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Cleaning mafia cash: an empirical analysis of the money laundering behaviour of 2800 Italian criminals

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Abstract

Despite an extensive anti-money laundering (AML) legislation worldwide and an increasing media attention, fostered by journalistic leaks such as Panama Papers or FinCEN Files, empirical knowledge on how criminals launder their illicit proceeds is still scarce, and limited to a couple of empirical studies in few countries. All these existing works have shown that money laundering (ML) strategies are often less sophisticated than they are depicted in the political and media debate. To contribute to the empirical knowledge of ML behaviour, and test this suggestion, the present study carries out an analysis of the ML activities related to 2818 Italian offenders included in the money laundering section of the LexisNexis' WorldCompliance database. Through a quantitative content analysis of textual information related to each offender's profile, it highlights the countries in which ML was conducted, the methods (or 'typologies', in FATF terms) employed, the modi operandi, the assets seized, the business sectors involved and the characteristics of the ML offenders. The results confirm that criminals, for laundering their money, tend to prefer Italy or jurisdictions which are close (geographically and culturally) to Italy; that they do not employ sophisticated ML strategies, and that they rarely employ more than one method at the same time. Tangible assets (first of all real estate and registered vehicles) are more frequent than financial assets. Finally, differences exist between the laundering by mafia-related ML offenders and non-mafia ones. The paper provides empirical ground to progress in the knowledge of how ML offenders behave, and supports the idea that criminals, when cleansing their proceeds, do not act as firms or households, but may be driven by other constraints and utility functions.

1. Introduction

Contrary to other crime types, money laundering (ML hereinafter) "is notable for the diversity of its forms, participants, and settings" (Levi and Reuter 2006, 312) and can be carried out in different *modi operandi*, ranging from basic to highly sophisticated ones (Arnone and Borlini 2010). To counter it, international bodies and national governments have put in place since the early '90s "the most comprehensive, far-reaching, most deeply penetrating, and most punitive of transnational legal orders" (Halliday, Levi, and Reuter 2019, 2), characterized by widely acknowledged recommendations issued by international organizations – first of all the Financial Action Task Force (FATF hereafter) – and an articulated regulatory framework with a number of obligations on both the public and private sector.

Despite the width of these interventions, and an increasing media attention (fostered by leaks such as *Panama Papers* or *Pandora Papers*), the history of ML "has been more supported by righteousness than by empirical facts" (Van Duyne, Harvey, and Gelemerova 2018, 10). The existing knowledge on ML is still disproportionately based on journalistic exposes and sensationalistic claims by institutional actors while empirical research is lagging behind, resulting in the persistence of "folk theories" about how illicit proceeds are laundered (Halliday 2018).

This paper contributes to addressing this knowledge gap by analyzing the ML activities of a sample of 2818 Italian offenders extracted from the LexisNexis' WorldCompliance database (LN WoCo hereinafter). By the means of a quantitative content analysis, we extracted information on offences, laundering methods, assets and countries involved in the ML schemes from the textual data associated to each profile, providing insights and empirical evidence about the behaviour of Italian ML offenders.

The paper is structured as follows. In Section 2 we review the empirical studies which analyzed patterns and characteristics of money laundering offenders, and we formulate the research questions. In Section 3 we describe the data and the methodology used in the analysis. In Section 4 we present the results of the analysis which are further discussed in Section 5, together with both research and policy implications, and the paper's limitations.

2. Literature review

Literature on money laundering may be classified in three main branches (Kruisbergen, Kleemans, and Kouwenberg 2015). The first one focuses on estimating the size of the phenomenon (Walker 1999; Argentiero, Bagella, and Busato 2008; Walker and Unger 2009; Ardizzi et al. 2014; Barone and Schneider 2018; Ferwerda et al. 2020). Although these estimates have been heavily criticized due to the absence of valid data and reliable methodologies (Van Duyne 1994; Levi 2012; Reuter 2013), most of them are frequently cited and have become "facts by repetition" (Levi and Reuter 2009, 362).

The second branch of literature focuses on assessing to what extent the AML regime is effective and efficient, a central question in academic research on money laundering (Masciandaro 1999; Reuter and Truman 2004; Ferwerda 2009; Unger et al. 2014; Ferwerda 2018; Pol 2018; Ferwerda and Reuter 2019). While the positive welfare impact of the AML regime is often taken for granted (Levi, Reuter, and Halliday 2018), several scholars have pointed out its limited effectiveness (Barone and Masciandaro 2008; Unger et al. 2014; Ferwerda 2018; Pol 2018; Halliday, Levi, and Reuter 2020) and its potential unintended consequences (Cochrane 2014; Gaigné and Zenou 2015). These issues are coupled with the difficulties in evaluating its effectiveness due to the lack of (reliable) data (Halliday, Levi, and Reuter 2020).

The last branch, often referred to as the "economic approach" of the literature on money laundering (Levi and Soudijn 2020, 4), focuses on investigating how criminals launder their illicit proceeds and integrate them in the legal economy. Most of the contributions to this branch come from economists (Van Duyne, Harvey, and Gelemerova 2018). Following Gary Becker's 1968 seminal work "Crime and punishment: an economic approach" (Becker 1968), several economists applied neoclassical economic principles to model criminal's decision-making (see for a review Eide 2000). In particular, a number of works modelled money launderers' behaviour, contributing to the so-called 'economics of crime and money laundering' (Hinterseer 1997; Masciandaro 1999; Unger 2007; Ferwerda 2009; McCarthy, van Santen, and Fiedler 2015).

The monopoly of economists in the ML/AML literature assumes a high degree of similarity between ML offenders and rational economic agents (such as firms) and, to the same extent, between illicit financial flows and legitimate ones. Money launderers will try to maximize their economic returns while laundering their money. However, the criminological literature – as well as numerous investigations worldwide - often suggest that criminals, even when dealing with their (illicit) money, may follow different drivers and constraints. For example, among other, the need to ensure geographical proximity with the investment of criminal money (Transcrime 2013; Kruisbergen, Kleemans, and Kouwenberg 2015), avoid business sectors or assets with entry and exit barriers (Riccardi, 2014), exploit existing social ties (Kleemans and Van de Bunt 1999; Malm and Bichler 2013; Van de Bunt, Siegel, and Zaitch 2014), limit the involvement of third-parties to minimize principal-agency costs (Reuter 1983; Levi and Soudijn 2020) and minimize the risk of being detected and/or having their assets seized (Gilmour and Ridley 2015; Riccardi and Levi 2018).

For this reason, classical economic models have been criticized for being too abstract and failing to properly describe criminal behaviour (Manski 1978; Cornish and Clarke 1985; Clarke and Felson 1993; Posner 2006). As also advocated by economists themselves, these models should be complemented with insights from other social sciences to make them more realistic (Swedberg 1990; O'Donoghue and Rabin 2001).

In this literature review (see Table 1), we focused on the empirical studies from the criminological domain which analysed the behaviour of individuals arrested or convicted due to money laundering or whose assets have been seized because investments of proceeds of crime. These studies are supplemented by those few which, by employing suspicious transaction reports (STRs) or suspicious activity reports (SARs), provided insights on the patterns, destination, use and *modi operandi* employed by criminals when laundering money.

Eventually, empirical studies of the behaviour of ML offenders are few. They cover a number of jurisdictions, and type of offenders, but their low number is significant of the scarce empirical knowledge which is available, nowadays, on money launderers. And this is simply striking if we consider the number of recommendations, rules, sanctions and orders which have been issued in the last thirty years in the AML domain at global level. Overall, despite the active role of the country in promoting the AML regime, it is also interesting to note the absence of empirical studies on money laundering activities in the United States where knowledge is limited to the study of the economic dimension of organized crime (Ianni and Reuss-Ianni 1972; Anderson 1979).

Table 1. Previous empirical studies that investigated the behaviour of money launderers, grouped by country

Country	Empirical studies on ML behaviour
Bulgaria	Petrunov (2011)
Canada	Schneider (2004), Beare and Schneider (2007), Malm and Bichler (2013)
Finland	Petrell and Houtsonen (2016)
Germany	Suendorf (2001)
Italy	Transcrime (2013), Riccardi (2014), Cassetta et al. (2014), Dugato et al. (2015), Gara and De Franceschis (2015)
Spain	Steinko (2012), Palomo et al. (2015)

Sweden	Skinnari et al. (2007)
The Netherlands	van Duyne and Soudijn (2009), Kruisbergen et al. (2015), Soudijn (2016; 2018), Custers et al. (2018; 2020), Kruisbergen et al. (2019), Ferwerda et al. (2020)
United Kingdom	The Matrix Knowledge Group (2007), Webb and Burrows (2009), Matanky-Becker and Cockbain (2021)

Source: Authors' elaboration

Based on these studies, some common patterns and trends could be highlighted. They are discussed here below.

The proximity of money laundering

In an increasingly globalized and digitalized economy, transfer of monetary values is almost costless. That would hold for criminal money, too. According to the standard economic approach, criminal money could easily switch between countries: in case of potentially higher utility from country B, criminals will simply withdraw their investments from country A and move them to country B (D'Andria 2011; Barone and Masciandaro 2011). If this holds, then criminals for their money would exclusively prefer far distant countries – offshore jurisdictions, remote islands – which would be able to guarantee financial secrecy and corporate opacity and to hamper the asset recovery by judicial authorities.

On the contrary, most of the empirical works above mentioned reveal that this happens only in exceptional cases. Proximity – intended in both geographic and cultural terms – is the most frequent evidence when talking about money laundering across territories (Riccardi 2022). In their analysis of around 1,200 individual assets of (suspected) participants in organised crime groups (OCGs) identified by Dutch authorities, Kruisbergen et al. (2015) showed that almost the majority were located either in the country of origin or in the country of residence of the criminals. Petrell and Houtsonen (2016) revealed that most of the assets held by Finnish motorcycle gangs were located in Finland, with the exception of a few assets in neighbouring countries such as Russia, Estonia and Sweden. Similarly, Steinko (2012), who analysed 367 cases of ML judged between 1995 and 2011 in Spain, concluded that out of the total, only 23 (6.2%) involved an international dimension, which, in most cases, however, corresponded to *"not much more than a zig-zagging transfer between several financial institutions"* (Steinko 2012, 914). The analysis conducted by Transcrime (2013) on the assets confiscated from Italian mafias found that these assets were almost exclusively located in Italy; and, more specifically yet still, within those regions and provinces in which the presence of mafia groups was the highest. This was valid for both real estate properties (Dugato, Favarin, and Giommoni 2015) and firms (Riccardi 2014; Riccardi, Maggioni, and Ferluga 2019).

If these results on criminal assets may be biased by the difficulty of law enforcement to recover assets in distant places, proximity could still be observed when analysing STRs and SARs (for those countries in which data on countries mentioned by STRs/SARs is available). As reported by Riccardi (2022), in Italy and the Netherlands, only a minor share of STRs concern foreign countries; when it happens, most reports refer to bordering jurisdictions (e.g. Germany, Luxembourg and Belgium for the Netherlands; Switzerland for Italy) or to countries with strong communities active in the country (e.g. China for Italy; Turkey for the Netherlands). The same applies for STRs collected by the Peruvian FIU.

The importance of proximity may be determined by various reasons: the need by criminals to keep control over the territory where the money is generated or integrated, the need to minimise the

involvement of third parties (e.g. professionals, international tax advisers) which could increase the risk of tipping off and asset seizure, the need to have close places in which to move *physically* dirty cash (Riccardi, 2022). In summary, all the other factors being equal, geographic and cultural distance between two countries are strong deterrents for money launderers (Walker and Unger 2009; Barone 2017; Ferwerda et al. 2020), while proximity instead rules.

Unsophisticated money laundering

Despite the claims by policymakers and the media, a large body of literature suggests that ML typologies and *modi operandi* may not be particularly sophisticated (Transcrime 2013; Riccardi 2014; Kruisbergen, Kleemans, and Kouwenberg 2015). For example, in its analysis of ML trends in the last 20 years of Dutch police reports, Soudijn (2018) highlighted that, despite technological innovations, the same money laundering methods keep returning over the years. This means, first of all, heavy reliance on cash-based schemes, trade-based money laundering and real estate investments. While ML through cryptocurrency is highlighted as on rise, the literature and the available judiciary evidence seem to stress that it still represents the minority of the cases.

Regarding assets, literature has pointed out the relevant role of tangible ones such as real estate (Nelen 2008; Webb and Burrows 2009; Unger and Ferwerda 2011; Steinko 2012; Dugato, Favarin, and Giommoni 2015), vehicles, boats and helicopters (Calderoni, Aziani, and Favarin 2013; Savona and Riccardi 2015; Palomo, Marquez, and Ruiz 2015; Petrell and Houtsonen 2016) and high-value goods, such as precious and jewels (Petrunov 2011; Steinko 2012; Kruisbergen, Bunt, and Kleemans 2012). Non-tangible assets and financial instruments seem to be less widespread. But this result may be again due on the one side to the difficulty for asset recovery offices to trace and seize less tangible goods; and on the other to the type of offenders addressed by the analyses – mostly traditional organised crime groups (including mafia organizations and bikers' gangs).

Business sectors

The study of ML through legitimate firms and business sectors is strictly related to the study of the infiltration of organised crime groups into the legal economy, which has given rise in recent years to a number of works (for a review, Savona, Riccardi, and Berlusconi 2016). Following the standard economic approach, several authors suggest that criminals may launder money in profitable business sectors in order to maximize their economic returns (Masciandaro, Takáts, and Unger 2007; Unger and Rawlings 2008). Nevertheless, the correlation between criminal infiltration and the business sector profitability has not been substantiated by empirical evidence yet (Riccardi 2014).

Various evidence instead demonstrates that criminals tend to prefer laundering money in traditional sectors, which are not capital intensive, which have low entry and exit barriers and through relatively simple legal forms (e.g. limited liability companies or cooperatives). In this framework, cash-intensive businesses, such as restaurants, hotels, construction, retail are historically preferred (Gilmour and Ridley 2015; Savona and Riccardi 2015; Riccardi, Soriani, and Giampietri 2016; Riccardi and Levi 2018). Cash-intensive businesses facilitate the injection of illicit proceeds, which may be more easily justified as firm's turnover, and which can facilitate the setting up of trade based ML schemes and false invoicing, which has become a 'multi-purpose' method for laundering money and conceal illicit inflows/outflows of cash (Europol 2015; Riccardi and Levi 2018).

Obviously, the choice of the business sector may depend also by other drivers and criminal purposes, first of all the role played by the firm in the predicate offence. For example, in the ML of proceeds from VAT fraud, sectors that are usually employed in carousel scams may be frequent (e.g. IT services, wholesale trade of technology, phones, etc); similarly, for organised crime groups

involved in international illicit trade (of drugs, firearms, counterfeits, etc), import/export companies and transportation firms are also helpful as cover of the criminal activity (Ferwerda and Unger 2016). Construction companies and real estate agencies are key for those criminals and organised crime groups willing to launder money in the property sector, or through public works.

Research problem and research question

Despite its scarcity, empirical literature on the behaviour of ML offenders highlighted relevant – and common - patterns that do not fit the standard economic approach and contrasts with sensationalistic claims by media and – some – policymakers. While being the dominant theoretical framework for modelling money laundering activities, economic theory has been criticized by scholars for being too short-sighted and not acknowledging that criminals may follow other drivers when laundering their illicit proceeds, rather than always trying to maximize their economic return.

This paper would like to contribute to this strand of empirical studies by analyzing the ML behaviour of more than 2800 Italian offenders (including mafia members) reported in the LN WoCo database. In particular, it addresses four main research questions so as to test the validity of the patterns already identified in previous literature:

1. Does proximity (in geographic or cultural terms) matter for ML offenders when choosing where to launder illicit proceeds?
2. Do ML offenders prefer basic ML typologies or sophisticated ones?
3. Are traditional and cash-intensive business sectors preferred for laundering money?
4. Are there differences between the ML typologies employed by mafia actors and non-mafia actors?

Based on the previous analysis, four hypotheses can be formulated:

H1. Criminals mainly launder money in the country of origin, in the country where they committed the predicate offence and/or in neighboring countries;

H2. Criminals mainly employ basic ML typologies and invest in tangible assets;

H3. Criminals mainly invest in traditional and cash-intensive business sectors;

H4. Money laundering of mafia proceeds show more basic patterns (in terms of destination, typologies, and assets) than that related to other predicate offences (e.g. tax evasion).

Enhancing our understanding of how criminals launder their illicit proceeds is essential to advance not only the knowledge on the economic dimension of crime offenders, but also to better inform and support those scholars involved in assessing the effectiveness of the AML regime, showing if AML policies are identifying risks correctly. Despite their efforts, there is a common sense that AML practitioners are flying blind in identifying ML risks and the consequent policies are often poorly based on data. In this sense, empirical knowledge may help in designing and implementing more effective policies, thus fostering the dialogue between AML practitioners and academic researchers that, to date, has been relatively poor.

3. Data and methodology

Data and methodological approach

To address the above-mentioned research questions, the present paper analyzed ML cases related to 2818 Italian individuals arrested and/or sentenced due to ML charges and listed in the LN WoCo

database. This is a daily-updated database which provides information about more than 2.5 million entities (both individuals and companies) that are linked to 60 crime or threat categories (e.g. money laundering, drug trafficking, terrorist financing, corruption, environmental crimes).[1] It is widely used by AML obliged entities in customer due diligence activities (e.g. for screening clients against subsistence of previous enforcement measures or checking whether they may be classified as politically exposed persons – PEPs), but has never been employed in academic research, at least in ML-related one. The employment of this repository is a good alternative – and the only option – when accessing prosecution or sentencing data is not possible (e.g. due to personal data protection constraints or sensitivity issues).

For the purpose of the analysis, the database has been filtered following three criteria:

1. *Offence category:* Money laundering (if the individual was associated to further offences beyond ML, this was noted and taken into account in the analysis);[2]

2. *Country:* Italy. This filter refers to the nationality of the ML offenders (Italian individuals) and not to the geographical location where they have committed the predicate offence and/or laundered their illicit proceeds (e.g. an ML offender in the sample trafficked drugs from Belgium to the United Kingdom and laundered the subsequent illicit proceeds in Italy and the United Kingdom);

3. *Database segment (data source):* 'Adverse media' and 'Enforcement'. This filter refers to the sources of the information provided in the database:

    a. *Enforcement:* it includes individuals or companies who have been associated to illicit activities by LexisNexis according to information provided by state government authorities and enforcement agencies (e.g. law enforcement agencies, financial intelligence units, securities and exchange commissions, central banks, other supervisors).

    b. *Adverse media:* it includes individuals or companies who have been associated to illicit activities by LexisNexis according to information provided by other public or news sources worldwide (e.g. international, national and local newspapers, broadcasts, press releases).

All the individuals responding to these criteria were collected and no sampling was carried out. The above-mentioned filtering resulted in 2983 profiles of individuals and legal persons that have been further skimmed due to:

[1] See https://risk.lexisnexis.com/global/en/products/worldcompliance-online-search-tool/

[2] Each individual is always associated with a single offence in the WoCo dataset. Often, one person is involved in the commission of several crimes, but he/she appears only once in the association of the offence type, which is 'more relevant' according to the WoCo hierarchy (this applies only to the categories 'Enforcement' and 'Adverse Media', while the category 'Sanctions' reports each entity multiple times depending on the number of sanctions-regimes they are associated with). The WoCo hierarchy is the following: (1) ISIS Foreign support; (2) Money Laundering; (3) Terrorism; (4) Corruption. For the remaining categories (5 to 58), the logic is FIFO – First-in-first-out, which means that if a person is first arrested due to drug trafficking, and then for homicide, he/she will appear as being associated with 'drug trafficking'. But if he is arrested due to drug trafficking, and then for money laundering, he will appear under 'Money laundering'. The fact that ML is second in the hierarchy aided our research, insofar as all the people involved in ML will be labelled as such even if they committed any other crime prior to the ML offence.

1. *Removal of aliases*: WoCo also includes known aliases of offenders (associated to them through a unique ID identifier). 147 aliases have been removed to avoid double-counting;

2. *Removal of other entities*: 18 legal persons have been removed in order to consider only individuals in the analysis.

After this additional skimming, the final sample consisted of 2818 ML offenders. The 81% (2284) are included in the *Adverse media* database segment while the 19% (534) in the *Enforcement* database segment. The cases refer to the 1995-2020 period, but 96.3% of the cases refer to the 2010-2020 timeframe (on the implications stemming from the chosen timeframe, see below).

An individual is generally included by LexisNexis in the database if reported by two independent sources. The information extracted from open sources (e.g. law enforcements' press release, sanction releases, newspapers articles, judicial documents), counterchecked by LexisNexis, are summarized in a textual field associated to each profile ('Remarks'), providing a comprehensive overview of the criminal activities the individual was involved in. The following is an example of the 'Remarks' field of an individual included in the database:

"According to the UK-Serious Organized Crime Agency; April 08, 2011: (removed) was ordered to hand over criminal profits of GBP 925,000 who laundered dirty cash for a Class A drug trafficker (removed). (removed) was convicted of money laundering for (removed) in March 2010. At his trial the court heard that the self-styled accountant, who had no accountancy qualifications, washed more than GBP 330,000 of (removed)'s money over a period of four months. This money was converted into an aircraft hangar, a house in Wrexham, an expensive watch and bank accounts abroad. In 2006 (removed), a qualified pilot, imported heroin in his private plane from Belgium through a small airport near Shrewsbury. He is currently serving 21 years in prison for the importation of Class A drugs and money laundering"

In addition to the summary in the "Remarks" field, the WoCo database also displays the hyperlinks of the sources where the information was extracted from. When available (e.g. links not expired, not protected by a paywall), we were able to read also the full-text sources and employed it to integrate information included in the "Remarks" field.

The textual data of the 2818 profiles was analyzed through a quantitative content analysis (QCA). This methodology allows to classify pieces of text and treat them as variables in statistical analyses (Kort-Butler 2016). In doing this, we followed a recent paper that analyzed the behaviour of ML offenders in the UK employing the same methodological approach (Matanky-Becker and Cockbain 2021). Taking inspiration from this work, data for each ML offender in the sample were classified in categories related to five variables (see table 2 below for details):

1. *Offences*: we identified and classified all the offences – including predicate ones (i.e. crimes that have generated the illicit proceeds then laundered) – the offenders have been charged with. In several cases, it was not possible to clearly distinguish between predicate offences and other crimes which the ML offender was involved in;

2. *Laundering methods*: we identified and classified the laundering methods employed. Relying on both FATF typologies and previous academic literature, several laundering methods have been considered (e.g. structuring, use of figureheads, misuse of companies, virtual currencies, real estate investments);

3. *Assets*: we identified and classified the assets seized during or after the criminal investigation (e.g. companies, financial assets, vehicles, real estate), when specified by the source;

4. *Business sectors*: we identified and classified the business sectors in which the ML offenders invested or in which their firms, employed in the ML scheme, were active. Business sectors were classified according to NACE economic classification;[3]

5. *Countries involved in the ML scheme*: we identified and classified the countries where ML offenders laundered their illicit proceeds and where they carried out other/predicate offence.

For each category, several dichotomous but non-mutually exclusive variables have been considered, because one reference may provide information on more than one element (e.g. an ML offender may employ several laundering methods and invest in/employ different business sectors and countries). The variables assume value "1" when the case material contained evidence of the corresponding information and "0" otherwise. In the case of the category related to the countries involved in the money laundering schemes, a categorical variable has been computed. Details on categories and related variables are presented in Table 2.

Once classified, frequency and correlation analyses were carried out. It is reported and discussed in the next section. We decided to limit the analysis to basic descriptive statistics which – given the low amount of available empirical evidence on ML, as afore discussed – already provides useful insights and a contribution to the current knowledge of the phenomenon.

Table 2. Overview of the coding framework employed in the analysis

Variable	Operationalisation and categories
Offence	Recorded if the case material contained evidence of other offences the individual was charged with besides ML: **Arms trafficking** **Bankruptcy crimes** **Bid rigging** **Cybercrime** **Counterfeiting** **Corruption** **Drug trafficking** **Embezzlement** **Extortion** **Fictitious registration of assets** **Fraud** **Forgery** **Handling of stolen goods**

[3] https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.PDF

	Human trafficking **Illegal possession of weapons** **Illegal gambling activities** **Kidnapping** **Murder** **Robbery** **Smuggling** **Tax crimes** **Theft** **Usury**
Money laundering methods	Recorded if the textual data contained evidence of: **Cash**: presence of cash at any stage of the laundering process (e.g. cash withdrawal, cash handover, cash smuggling) **False documents**: use of false documents at any stage of the laundering process (e.g. to open bank accounts) **False invoicing**: issuing of false invoices schemes to move illicit proceeds between companies **Figureheads**: disguise of ownership of companies/assets by employing third individuals/figureheads/strawmen **Financial investments**: purchase of government or companies' bonds, company shares, shares of investment funds, insurance policies and other financial instruments **Foreign bank accounts**: use of bank accounts opened in a foreign country **High-value goods:** purchase of high-value goods (e.g. artworks, jewels, luxury watches) **Misuse of companies**: employment of a company at any stage of the laundering process (e.g. acquisition/financing a company, justifying illicit proceeds as company turnover, etc) **Real estate investments**: purchase of real estate (e.g. commercial buildings, dwellings, lands) **Structuring**: breakdown of bigger amount of illicit proceeds in smaller amount so as to hamper tracing **Value transfers**: use of wire transfers and money transfer services to move illicit proceeds **Virtual currencies**: use of virtual currencies at any stage of the laundering process
Assets seized during the criminal investigations	Recorded if the case material contained evidence of the seizure of: **Cash and bank accounts**: cash, bank accounts and other current assets **Companies**: company shares and company assets **Financial assets**: bonds, shares, insurance policies, other financial instruments. **High-value goods**: artworks, jewels, luxury watches

	Real estate: commercial buildings, dwellings, lands **Registered assets**: cars, trucks, motorbikes, boats, helicopters planes
Business sectors	Recorded if the case material contained evidence of business sectors in which the ML offender invested or in which his companies, employed in the ML scheme, were active: **Agriculture** **Bars, restaurants and hotels** **Construction** **Energy** **Financial activities** **Football and sport** **Gaming and betting** **Health and social work** **IT and Communication** **Manufacturing** **Professional activities** **Real estate activities** **Other sectors** **Trade and Wholesale retail** **Transport and logistics**
Countries involved in the ML schemes	The countries mentioned for each individual were classified into three groups: a) Countries involved in the commission of the predicate/other offences; b) Countries involved, at any stage, in the ML scheme; c) Countries mentioned for other reasons (e.g. place of execution of an arrest). In particular, for group (b), which was ultimately used in the analysis, a country was deemed to be involved in a ML scheme if it was: (i) the jurisdiction of the authority that arrested/prosecuted/sentenced an individual due to ML; (ii) a location where assets (e.g. real estate properties, firms, cash, jewels, vehicles) belonging to the individual were seized or confiscated; (iii) explicitly mentioned in the summary or linked in news reports as being part of the ML scheme, such as, for example, being known as the place where either bank accounts were opened to deposit dirty money or shell firms incorporated.

Representativeness of the sample and limitations

It is important to acknowledge the potential limitations of the data source used in the analysis, and to understand to what extent the sample analyzed is representative of the universe of Italian ML offenders.

In terms of limitations, it has to be stressed, first, that news media articles are the main data source of the sample (81% of the individuals are included in the *Adverse media* database segment of WoCo). As highlighted by Unger et al. (2006), newspapers rarely write about money laundering and, when they do it, mainly focus on describing the predicate offences rather than the ML process itself. This issue can limit the coverage of ML cases: for example, minor ones, or those related to non-mafia criminals, such as tax evaders, may be ignored by media news. And details regarding the ML schemes may be missing and significantly vary from article to article.

Secondly, validity and reliability issues are also present in quantitative content analyses (Neuendorf 2002). In this specific case, there are not inter-rater reliability issues (i.e. how different individuals code the same text) since only one of the two authors of this paper coded the data used for the analysis. The use of a coding guide (even though relatively simple) also partially increased the reliability of the decisions, limiting the subjectivity of the researcher and making the coding process clear (Krippendorff 2004). Nevertheless, potential errors committed during the manual classification of the data may not be excluded and should be considered.

A third problem is that it was not always possible to trace the time series of the ML scheme, nor the criminal process the individual had undergone. Available dates were seemingly provided at random, sometimes referring to an event (e.g. an arrest, a conviction, a seizure), other times to the issue date of the media report. For this reason, we chose not to conduct any time series analysis, while we took this dataset as a 'stock', based on the assumption that no relevant change over time could be observed in the strategy of Italians willing to launder their dirty money abroad. In general, the analyzed timeframe referred to the 1995-2020, but 96.3% of the cases referred to the 2010-2020 period.

Despite these limitations, the employment of the LN WoCo appears as a promising avenue for research in this field, especially when and whether data on prosecuted or convicted individuals is not largely available. While the paucity of suitable data is certainly a key issue in the academic research on money laundering, scholars in this field generally do not look for original data sources (Van Duyne, Harvey, and Gelemerova 2018). On the contrary, to the best of our knowledge, this is the first study that analyzes this unique database and, more generally, one of the first studies that also employs news media information to empirically investigate money laundering.

It can also be questioned whether this dataset provides a representative picture of the universe of Italian individuals arrested/prosecuted/convicted due to ML. According to the aggregate statistics provided by the Italian Ministry of the Interior (reported by the national statistical office ISTAT), 10,818 ML offences have been reported to the police since 2013 until 2020; while the number of individuals included in WoCo since 2013 is 2,532 (bearing in mind the difficulties in attributing a specific time window to the records). While the difference seems sensible, it should also be kept in mind that the Ministry of the Interior records, in contrast to our WoCo excerpt, also include (a) non-Italian individuals and (b) fencing crimes (because of the broader parameters of the ISTAT crime classification).

Table 3 compares the regional distribution of ISTAT-Ministry of the Interior ML offences and the region of birth of the individuals in my dataset. The result was overly satisfying (Pearson's R = .32) considering that: (a)first the ISTAT table is heavily influenced by the presence of a high number of Chinese individuals prosecuted for ML, especially in Tuscany and Lombardy (for example, due to large police investigations such as *Cian Liu* and *Cian Ba*), while Chinese people were not included in our WoCo excerpt; (b) the ISTAT table is not based on the place of birth of the individuals, but rather on the relevant judicial police or prosecutor's office seat. This is evident when comparing the

figures of Calabria and Sicily: there are a lot of members of 'Ndrangheta and Cosa Nostra, respectively, who were born in the two southern regions but then were prosecuted or convicted in Lombardy, Piedmont or Liguria. This helps to explain the discrepancies between the two series regarding these regions.

Table 3 – Comparing the distribution across Italian regions of ML records from ISTAT -Min. Interior and WoCo

Name of the region	% records in ISTAT-Min. Interior (2010-2018)	% records in LN WoCo (1995-2020)[a]
Abruzzo	1.1%	0.2%
Apulia	7.8%	5.6%
Basilicata	0.6%	0.2%
Calabria	3.2%	35.3%
Campania	13.3%	23.8%
Emilia-Romagna	5.5%	2.1%
Friuli-Venezia Giulia	1.8%	0.1%
Lazio	9.5%	6.5%
Liguria	6.8%	0.8%
Lombardy	11.5%	2.1%
Marche	2.5%	0.5%
Molise	0.3%	0.1%
Piedmont	5.9%	1.1%
Sardinia	2.0%	1.4%
Sicily	7.3%	16.3%
Tuscany	12.9%	2.3%
Trentino Alto Adige	1.6%	0.0%
Umbria	0.5%	0.3%
Valle d'Aosta	0.1%	0.0%
Veneto	5.6%	1.1%

Source: Author's elaboration of ISTAT-Min. Interior and LN WoCo

Notes: [a] 96.3% of the cases are associated with the 2010-2018 period

4. Results

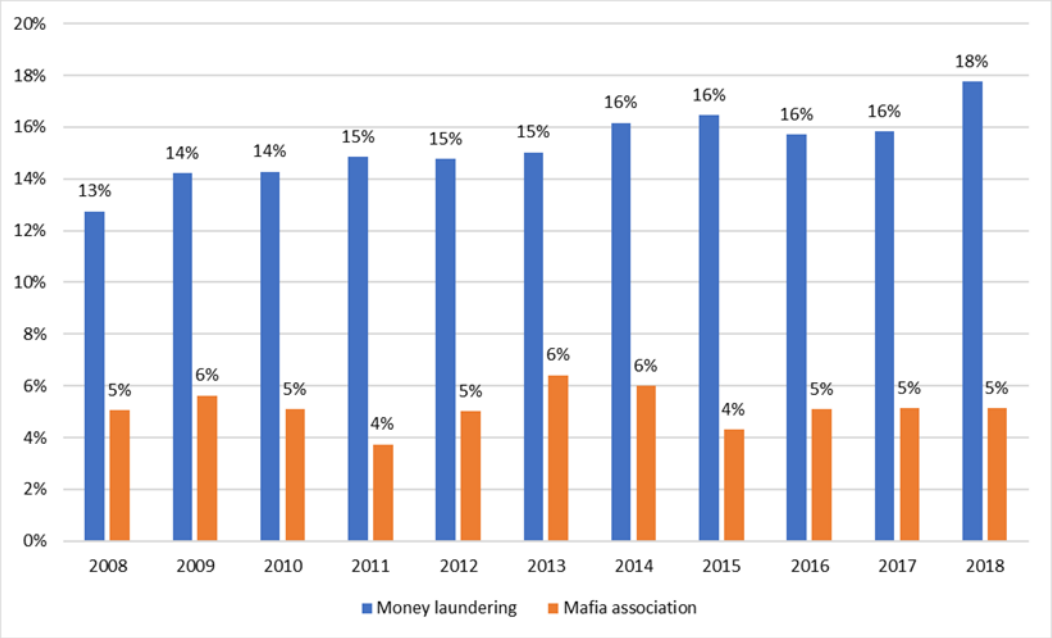
Characteristics of the individuals involved in the ML schemes

The final sample employed in the analysis consisted of 2818 individuals. The 89.6% (2525) of them are male while only the 10.4% (293) are female. The result is in line with previous research showing that females generally commit less white-collar crimes compared to men, due to a lack of financial motive (Steffensmeier, Schwartz, and Roche 2013; Holtfreter 2015), organizational opportunity (Benson and Simpson 2018) and personal willingness for deviant behaviour (Benson and Harbinson 2020; Galvin 2020). However, if compared to the role of females involved in other organisational crimes in Italy, first of all mafia association, the percentage is much higher and

significant, and pretty much in line with the statistics of individuals reported to police due to ML (Figure 1).

As stressed by various scholars, females are frequently used as figureheads since they are less likely to gather the attention of law enforcement agencies (Allum 2007; Fiandaca 2007; Soudijn 2010; Transcrime 2013). For example, previous empirical research showed that the share of female owners in companies confiscated from organized crime in Italy was almost twice the one of legitimate companies in the same business sectors and geographical areas, but in some sectors it is even (Savona and Riccardi 2018).

Figure 1. Women reported to the judicial authority in Italy for money laundering and mafia association between 2008 and 2018, % on the total individuals reported.



Note: Percentages have been calculated on the total number of individuals reported to the judicial authority in Italy for money laundering (N=40,364) and mafia association (N=24.671) between 2008 and 2018.

Source: Author's elaboration of ISTAT data.

Secondly, the 83.9% of the individuals in the sample (2365) have been charged for organized crime. The 56.7% (1597) of the individuals in the sample are associated to Italian mafia organizations, namely Cosa Nostra (368), 'Ndrangheta (680), Camorra (471) and Sacra Corona Unita (78). The specific ML behavior of these actors – and the differences with non-mafia fellows - will be discussed in the detail below.

Regarding the birthplace, we do not have information for the 41% (1143) of individuals. For the remaining 1675, the 87% of them (1465) were born in only five Italian regions (out of 20): Calabria, Campania, Sicily, Lazio and Apulia (see Table 3 above). This should not surprise. Calabria, Campania and Sicily are the historical areas of origin and influence of Italian mafias, respectively 'Ndrangheta, Camorra and Cosa Nostra. Apulia is the area of activity of Sacra Corona Unita, also known as the "Fourth Mafia", a more recent mafia-type organization which began to operate in the region at the end of the 1970s (Massari 2014). Lazio is not a region with a historical presence of organized crime but has observed in recent years the simultaneous presence of Italian mafias, local autochthonous organised crime groups and foreign groups (Iadeluca 2012; Savona and Riccardi 2015; Crime&tech 2016), as also demonstrated by the fact that it is the sixth Italian region per number of confiscated real estate (Transcrime 2013).

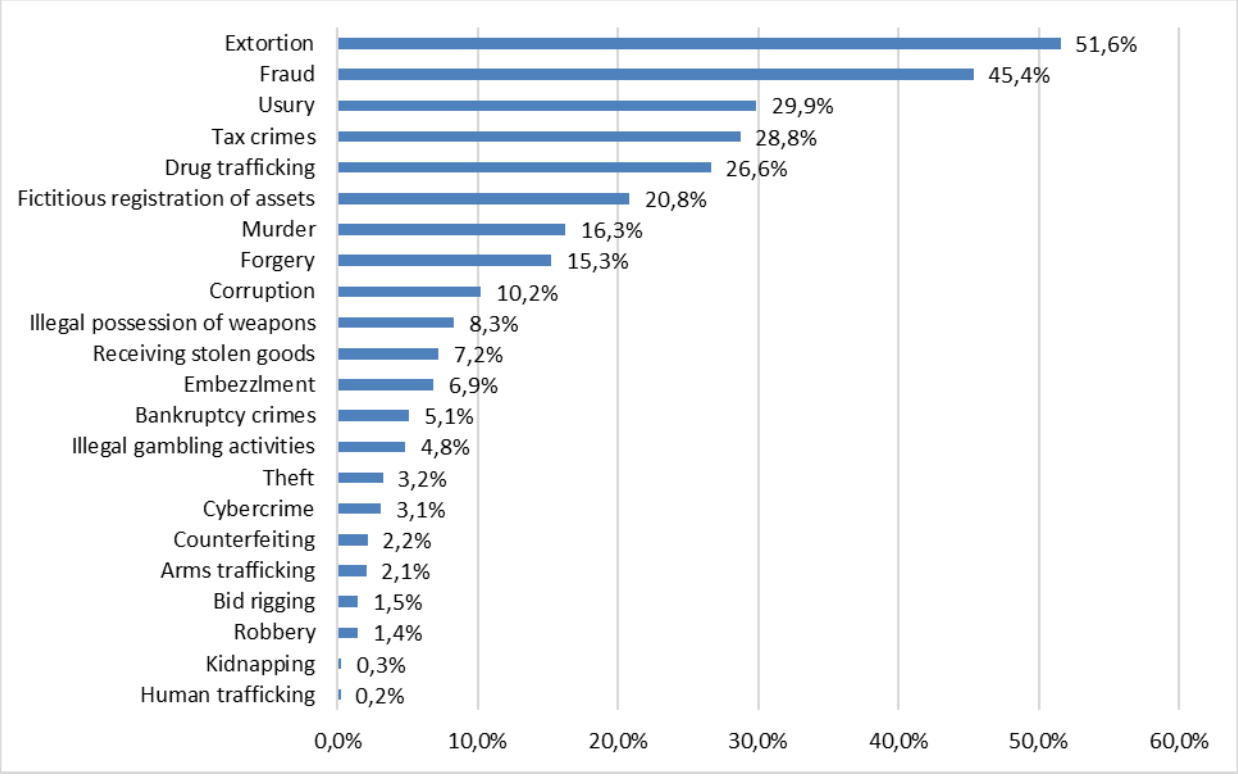
Regarding the Italian provinces of birthplace, it should be noted that the first three per number of individuals - Vibo Valentia (284), Napoli (255) and Reggio Calabria (187) - are among the top provinces in Italy per risk of money laundering as already highlighted by previous literature (Riccardi, Milani, and Camerini 2019).

Offences

This section provides information on the offences committed by the individuals in the sample. As mentioned, these are not strictly predicate offences (namely the offences that generate the illicit proceeds that need to be laundered) as in several cases the textual data simply listed the offences an individual was charged without specifying if these are predicate crimes or simply other criminal activities the individuals was charged for or involved in the course of his/her life.

First, 33.8% of the individuals committed multiple offences. Overall, Figure 2 shows a relevant role of white-collar crimes, such as fraud (45.4%), tax crimes (28.8%), fictitious registration of assets (20.8%) and corruption (10.2%). More than half of the individuals in the sample (51.6%) were involved in extortion – which is unsurprising given the high percentage of individuals involved in mafia-type OC (see above). Also usury is particularly relevant (29.9%). While being a profitable criminal activity, it also allows criminals to launder their illicit proceeds by lending them to the individuals in need (Savona and Riccardi 2015; Barone and Masciandaro 2019).

Figure 2. Frequency of other offences mentioned, as % of the individuals in the sample



Note: Percentages calculated on the individuals in the sample who have been involved at least in one further offence besides ML (N=2625)

Source: Authors' elaboration of LN WoCo.

Geographical and cultural proximity in ML activity

Information of the countries involved in the ML process is available for the 60.9% of the individuals in the sample (1716 offenders), while for the remaining 39.1% information is available

only on the countries where the predicate offence was committed. Focusing only on the offenders for which information on the ML country is available, the large majority of them (60.1%, equal to 1032 individuals) cleansed their proceeds only in Italy, while those laundering both in Italy and abroad correspond to a further 21.7%. This means that the 81.6% of the ML offenders employed, at least partially, 'national ML schemes'. This result itself can be read as a confirmation of the *proximity* hypothesis.

Table 4. Individuals laundering in Italy v. abroad (N=2818)

	Number	% on relevant total
A. Individuals in the dataset (total)	**2818**	**100%**
Individuals for which there is no information on the country where ML is carried out	1102	39.1%
Individuals for which there is information on the country where ML is carried out	1716	60.9%
B. Individuals for which there is information on the country where ML is carried out	**1716**	**100%**
Individuals laundering only in Italy	1032	60.1%
Individuals laundering both in Italy and abroad	417	24.3%
Individuals laundering only abroad	267	15.6%
B. Countries mentioned in the dataset (as location of ML activity)	**3092**	**100%**
Mentions of Italy	1399	45.2%
Mentions of foreign countries	1693	54.8%
N. foreign countries mentioned	75	

Source: Authors' elaboration of LN WoCo

A further confirmation can be gained by looking at the countries involved. 3092 references of countries involved in the ML process can be found in the 'Remarks' section: 45.2% refer to Italy, while 54.8% (1693 mentions) refer to foreign countries. Overall, 75 foreign countries have been employed by the individuals for laundering their proceeds. The top ten countries per number of references are all European (Figure 3). Three of them (Austria, San Marino and Switzerland) border with Italy (a fourth, Slovenia, is among the top 25) while most of the rest are geographically close and can be reached with few hours driving or via ferry boat. In general, the average distance of the typical foreign country employed by Italians in ML is 2158 km (taken between the population-weighted centres, and weighted by the number of ML references), but, considering the first ten countries in terms of mentions, it is only 508 km. Also, the correlation is significant between the number of references and the geographical distance, the contiguity and with the 'cultural proximity', here operationalized in terms of common language (Table 5).

Table 5. Correlation with measures of proximity of the foreign countries involved in ML schemes, and presence in blacklists/greylists

	Pearson's correlation
ML references	1
Geographical proximity	0.60***
Contiguity	0.48***
Common currency	0.39***
Common official language	0.52***
Blacklisted	-0.08
Greylisted	-0.1

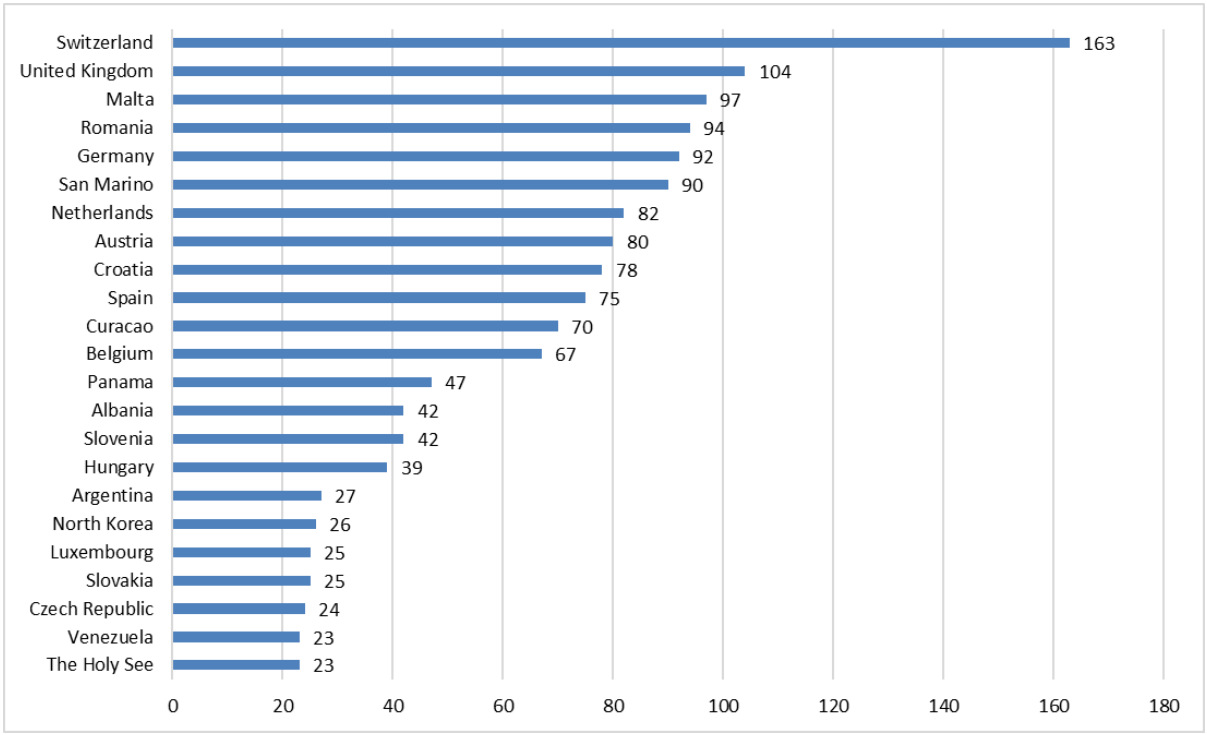
*** coefficient significantly different from zero at the 99.9% confidence level. Legend: *ML references* = number of mentions of country being involved in ML schemes; *Geographical proximity* = reciprocal of the physical distance (in km) between the population-weighted centres of Italy and the third country (source: CEPII). *Contiguity* = dummy signalling if countries share the same border (source CEPII); *Common currency* = dummy indicating if the third country shares the same currency of Italy, i.e. euro; *Common official language* = variable measuring the percentage of the population in the third country which speaks Italian; *Blacklisted* = dummy indicating if the third country appears at least once since 2000 in the FATF blacklist; *Greylisted* = dummy indicating if the third country appears at least once since 2000 in the FATF greylist;

Source: Authors' elaboration of various sources

Only two offshore jurisdictions, Curacao and Panama, appear in the top 25 countries per number of references, while 'onshore' countries in the European area seem to be more relevant (e.g. Malta, Switzerland, San Marino, Luxembourg). As already highlighted by previous works, Italian offenders, for laundering their money, prefer countries which, ceteris paribus, can guarantee a relatively high level of secrecy but which are close – geographically and culturally – to the place of origin.

Also, results show that destinations or countries involved in ML schemes are highly correlated with those in which predicate offences are committed. The 60% of the offenders laundered their illicit proceeds in the same country where the associate offences were committed. This result demonstrates the relevance of proximity not only with respect to offenders' origin, but also with their 'location of activity'.

Figure 3. Top 25 foreign countries employed for laundering money by Italian offenders, by number of references.

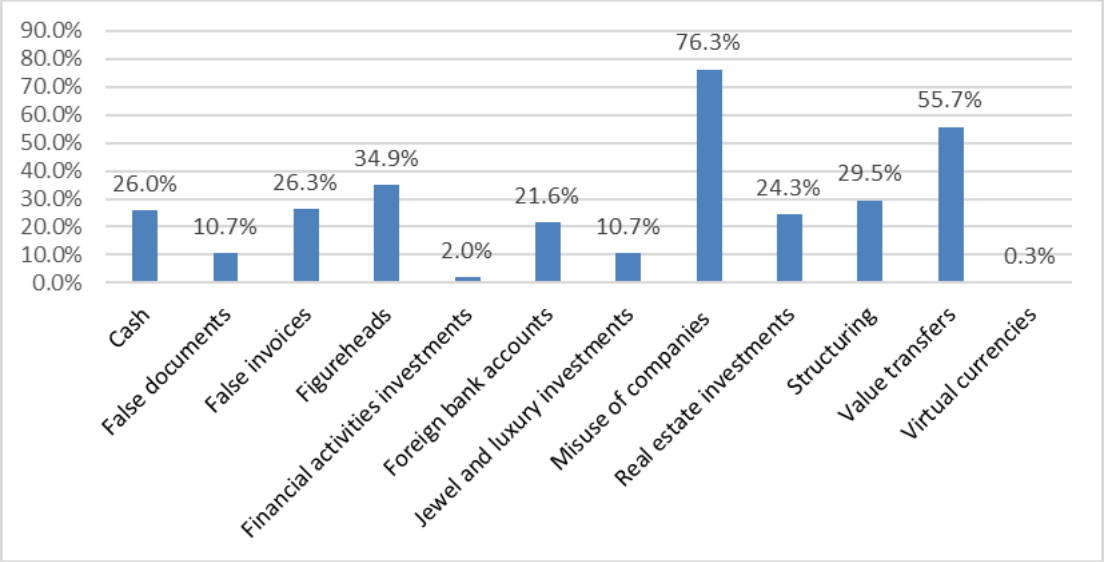


Source: Authors' elaboration of LN WoCo

Modi operandi and assets

ML is often depicted in the political debate and in the media as a complex process characterized by transnational schemes that involve multiple assets and methods, and which requires a specific technical expertise. However, results show that the ML schemes employed by Italian criminals are often basic, involve few *modi operandi*, and have a limited geographical scope. The low sophistication of most of the ML cases in the sample may be inferred by looking at the number of ML methods employed simultaneously to launder the illicit proceeds. For the 1651 individuals for which information on *modi operandi* are available (58.6% of the total), the 54% employed only one or two methods (or 'typologies', in FATF terms) to launder their illicit proceeds, while only 23% employed 4 or more methods. In terms of the 'typologies' (Figure 4), almost the 80% of these individuals (76,3%) misused companies, followed by value transfers (55.7%) and the employment of figureheads to disguise the ownership of assets and companies (34.9%). Also cash-based methods are widely employed (26%), while only for a bunch of individuals there was reference to financial investments (2%) and virtual currencies (0.3%)

Figure 4. Methods employed for laundering money by Italian offenders, % on total number of offenders



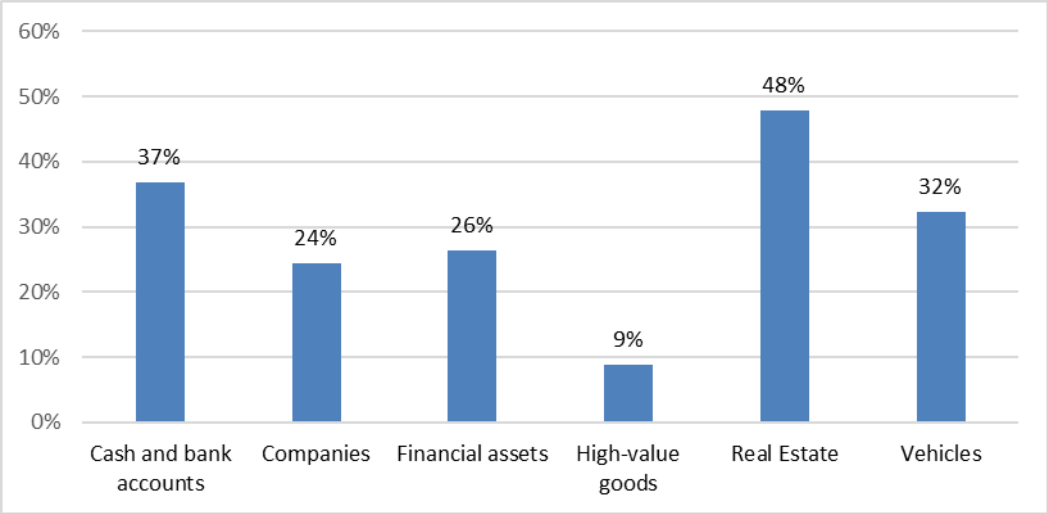
Note: percentages are calculated on the total number of individuals in the sample with at least a reference for the ML methods (N=1651).

Source: Authors' elaboration of LN WoCo.

The extent of the use of companies is a further confirmation of the key role played by firms today in organised and financial crime schemes (Europol 2021; Ravenda, Argilés-Bosch, and Valencia-Silva 2015; Savona and Riccardi 2018). According to the latest Europol SOCTA, 80% of organised crime groups in Europe make use of legitimate businesses in conducting their criminal activity (Europol 2021). In this analysis, it is difficult to understand for what purpose firms were employed for, if in committing the predicate offences which generated the money to be laundered (e.g. VAT fraud or tax crimes) or if for laundering the money themselves, or for both; but ML schemes appear to be strictly related to the use of legal persons.

In terms of assets confiscated during the criminal investigations, we can see a relevant 'asset diversification'. For more than half of the offenders (56.1%), 3 or 4 different asset types were confiscated, while for 7.9% of them, 5 or more asset types were confiscated. Regarding the typologies (Figure 5), tangible assets, such as real estate (58%), cash and bank accounts (37%) and vehicles (32%) are the most relevant. Despite being frequently employed for showing off power (Petrunov 2011), high-value goods are limited (9%).

Figure 5. Category of assets confiscated from ML offenders, % on the total number of offenders.



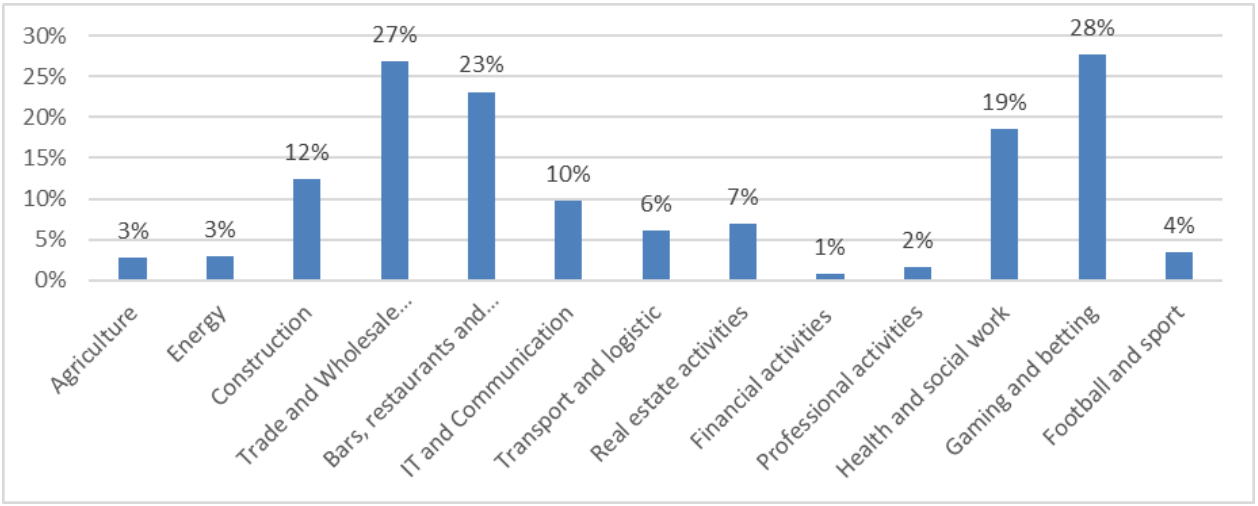
Note: Percentages are calculated on the total number of offenders with a least a reference for assets confiscated (N=1676)

Source: Authors' elaboration of LN WoCo.

Business sectors

While it was not always easy to distinguish among businesses and business sectors employed by offenders to commit predicate offences, as opposed to those in which offenders laundered/integrated their illicit proceeds, certain economic sectors appear more frequently than others. Those with the highest number of references are gaming and betting (28%); wholesale and retail trade (27%); bars, restaurants, and hotels (23%); health and social work (19%) and construction (12%).

Figure 6. Business sectors involved in ML schemes of Italian offenders, % on the total number of individuals



Note: Percentages are calculated on the total number of individuals with at least a reference for business sectors (N=1285)

Source: Authors' elaboration of LN WoCo.

This list of sectors is not surprising, as it already emerged in previous studies on the infiltration of organised crime groups in the Italian economy (Riccardi 2014; Ravenda, Argilés-Bosch, and Valencia-Silva 2015; Fabrizi, Malaspina, and Parbonetti 2017; Transcrime 2013; Riccardi, Maggioni, and Ferluga 2019). They are traditional sectors, characterized by low entry and exit barriers, low capital-intensiveness and companies with relatively simple legal forms (e.g. limited liability

companies or cooperatives). In addition, they are not necessarily characterized by high profitability (measured as historical profit gross margin rate) but they are usually classified as cash-intensive ones, in the sense that (Riccardi and Levi 2018):

1. they mainly manage cash payments, allowing criminals to easily comingle illicit proceeds with businesses' legitimate revenues and deposit them in bank accounts on a daily basis;
2. they are mainly characterized by current assets, allowing criminals to rapidly sell them (contrary to non-current assets) in case of criminal investigations to avoid potential confiscations and seizures.

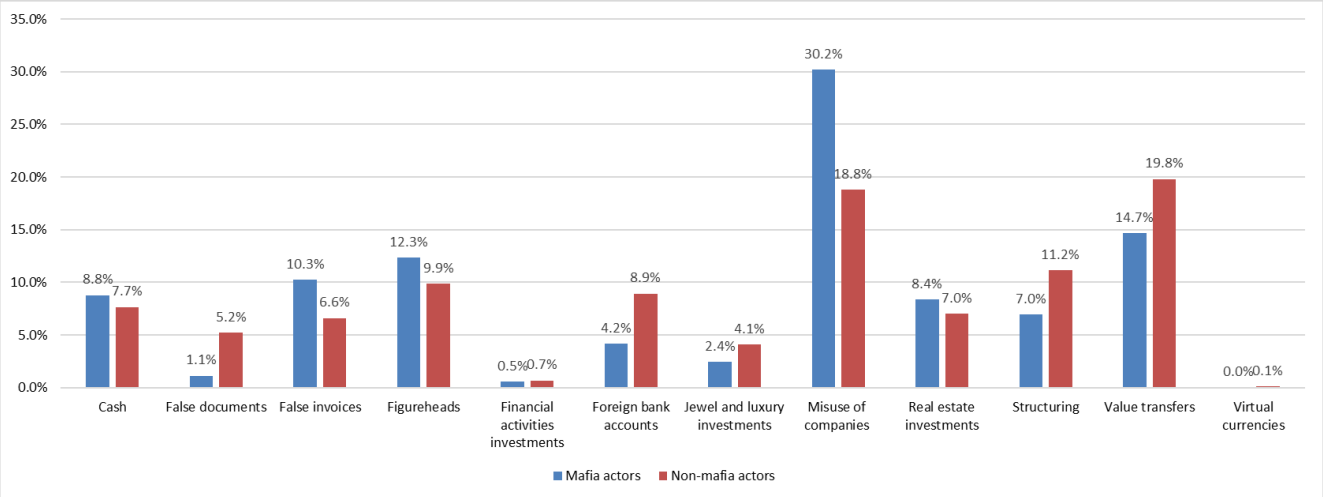
Mafia actors vs non-Mafia actors

Finally, results show that the ML patterns change on the basis of the type of actor involved. As mentioned, 56.7% of the individuals of the sample are associated to Italian mafias, namely 'Ndrangheta, Cosa Nostra, Camorra and Sacra Corona Unita. It is interesting to explore whether their behaviour differs from that of non-mafia actors. Some interesting patterns can be highlighted.

The first difference can be identified as regards the propensity to use foreign countries to launder money. Only 30.9% of mafia actors laundered their illicit proceeds abroad, contrary to 48.3% of non-mafia actors.[4]

The second difference can be identified as regards ML methods. While the use of companies is relevant for both types of actors (with a higher role for mafia-related ML offenders, 30.2% v. 18.8%), in the case of mafia actors, false invoicing (10.3%) and figureheads (12.3%) emerge as more relevant, while non-mafia actors seem to exploit more widely the banking system, through ML schemes involving financial institutions, as demonstrated by high number of references for value transfers (19.8%), structuring (11.2%) and the employment of foreign bank accounts (8.9%).

Figure 7. ML methods of mafia actors and non-mafia actors, % on total number of references for ML methods.



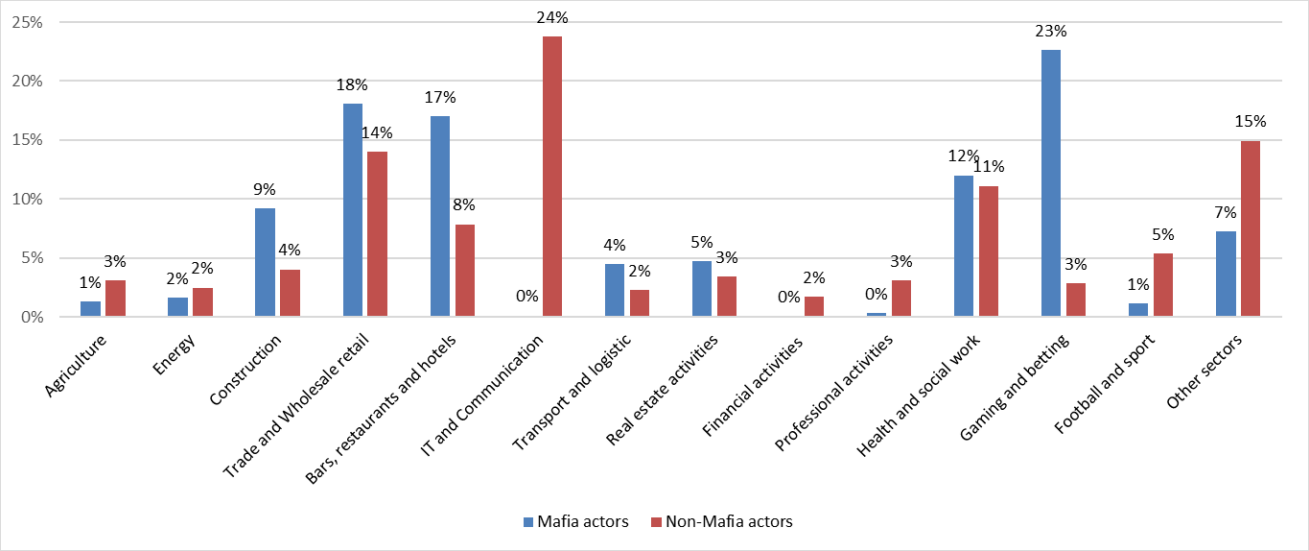
Source: Author's elaboration of LN WoCo. Percentages are calculated on the total number of references for ML methods (N Mafia actors=2369; N non-mafia actors=2887)

When it comes to business sectors, mafia actors, with respect to non-mafia ones, make significantly higher employment of firms active in gaming and betting (40% v. 3%), bars, restaurants,

[4] Information on the countries involved is available for the 50.2% of the Mafia actors in the sample (832 offenders) and on the 76.3% of non-Mafia actors in the sample (884 offenders).

and hotels (30% v. 9%) and Construction (16% v. 5%). While Bar, restaurants and hotels and Construction are traditionally known for being particularly vulnerable to mafia's' investments (as demonstrated by vast literature), the (legal) gaming and betting industry emerges as a newcomer. However, it now represents a key sector for both 'Ndrangheta and Cosa Nostra, as shown by numerous investigations and studies. For example, research project MORE by Transcrime reported, between 2016 and 2018, seven police investigations which involved gaming companies directly or indirectly owned by mafia organisations. In most of these cases, Malta was involved as location of the firm's registered seat (Savona and Riccardi 2018).

Figure 8. Business sectors involved in ML schemes of mafia actors v. non-mafia actors, % on total number of references for business sectors, by type.



Note: Percentages are calculated on the total number of references for business sectors for each group (N Mafia actors = 1506; N non-Mafia actors = 522)

Source: Author's elaboration of LN WoCo.

5. Discussion and conclusion

The analysis of the behaviour and *modi operandi* of Italian ML offenders confirmed the four hypotheses presented in Section 2. The results and the policy implications are discussed below.

First hypothesis. The proximity of money laundering

The results confirm that Italian ML offenders mainly launder their illicit proceeds in Italy, in the country where predicate offence was committed or in countries that are geographically or culturally close. These patterns may confirm that ML offenders do not necessarily behave as other economic agents (such as firms or households) and that may be moved by a wider set of utility drivers. For example proximity, intended in geographical and cultural terms (Kruisbergen, Kleemans, and Kouwenberg 2015), control of the territory and of the community, and the need to minimize principal-agency costs (Reuter 1983), also for reducing the risk of being tipped off, investigated and having their assets seized.

In terms of countries which appear frequently, European countries stand out. The presence of these jurisdictions does not surprise as their relation to money laundering and organized crime has already been highlighted by previous literature (Savona and Riccardi 2018). As highlighted by several

European Financial Intelligence units (FIUs), most of the suspicious transactions reports (STRs) filed by European obliged entities involve transactions towards European countries rather than exotic ones (see for example Cassetta et al. 2014; Gara and De Franceschis 2015; Ferwerda et al. 2020). For example, Switzerland shares a border with Italy but has historically played a relevant role as an international hub where to set up foreign bank accounts, as also shown by previous literature (Does de Willebois et al. 2011). On the contrary, few countries with a high number of references appear in official blacklists related to ML/TF or tax evasion. Out of the top 25 countries per number of references as involved in ML schemes (Figure 3), only 4 countries appear in such lists: North Korea in the FATF blacklist (*High-Risk Jurisdictions subject to a Call for Action*) and Albania, Malta and Panama in the FATF greylists (*Jurisdictions under increased monitoring*).

By preferring 'onshore' jurisdictions (such as Switzerland or Luxembourg), Italian money launderers are able to strike a balance between the possibility to guaranteeing relatively low corporate and financial transparency, but also minimizing risks that may arise when choosing offshore or exotic secrecy jurisdictions. It should be noted that these countries:

1. Do not require the involvement of third parties (e.g. professionals, international tax advisers or law firms) who could help international ML schemes, but also constitute a risk source for the criminal and the criminal organization;
2. Guarantee cultural proximity, similar language and, in most cases, same currency, which ultimately help laundering of cash proceeds;
3. Attract less attention from AML authorities and obliged entities, as they are generally not included in ML/TF blacklists or greylists.

Second hypothesis. Unsophisticated ML typologies: Italians do it easier?

The ML offenders in the sample employed unsophisticated ML typologies, with traditional ML methods and tangible assets. Misuse of companies is abundant, being observed for almost 80% of the offenders (76.3%), but it cannot be discerned whether firms were used for laundering money only, or as part of the same criminal scheme (e.g. VAT fraud or false invoicing) or for facilitating other crimes (e.g. as cover for predicate offences such as drug trafficking). In fact, wide literature stresses the 'multi-purpose' role of firms in organised and financial crime schemes (Riccardi 2014; Kruisbergen, Kleemans, and Kouwenberg 2015; Savona and Riccardi 2018; May and Bhardwa 2018). Also other typologies, such as the employment of figureheads and false invoicing schemes are generally linked to the misuse of companies. The former usually refers to the employment of figureheads for the fictitious heading of assets, thus disguising the true ownership but also avoiding potential confiscations in case of criminal investigations. The latter refers to schemes which are widely used to move illicit proceeds across companies (and sometimes borders) justifying them as fake or over/under-estimated transactions. In the typical scenario, a 'customer' company pays a false invoice through legitimate channels (e.g. a bank transfer) and receives back from the 'provider' company the whole sum in cash minus a fee for the service, allowing criminals to legitimize movement of illicit funds and create 'black funds' that can be used for several criminal purposes (e.g. corruption). Especially in the case of mafia organisations, false invoicing has become a core business and a rich source of profit (Savona and Riccardi 2018).

It should be noted that cash still plays a relevant role (26%). Despite its overall decline worldwide due to governments' efforts to encourage electronic payments and mobile phone banking systems (Levi and Soudijn 2020), several law enforcement agencies' (henceforth LEAs) investigations demonstrated that cash is still one of the preferred instrument by criminals to launder their illicit proceeds (Europol 2015). It allows criminals to easily pay for their daily expenses (both legal and

illegal) while guaranteeing their security (Soudijn and Reuter 2016) by making the audit trail of the money hard to follow for LEAs (Riccardi and Levi 2018).

On the contrary, Italian ML offenders seem to be less prone to use emerging typologies, such as virtual currencies (0.3%) and more sophisticated methods such as laundering through financial instruments such as insurance policies or loan-backed and mortgage-backed schemes (2%). Such methods may require a certain degree of technical expertise that not all criminals have, thus forcing them to involve external professionals and eventually increase the costs and the risks of the ML process. Also, financial investments may make money no longer immediately available, thus arousing problems in case the criminals need liquidity shortly afterwards (Levi and Soudijn 2020).

It is not surprising then that most assets seized from ML offenders are tangible ones, first of all real estate, followed by vehicles (cars, motorbikes, boats). As shown by previous literature, real estate is particularly attractive to criminals for several reasons. First, purchasing properties (even high-valued ones) does not require a high-level expertise. Second, it is a relatively safe investment, especially in large urban areas (Kruisbergen, Kleemans, and Kouwenberg 2015; Maloney, Somerville, and Unger 2019; Levi and Soudijn 2020). Third, they can also be used as logistical bases for illegal activities as well as generating clean profits by selling or renting them (Unger and den Hertog 2012; Dugato, Favarin, and Giommoni 2015; Savona and Riccardi 2015). On the other side, vehicles have historically been instrumental goods for both showing off criminals' power/status-symbol and carrying out other illicit activities (e.g. boats to traffic drugs) (Steinko 2012; Calderoni, Aziani, and Favarin 2013; Transcrime 2013; Savona and Riccardi 2015).

Third hypothesis. Traditional business sectors

Results showed that the gaming and betting sector, wholesale and retail trade, bars, restaurants, and hotels, health and social work and construction are the top five business sectors per number of references in the ML schemes analysed. These are all cash-intensive business sectors which have generally low entry and exit barriers and requires unskilled labour force. These industries allow criminals to more easily mix illicit cash in the companies' register as legitimate revenues and deposit them in companies' bank accounts on a daily basis (Gilmour and Ridley 2015) and/or purchase high-value goods in cash (where countries' cash purchase thresholds allow it) that can also be employed in further trade-based money laundering (Savona and Riccardi 2018).

While cash-intensiveness plays a relevant role in attracting criminals' investments, it should be noted that criminal infiltration in the legal economy is a complex phenomenon. Previous literature suggested a wide array of factors that may influence these patterns such as low level of competitiveness and technological expertise (Becchi and Rey 1994; Daniele and Marani 2011), high labour-intensiveness, high level of public expenditure and a low level of regulation (Calderoni and Caneppele 2009) and a high territorial specificity (Unger and Ferwerda 2011; Transcrime 2013). The following paragraphs will provide a comprehensive picture of the factors that characterize the top five business sectors per number of references in the analysis, also discussing their potential interplay with cash-intensiveness.

In particular, bars, restaurants and hotels are cash-intensive, labor-intensive and generally low-tech businesses (Transcrime 2013; Riccardi, Soriani, and Giampietri 2016). They may also serve as front companies to cover other illicit activities such as sexual and labour exploitation (Paraskevas and Brookes 2018; Riccardi and Levi 2018). In this sense, cash allows to pay 'black' salaries to illegal workers – often used directly to launder money in certain geographical areas (Dell'Anno, Gómez-Antonio, and Pardo 2007) – and also foster tax evasion (F. Schneider, Raczkowski, and Mróz 2015).

Construction is cash-intensive, labor-intensive, and characterized by a high level of public funds, conveyed mainly through public procurement contracts. It should not surprise that organized crime groups (especially Italian Mafias) may exploit their links with the local politics/public administration to win the contract (Sacco 2010), achieving a "a more capillary infiltration of the local political, business, and social community" (Savona and Riccardi 2015, 157).

The gaming and betting sector has attracted criminals' interest recently (Busà and La Rocca 2011). As highlighted by Savona and Riccardi (2018), its attractiveness can be due to several factors, such as a growing demand base (especially in time of lockdown due to Covid-19, and especially for *online gaming*), and economic interconnections with other criminal activities (i.e. usury to the indebted players) and business sectors (i.e. video-lottery terminals in bars and other businesses). For example, criminal investigations 'Game Over' (February 2018) and 'Game Over II' (November 2021) demonstrated that Italian Mafias laundered illegal bets placed in cash by players in Italy through gaming companies located in Malta which also used servers in offshore jurisdictions.

Fourth hypothesis. Mafia v. non-mafia laundering

While some ML methods are common between mafia and non-mafia ML offenders, such as the widespread use of companies and cash, certain differences can be identified, first of all the relatively higher employment of false invoicing and figureheads by mafia-related individuals, and the higher reliance of the banking system by non-mafia offenders, in the form of higher use of value transfers, structuring schemes and the employment of foreign bank accounts.

The importance of false invoicing in the current mafia business has been demonstrated by a vast number of investigations. As mentioned, false invoices are a 'multi-purpose' financial crime which does not only allow to launder money, but also to create slash funds (useful e.g. for corruptive purposes), reduce taxable income, producing VAT credits and also providing criminal services to entrepreneurs in difficulty that, in the medium term, may become a target of mafia acquisition (Transcrime, 2018). While figureheads, as a way to conceal beneficial ownership, are usually preferred by mafias if compared to other more sophisticated strategies such as the employment of shell companies established offshore or of complex corporate schemes (Transcrime, 2013; 2018). Mafia organisations tend to keep control 'in-house' so as to maximise the tenure of the association. In this sense, non-mafia ML offenders may rely more heavily on the banking sector (and on foreign bank accounts) because, on the one side, they may be less sensitive to the involvement of third party professionals and intermediaries and, on the other side, because they can count on a smaller amount of supporters and affiliates who could act as figureheads.

Significant differences between mafia and non-mafia can be observed also as regards the business sectors involved in the ML process and the propensity to employ transnational ML schemes. As regards the first, the historical propensity of mafia groups to infiltrate the bar and restaurants and the construction sector can be highlighted. On top of that, the strong interest towards the gaming and betting industry, which is almost absent for non-mafia ML offenders. The latter instead show a strong interest for the IT and communication industry which is frequently employed, for example, in VAT and carousel fraud. This confirms the idea of non-mafia ML offenders being related to predicate tax crimes.

As regards the attitude to employ foreign countries, as expected, this is stronger for non-mafia offenders than for mafia ones. Only one-third of mafia-related individuals laundered abroad, against almost half of non-mafia fellows. When talking about mafia groups, a strong role among foreign countries is played by Malta, especially in relation to ML through gaming and betting. This result confirms the importance of proximity in the mafia economic strategy. Mafia groups shall keep control

over the territory where the money is integrated, minimising the involvement of third parties (e.g. professionals, international tax advisers) which could increase the risk of tipping off and asset seizure, and having trusted places in which, for example, move *physically* dirty cash (Riccardi, 2022).

Limitations and future research directions

The analysis demonstrates that Italian criminals employ pretty much simplistic ML schemes. While this result may hold, also being in line with previous empirical studies on ML behaviour (illustrated in Section 2), it could be also a by-result of the challenges faced by law enforcement when investigating and tracing more complex and transnational ML activities. An Italian authority may much more easily trace (and seize) a real estate placed somewhere in Milan or Rome than revealing a trade-based 'round trippin' ML scheme involving, let's say, a company located in the United Arab Emirates and a legal arrangement in Cyprus. Similarly, the police can freeze more easily 10 million euro held in cash or in a national bank account rather than the same amount stored in several wallets of virtual currencies. In other words, the simplicity of the ML behaviour which emerges from the analysis may be itself a picture of the simplicity of the action of FIUs, police and asset recovery offices.

But for sure, the empirical evidence provided by this paper contrasts with the current discussion on ML. Both the political debate and the media depict ML as an overly sophisticated phenomenon that follows the same trends which could be observed in legal markets and for legitimate transactions – e.g. the rise of fintech, of crypto assets, the increasing digitalization and globalization of payment and banking service providers. As widely discussed, criminals do not follow the same drivers and utility functions as legitimate firms and households. On the contrary, they are subject to a certain set of constraints which limit their freedom and the range of their operations.

To further confirm this suggestion, the analysis should be updated and enriched employing other type of sources, possibly official ones such as judicial and police records, or the insights stemming from STRs/SARs and from intelligence services. And it should be extended to other types of criminals beyond the Italian realm, and by going more in-depth into the understanding of how ML strategies change depending on the type of actor, of predicate offence, of regulatory framework and geographical landscape.

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