<b>Irish Examiner</b>	<a href="http://www.irishexaminer.com/">http://www.irishexaminer.com/</a>	English	Ireland	National
<b>Breaking News</b>	<a href="http://www.breakingnews.ie/">http://www.breakingnews.ie/</a>	English	Ireland	National
<b>Independent</b>	<a href="http://www.independent.ie/">http://www.independent.ie/</a>	English	Ireland	National
<b>Ouest France</b>	<a href="http://www.ouest-france.fr/">http://www.ouest-france.fr/</a>	French	France	Local
<b>Le Figaro</b>	<a href="http://www.lefigaro.fr/">http://www.lefigaro.fr/</a>	French	France	National

<b>Le Monde</b>	<a href="http://www.lemonde.fr/">http://www.lemonde.fr/</a>	French	France	National
<b>Libération</b>	<a href="http://www.liberation.fr/">http://www.liberation.fr/</a>	French	France	National
<b>L'express</b>	<a href="http://www.lexpress.fr/">http://www.lexpress.fr/</a>	French	France	National
<b>Nice Matin</b>	<a href="http://www.nicematin.com/">http://www.nicematin.com/</a>	French	France	Local
<b>La Provence</b>	<a href="http://www.laprovence.com/">http://www.laprovence.com/</a>	French	France	Local
<b>Corse Matin</b>	<a href="http://www.corsematin.com/">http://www.corsematin.com/</a>	French	France	Local
<b>Helsingin Sanomat</b>	<a href="http://www.hs.fi/">http://www.hs.fi/</a>	Finnish	Finland	Local
<b>Aamulehti</b>	<a href="http://www.aamulehti.fi/Etusivu">http://www.aamulehti.fi/Etusivu</a>	Finnish	Finland	Local
<b>Turcun Sandmat</b>	<a href="http://www.ts.fi/">http://www.ts.fi/</a>	Finnish	Finland	Local
<b>Kaleva</b>	<a href="http://www.kaleva.fi/">http://www.kaleva.fi/</a>	Finnish	Finland	Local
<b>Suomen Kuvalehti</b>	<a href="http://suomenkuvalehti.fi/">http://suomenkuvalehti.fi/</a>	Finnish	Finland	National
<b>Taloussanomat</b>	<a href="http://www.taloussanomat.fi/">http://www.taloussanomat.fi/</a>	Finnish	Finland	National
<b>Kaupalehti</b>	<a href="http://www.kaupalehti.fi/5/i/etusivu/">http://www.kaupalehti.fi/5/i/etusivu/</a>	Finnish	Finland	National
<b>Iltta Sanomat</b>	<a href="http://www.iltasanomat.fi/">http://www.iltasanomat.fi/</a>	Finnish	Finland	National
<b>Yle.fi:ssä nyt</b>	<a href="http://yle.fi/">http://yle.fi/</a>	Finnish	Finland	National
<b>MTV</b>	<a href="http://www.mtv.fi/">http://www.mtv.fi/</a>	Finnish	Finland	National
<b>Alto Adige</b>	<a href="http://altoadige.gelocal.it/">http://altoadige.gelocal.it/</a>	Italian	Italy	Local
<b>Ansa</b>	<a href="http://ansa.it">http://ansa.it</a>	Italian	Italy	National
<b>Bresciaoggi</b>	<a href="http://www.bresciaoggi.it">http://www.bresciaoggi.it</a>	Italian	Italy	National
<b>Corriere Della Sera</b>	<a href="http://www.corriere.it">http://www.corriere.it</a>	Italian	Italy	National
<b>Gazzeta del Sud</b>	<a href="http://www.gazzettadelsud.it">http://www.gazzettadelsud.it</a>	Italian	Italy	Local
<b>Gazzeta Di Regio</b>	<a href="http://gazzettadireggio.gelocal.it/">http://gazzettadireggio.gelocal.it/</a>	Italian	Italy	Local
<b>Il Denaro</b>	<a href="http://denaro.it">http://denaro.it</a>	Italian	Italy	National
<b>Il Fatto Quotidiano</b>	<a href="http://www.ilfattoquotidiano.it">http://www.ilfattoquotidiano.it</a>	Italian	Italy	National
<b>Il Giornale</b>	<a href="http://www.ilgiornale.it/">http://www.ilgiornale.it/</a>	Italian	Italy	National
<b>Quotidiano</b>	<a href="http://qn.quotidiano.net/">http://qn.quotidiano.net/</a>	Italian	Italy	National
<b>Il Mattino di Padova</b>	<a href="http://mattinopadova.gelocal.it/">http://mattinopadova.gelocal.it/</a>	Italian	Italy	Local
<b>Il Messaggero</b>	<a href="http://www.ilmessaggero.it/">http://www.ilmessaggero.it/</a>	Italian	Italy	National
<b>Il Sole 24 Ore</b>	<a href="http://www.ilsole24ore.com/">http://www.ilsole24ore.com/</a>	Italian	Italy	National
<b>La Gazzetta del Mezzogiorno</b>	<a href="http://www.lagazzettadelmezzogiorno.it/">http://www.lagazzettadelmezzogiorno.it/</a>	Italian	Italy	National
<b>La Repubblica</b>	<a href="http://www.repubblica.it/">http://www.repubblica.it/</a>	Italian	Italy	National
<b>La Sicilia</b>	<a href="http://www.lasicilia.it/">http://www.lasicilia.it/</a>	Italian	Italy	Local
<b>La Stampa</b>	<a href="http://www.lastampa.it/">http://www.lastampa.it/</a>	Italian	Italy	National
<b>La Tribuna</b>	<a href="http://tribunatreviso.gelocal.it/">http://tribunatreviso.gelocal.it/</a>	Italian	Italy	Local

<b>L' Eco Di Bergamo</b>	<a href="http://ecodibergamo.it/">http://ecodibergamo.it/</a>	Italian	Italy	Local
<b>Messaggero Veneto</b>	<a href="http://messaggeroveneto.gelocal.it/">http://messaggeroveneto.gelocal.it/</a>	Italian	Italy	Local
<b>El Norte de Castilla</b>	<a href="http://www.elnortedecastilla.es/">http://www.elnortedecastilla.es/</a>	Spanish	Spain	Local
<b>Levante</b>	<a href="http://www.levante-emv.com/">http://www.levante-emv.com/</a>	Spanish	Spain	Local
<b>La Voz de Galicia</b>	<a href="http://www.lavozdeg Galicia.es/">http://www.lavozdeg Galicia.es/</a>	Spanish	Spain	Local
<b>20 Minutos</b>	<a href="http://www.20minutos.es/">http://www.20minutos.es/</a>	Spanish	Spain	Local

#### *Methodology of Section 12.7*

The data used in this Section regarding confiscated assets was based on the data that the *Plan Nacional sobre Drogas* (PNSD) publishes on its website. Since in Spain there are no public databases available on confiscated assets, the analysis provided in Section 12.7 regarding the confiscation of assets was based on the information provided in the PNSD Annual reports for drug trafficking and money laundering-related offences. The period of time analysed was from 1996 to 2013, although data related to some specific assets were not available for all the years. However, information regarding the different macro types of confiscated assets can be found in the Annual reports. The PNSD classifies assets into 5 different categories

- Real estate : including real estate and company properties
- Watercrafts: boats, vessels, sailboats, jet skis, etc.
- Vehicles: cars, trucks, vans, motorcycles
- Objects: appliances clothes, cell phones, furniture, etc.
- Jewels: watches, gold and silver ornaments, gemstones

As for cash and bank accounts, the PNSD provides information for the different amounts of cash confiscated related to drug trafficking and money laundering-related offences. In order to fit with the OCP classification, the data provided by the PNSD were harmonized according to the classification provided in Table A.20 properly to conduct the analysis of the different macro types of confiscated assets. Finally, information about companies was not found disaggregated in the reports from the PNSD (see Section 12.7 of the main OCP report for details).

## **A4.7. United Kingdom**

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The data used in this report come from two databases created for the purposes of the project using mostly open sources (see Section A.1 and A.2 above). These open sources included (a) law enforcement and financial authorities' reports; (b) a selection of regional newspaper articles; (c) academic literature. We looked for sources published between 2000 and 2014, although some relevant sources published earlier were included as well. In addition, a selection of data from the JARD database was provided by the Home Office for this research.

#### *Search methods*

Both structured and unstructured searches were used to gather the data. We also used snowball methods to search for unpublished data and contacted professionals who might have relevant information. A small subset of the data came from conversations with law enforcement officers.

### ***Search terms***

Search terms suggested by Transcrime team were used to conduct searches via the LexisNexis Professional database available via Durham University library. Regional newspapers were selected because they were thought to most likely contain relevant information on local law enforcement operations targeting organised crime, data on asset seizure and recovery, types of investments and types of OCGs. Other search engines used were iNotitium (see above), Google and Google scholar, IngentaConnect, JSTOR and Academic Search Complete.

### ***Inclusion and exclusion criteria***

Sources were included in the databases when they had relevant information on organised crime groups, types of offences that they were involved in, assets and companies, and/or quantitative estimates of the size of markets or other aspects of markets. We also included sources that provided aggregate analysis of markets and investments, case studies, and information about modus operandi. If reliability of a source or validity of data was difficult or impossible to verify, such sources were not included.

### ***Ethics***

The research mostly involved work with published open sources or communication with law enforcement agencies and did not involve contacts with offenders or any access to information about ongoing investigations. Usual ethical procedures were adhered to when handling the data. No names will be revealed unless such data is already public or when permission was given to publish the data.

### ***Confidentiality and anonymity***

The databases include mostly information from open sources, either on offenders who have been convicted, or where information about cases was already published. A small subset of data came from Durham Constabulary. The officers from Durham Constabulary were fully aware of the purposes of the data collection and how the data would be used. The data were treated as confidential and kept in electronic files in password protected PC. All such data will be destroyed upon the completion of the project. The JARD data – a secure connection was used to receive the data and only a selected subset of data was made available to the researchers – do not include information that is confidential and cannot be disclosed to third parties.

### ***Data analysis***

Data analysis consisted mostly of qualitative analysis of data. The first stage involved a descriptive analysis using databases, first describing the range/types of OCGs, investments, and the size of criminal markets, and second identifying associations between the three. No quantitative analysis could be performed at this stage (estimating the prevalence of particular types or associations in the database) due to the opportunistic character of the sample. A second stage may involve the use of a software to identify patterns of data. Turnover for specific actors is an area that requires further research. Data on the confiscation of proceeds from crime often helps to identify the amount made in a particular case (for example, the Wrights family is estimated to have made £3m from their criminal activities), but further assumptions and calculations are required in order to provide an estimate for the entire 'cash for crash' market and for each actor in that market. The samples in the databases are not representative of the larger population of OCGs in the UK (they are opportunistic samples collected from various open sources). Strictly speaking, the number of cases/proportion of cases of a particular kind cannot be used as a proxy for the size of the market or the scale of activities of particular actors. However, the databases do provide an indication of what groups operate in the markets, where some of them are present, and what they invest in. In this sense, as an exploratory study, it does provide a useful insight into the markets and the actors, although caution should be exercised when interpreting the data.

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