The Food Industry

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Abstract

The food sector is highly attractive to criminals. First, it is lucrative, and notwithstanding its fragility, hardly suffers from economic turndowns. Second, it is strongly yet fragmentarily regulated, often poorly investigated, and the penalties applied to food-related criminal practices are usually of low deterrence. Public debate associates criminal phenomena occurring in the food industry with organized crime. The aim of this chapter is to study the characteristics of this infiltration and the responses of the food industry. Drawing upon relevant literature, official reports, judicial files, and semi-structured expert interviews, the chapter unpacks the ways organized crime is active in the food sector. It focuses on the factors that incentivize organized criminal groups to enter the food market. It then describes the activities perpetrated through the different stages of the food supply chain such as food frauds, labor exploitation in agriculture, or investments in food logistics and service. In addition, the chapter argues that in this economic sector organized crime and corporate crime act similarly and are equally treated from a legal perspective. Lastly, it considers the organized crime countermeasures adopted by the food industry.

Keyword

Food industry; food supply chain; food system; food crime; mafia-type groups; corporate crime

Introduction

In July 2021, the INTERPOL-EUROPOL Operation Opson X, jointly conducted with seventy-two national investigative agencies (police, customs, regulatory bodies, in partnership with private industry actors), unveiled the illicit trade of fraudulent food and drink products (e.g., honey, cereals, dairy products, meat, wine) believed to pose serious health risks.[1] Most of the items had been adulterated and/or counterfeited to be sold at higher prices. According to the official press release, the estimated value of the goods was EUR 53.8 million (INTERPOL 2021; EUROPOL 2021). With this operation, the authorities presumably disrupted forty-two organized criminal groups (OCGs) active in an international network, providing evidence of global organized crime's infiltration of the food supply chain. Media and academic literature have often referred to this infiltration (Booth, Coveney, and Paturel 2018; De Rosa and Trabalzi 2016; Perone 2018; Pointing 2005; Smith, Manning, and McElwee 2017; Terazono and Webber 2020), yet its characteristics are unclear. Since ancient times, the food sector has been subject to different types of illegal and morally dubious practices such as food adulterations, counterfeiting, exploitation of labor in the food supply chain, illegal use of chemicals, and antibiotics in farming (Jack 2018; Paulus 1974; Shears 2010; Sumar and Ismail 1995). Worldwide, the media have reported these food offenses as often perpetrated by organized crime (Roberts 2018; Simpson 2019). What institutional

[1] Since 2011, INTERPOL and EUROPOL have worked together to conduct the series of Opson Operations that have discovered and removed from the market tons of counterfeit foods and drinks by dismantling vast criminal networks.

approaches refer to as “food crime” (Rizzuti 2020) is in the international political agenda (Council of European Union 2019). Stressing food fraud as the main focus of institutional responses against criminal practices inside the food industry, in 2013 the European Parliament set the fight against fraudulent activities in food processing as an EU policy priority. Moreover, it pointed out that the increase of food incidents might indicate a diffused structural weakness of the food supply chain that can be exploited by criminal actors, including organized crime (European Parliament 2013).

This chapter provides a brief, complete exploratory overview of this presence by unfolding how OCGs take advantage of the food system’s fragility to conduct their illicit business in activities such as fraudulent adulteration or money laundering in the food service. In terms of structure, it starts by highlighting the factors of modern food systems that attract organized crime, and the risks that might arise from this infiltration. Furthermore, it addresses the types of criminal activities committed by organized criminals. It continues by focusing on how, when committing food offenses, organized crime is very similar – in the way it acts and is prosecuted and sentenced – to corporate crime (and vice versa). Lastly, the chapter elaborates an overview of the countermeasures adopted by private industry to prevent and tackle the organized crime infiltration. The empirical grounds of this study derive from a wider comparative project on the issue of food crime and the involvements of organized crime and mafia-type groups in the food supply chain regarding the jurisdictions of England and Italy. Hence, the data upon which this chapter builds – official reports, semi-structured interviews with experts,[2] such as representatives of food regulatory bodies and law enforcement, and legal case studies[3] – mostly refer to these two examples. However, it is possible to widen the empirical and conceptual considerations to reflect on the status of organized crime’s infiltration inside the food systems at a more global level.[4]

Criminal Opportunities of the Food System

As evidenced in a report on the infiltration of organized crime inside private businesses across Europe (Savona and Riccardi 2015), food is one of the private business sectors with the most cases of criminal infiltration and illicit investments. This attractiveness can be justified for multiple reasons. First, the food sector is typically cash-intensive – especially at the wholesale stage – and hardly suffers from micro and macro-economic downturns (Moyer, DeVries, and Spink 2017; Crescimanno, Galati, and Bal 2014). Agri-food is low

[2] The interviews were conducted in England and in Italy between July 2017 and June 2018. All excerpts from the interviews that were conducted in Italian have been translated into English by the author.

[3] The legal case studies mentioned in this chapter refer to police operations and related court decisions that the author acquired from the expert interviewees or downloaded from websites such as Thelawpages.com for Operation Boldo. In the case of Italy, the court cases are cited in the text under the name of the police operation, followed by court and case number. Files for Operation Provvidenza, Operation Arbequino, and Operation Nebrodi were provided by two interviewees. The others were extracted from reports of the Italian Direzione Investigativa Antimafia, accessible at https://direzioneinvestigativaantimafia.interno.gov.it/page/relazioni_semestrali.html

[4] For conciseness, this chapter could not address harmful activities perpetrated by organized crime (also of a corporate nature) in the food sector, such as cruelty to animals, use of chemicals, environmental damage, or food waste. Moreover, the extent to which OCGs, especially mafia-like groups, might exploit the food industry in response to the economic crisis triggered by the Covid-19 pandemic, loansharking (usury) through offering financial resources to food entrepreneurs, together with other forms of infiltration triggered by food scarcity, pose questions worth further criminological inquiry.

technologically driven, does not require complex know-how or expensive machinery, and is based on traditional production systems and local market competition – all factors that might make the food sector more vulnerable to organized crime infiltration, especially of the mafia-type (Sciarrone and Storti 2014). Second, as emerged from the analysis of the English and Italian cases, the length and complexity of the food supply chain contribute to its dysfunctionality and can lead to the commission of criminal practices. There are structural pitfalls and gaps among the stages of the supply chain that can facilitate criminal actors' infiltration by boosting the system's opaqueness that, in its turn, might trigger criminal opportunities (e.g., intermediaries at brokerage junctures between production and distribution can ease the commission of adulterations and mislabeling practices). Furthermore, the concentrated market power played by a few corporate actors can further contribute to the lack of transparency and reduced competition.

The structural weaknesses of food systems have often been analyzed and debated in the context of European policies and political strategies (European Parliament 2013) and in the criminological and sociological literature (McDowell 2017; Lang and Heasman 2004). Some scholars have identified dysfunctionalities, and criminogenic and structural factors of the food market that facilitate the perpetration of criminal activities such as food fraud or exploitation of labor (Croall 2013; Davies 2018; Lord, Flores Elizondo, and Spencer 2017). By highlighting a rotten capitalist food system, Cheng (2012) formulates the concept of "cheap capitalism" that refers to the economic environment which allows and facilitates the illegitimate production and sale of unsafe food. In this analysis, the author refers to a food system characterized by low prices, inferior qualities, and unsafe conditions of goods and services, where morality is degraded, and criminal activities are facilitated. Likewise, Lord, Flores Elizondo, and Spencer (2017) argue that several endogenous, cultural, and structural conditions of the food system can lead to the commission of food fraud. Theories and principles of routine activity and situational prevention are adopted to identify the circumstances of the food sector easing the commission of wrongdoing, especially food fraud, including (a) an absence of capable guardianship; (b) a presence of a motivated offender; and (c) the existence of a suitable target (Lord, Spencer, Albanese, et al. 2017; Lord, Spencer, Bellotti, et al. 2017; McElwee, Smith, and Lever 2017; van Ruth et al. 2018). Dysfunctional markets can distort opportunities for effective market competition and normalize cultures of non-compliance and deviance. Lastly, as confirmed by documents and interviews with law enforcement and food regulatory agencies, a general inelastic demand (not decreasing if prices increase), inefficient monitoring systems, fragmented regulatory frameworks (e.g., lighter fiscal requirements in agriculture), low penalties for food offenses (e.g. fraud, adulteration, etc.), inefficient and scarce investigative resources, and generalized lack of jurisdictional cooperation in addressing cross-border practices in the global food trade, might further enhance the chances to commit crimes in the food sector.

Food Offenses Perpetrated by Organized Crime

Much of the wrongdoing perpetrated in the food sector comprises some forms of organized crime's infiltration. Considering the institutional approaches articulated in documents, reports, and the regulations of the two jurisdictions (England and Italy) upon which this chapter draws, it seems necessary to distinguish between two main categories of offenses committed by organized crime: 1) food crimes directly involving foodstuffs and committed at the stages of production, processing, and distribution (including labeling); and 2) other food-related offenses that take place inside the food sector but without directly affecting food products (and hence safety, quality, or authenticity).

Food Crime

By “food crime” institutions tend to address both regulatory non-compliance and criminal behavior that pose risks to the food systems. Under this category are included all those activities such as food fraud or counterfeiting that imply the “repurposing of materials holding little or no value in the food chain as edible and marketable” and also “the sale of passable food, drink or feed as a product with greater volume or more desirable attributes” (National Food Crime Unit 2020, 7). Here, food crime mostly refers to serious fraud, committed directly or indirectly to endanger food safety and food authenticity, and other related forms of criminality, often cyber-enabled or facilitated by the internet, happening in the food (but also the drink and animal feed) supply chain. These are some examples provided by English and Italian food regulatory agencies: diversion of animal waste in products for human consumption; adulteration or sophistication (adding extraneous substances to food or drink to fake a higher quality and increase the prices); counterfeiting, misrepresentation of provenance, origin, quality, or durability date (e.g., false declaration of geographic origin); substitution (replacing the product or parts of it with another similar but inferior substance); unlawful processing (using unapproved premises or unauthorized techniques to slaughter or prepare meat-related products); document fraud (using false product paperwork to sell, market, or otherwise vouch for, a fraudulent or substandard product) (National Food Crime Unit 2020; 2016; Ministero dello Sviluppo Economico 2014; Senato della Repubblica 2017). In this category of practices, the English and Italian institutions indicate that food crime is committed by legitimate actors already active in the food industry, without much evidence of organized crime or mafia-type groups’ involvement. Of course, this perspective also depends on the perception, definition, and legal charge used for recognizing and prosecuting organized crime. Indeed, the series of INTERPOL-EUROPOL Opson Operations have discovered serious cases of OCGs’ activity in practices such as adulteration or counterfeiting (EUROPOL 2016). In England, the official definition specifies that food crime ranges from isolated acts of dishonesty committed by individual offenders to organized illegal activity coordinated by criminal networks (FSA 2021). The horsemeat scandal[5] highlights similarities between the food companies involved in the scandal and transnational organized crime (Smith and McElwee 2021). In fact, criminal acts were conducted cross-border by several actors at the slaughtering and processing stages of the meat chain involving countries such as Ireland, the Netherlands, and the UK. Additionally, in the court cases[6] relating to one of the horsemeat scandal’s investigative operations,[7] the defendants were charged under conspiracy to defraud and order of confiscation of assets, usually applied to seize organized crime networks’ criminal proceeds. In Italy, the National Antimafia Prosecutor specialized in environmental and food crimes notes that “food criminality is a non-mafia-type organized crime that has the typical characteristics of business crime usually perpetrated by agri-food actors.”[8]

[5] The horsemeat scandal is a well-known food scandal that took place across Europe in 2013 in which beef products were found contaminated with horse meat.

[6] Inner London Crown Court, case n. T20167392, 31 July 2017; case n. T20167397, 31 July 2017; case n. T20167401, 31 July 2017. Available for download at the Thelawpages.com.

[7] The court cases refer to the police investigation named Operation Boldo. This is one of the horsemeat scandal investigative operations that shed light on the international fraud committed by meat traders and processors who were convicted under conspiracy to defraud for having sold horse meat mislabelled as beef; see https://www.theguardian.com/uk-news/2017/jul/26/horsemeat-trial-shines-light-international-fraud

[8] Semi-structured interview between the author and the National Antimafia Prosecutor specialized on environmental and food crimes, 23 January 2018, Rome.

According to expert interviewees, in Italy mafia-type OCGs are not active in the commission of food frauds as, usually mafia members do not have the know-how necessary to commit sophisticated frauds. Moreover, a police officer from the Italian Special Police Task Force against Organized Crime claims that: "As the profits achievable in the food market are not as high as those of other illicit markets such as the drug market, mafias are not interested in food frauds."[9]

Nevertheless, there are links between food and alcohol counterfeiting and infiltrations of organized crime also of the mafia-type (Senato della Repubblica 2017). There are two court cases that point to this type of infiltration. First, a well-known mafia group (the 'Ndrangheta Piromalli clan from Gioia Tauro, Calabria) was involved in the sale of adulterated extra-virgin olive oil to the US market for money laundering purposes (Musolino 2017).[10] Second, in 2011, an organized crime network set up by a foreign company that produced olive oil was discovered by Italian law enforcement[11]. The oil was sold at a cheap price to an Italian company that would then adulterate and sell it at a higher price under a fake "made in Italy" label. To date, this is the only Italian example where the prosecution charged the Italian company as a food fraud network under the offense of unlawful association (i.e., organized crime association).[12] By endangering food safety, traceability, and quality, these practices harm public health, consumers' trust, national economies, and market competition.

Nexus between Food Crime and Other Kinds of Organized Crime

Media and public narratives present the food supply chain as highly penetrated by OCGs (Roberts 2018; Simpson 2019). Expert interviews and documentary analysis confirm that the participation of organized crime has been recorded at many stages and involves many aspects of the supply chain, such as transport, logistics, food service, and tax evasion (Senato della Repubblica 2017). Organized criminals often control irregular migration networks connected to labor exploitation in agriculture (National Food Crime Unit 2020). OCGs and mafia groups often hide drugs in food containers, trucks, and cargos.[13] In Mexico, after a surge in the global demand for avocados, to the detriment of local licit producers, drug cartels are now involved in avocado cultivation and, to enable the production, in illegal logging and severe deforestation (Kamali Dehghan 2019). Additionally, they also practice extortion in the export market (Ornelas 2018). Several Italian mafia groups have been caught laundering their dirty profits in schemes run at restaurants and pizzerias in European countries such as Belgium, Germany,[14] Spain,[15] and Switzerland[16] (Sergi and Rizzuti 2021). Additionally, several studies have shown a high level of organized crime's infiltration in illegal fishing, for instance in Southeast Asia (Bahadur 2021), or in illegal abalone poaching in South Africa (Hauck and Sweijd 1999; Raemaekers et al. 2011) and have analyzed the regulatory measures taken against these phenomena (Stefanus and Vervaele 2021).

[9] Semi-structured interview between the author and a police officer from the Italian Special Police Task Force against Organized Crime, 23 January 2018, Rome.
[10] Operation Provvidenza, Tribunale di Reggio Calabria, n. 206/2017 RGNR DDA.
[11] See https://www.ilfattoquotidiano.it/2013/06/03/olio-finto-chiesto-processo-per-capo-della-ditta-che-rifornisce-grandi-marchi/613619/
[12] Operation Arbequino, Tribunale di Siena, n. 41/2012 RGNR GIP.
[13] Operation Acero-Crupy, Tribunale di Reggio Calabria, n. 7428/2010 RGNR DDA.
[14] Operation Imponimento, DDA di Catanzaro, Decreto di Indiziato di Delitto, n. 7198/15 RGNR.
[15] Operation Passion Fruit, Tribunale di Roma, OCCC 25/01/2016 n. 57568/12 RGNR, n. 25146/13 RG G LP.
[16] Operation Stige, Tribunale di Catanzaro, RGNR DDA 3382/15 and RG GIP DDA 2600/15.

Italian mafias are believed to be so deeply involved in the food industry that in 2011 the label *agromafie* was created by Coldiretti (National Confederation of Farmers) to broadly indicate offenses committed in the food sector by organized criminal actors, first and foremost of the mafia-type (Eurispes, Coldiretti, and Osservatorio sulla Criminalità nell'Agricoltura e sul sistema Agroalimentare 2019; Legambiente 2016). From an historical perspective, *mafiosi* are believed to have originated as protectors of farmland against predatory crimes in late feudal systems (Lupo 2011; Colajanni 2013). Furthermore, regarding the origins of the Sicilian mafia, due to an increase in the international demand of lemons (of which Sicily is one of the primary producers globally) and a generally weak rule of law, mafias supposedly provided protection against the predation of citrus producers, evolving into "an industry of private protection" (Gambetta 1993), and acting as intermediaries between producers and exporters (Dimico, Isopi, and Olsson 2017). Today, Italian mafia groups divert transport competition to the advantage of their affiliated companies (Sasso and Tizian 2012). Likewise, by fixing prices and imposing services provided by mafia-linked firms, they run entire fruit-vegetable markets in Italy (Pistilli 2018), and abroad (e.g., Queen Victoria Market in Melbourne, Australia (Connaughton 2016; Spagnolo 2010)). Through the power of intimidation and violence, to advantage mafia-linked businesses mafias are practicing extortion by imposing "taxes" to otherwise legitimate economic actors of the food system thereby creating monopolies or cartels in fruit and vegetable markets (e.g., in food transportation).[17] Data also highlight cultural links between agricultural land and the "rural mafia" that exploits the cultivation of fields and manages cooperatives of illegal workers (Osservatorio Placido Rizzotto 2016). Moreover, mafias commit subsidy frauds to get EU funding. Recently, Operation Nebrodi[18] discovered that since 2010 through shell companies, Sicilian clans have fraudulently allocated millions of euros in agricultural aid to cultivate hectares of farmland that was either non-existent or state-owned (Palazzolo 2020; Tondo 2020).

All these criminal infiltrations threaten food safety, market competition, public health, national security, and in the case of organized crime and/or mafias, public order. They draw connections between the food supply chain and other private sectors such as transportation, logistics, ports, and the labor market. Moreover, being active across the food industry can facilitate or enable the commission of more serious crimes in terms of penalties and the violation of public interests such as drug trafficking or money laundering.

Complicity of Food Corporate Actors in Organized Crime

In the food industry, organized crime intersects with the actions of food corporate actors. Conceptually, scholars have argued that organized crime behaves like legitimate business syndicates in licit economies, sharing the same models and structures (Block 1980; Cressey 1969; Passas 1998; Ruggiero 2000; Ruggiero and South 2010; Wright 2006). Equally, in a highly criminogenic economic system, such as food, legitimate actors might act criminally, also adopting organized crime's *modi operandi*, to increase profits. According to Croall (1992), food offenses are organizational crimes committed by corporations behaving criminally and performing illegal, unethical, and immoral practices in search of profits. These types of offenses fall under white-collar, corporate, and organized crime since such practices are perpetrated by

[17] Operation Aleppo 2, Tribunale di Roma, OCCC n. 52510/18 RGNR-10708/19 RG GIP; Operation Provvidenza, Tribunale di Reggio Calabria, n. 206/2017 RGNR DDA.
[18] Operation Nebrodi, Tribunale di Messina, n. 890/2016 RGNR GIP.

> … some of the largest food corporate giants involved in [the] manufacture, distribution and retailing to small individual businesses selling out-of-date food or failing to comply with hygiene regulations [...] Farmers, fishing businesses, abattoirs and meat packers are all involved along with gang masters, organized criminals and opportunistic entrepreneurs […] Organized crime may provide a service to legitimate industry" (Croall 2007, 208; 224).

Legal case studies in England and Italy show that not only do corporate and organized crime actors tend to behave similarly within food systems, but they are also charged under the same criminal offenses such as conspiracy to defraud (which in common law legal systems is applied to organized crime cases) and membership in unlawful or criminal associations (Rizzuti 2021). Briefly in Operation Boldo, corporate producers, slaughterhouses, and other food companies were sentenced with conspiracy to defraud for the commission of meat adulteration taking place cross-border. Likewise, in Operation Arbequino, olive oil processors and distributors were charged under unlawful association for having established an organized criminal group for the commission of a commercial fraud; whilst, in Operation Provvidenza, members of the 'Ndrangheta Piromalli clan were sentenced for mafia-type association, also in relation to commercial fraud.[19]

Countermeasures Adopted by Private Stakeholders

Food systems are regulated through different types of public and private rules (public health law, quality and authenticity standards, traceability labels, certifications of ethical sources) set up by local and national authorities (e.g. the UK Food Standards Agency, National Food Crime Unit, Environmental Health Departments, or the Italian Central Inspectorate for Fraud Repression, Carabinieri), by private industry actors (e.g., producers, distributors, retailers), and broadly, other agencies of the food supply chain (NGOs, ethical trade, consumption projects). Given the complexity of food supply chains, frequent lack of sufficient criminal justice responses, poor powers of fragmented public bodies, tangled regulatory frameworks, and the general focus limited to food safety issues, third-party stakeholders are essential in controlling the food market, and preventing and stopping criminal and non-compliance practices. To tackle organized forms of criminal infiltration of the food supply chain, industry actors have adopted several countermeasures and strategies.

Aligning with public bodies, private stakeholders tend to focus mostly on food fraud incidents (considered to be the main manifestation of serious food crime), improvements of food safety, and ultimately, public health. There are counter-fraud services adopted by food firms to help measure, manage, and minimize the risk of fraud. To enhance these tools, food companies have established professional anti-fraud training for their employees and related mentoring, often through whitepapers and guidelines drafted by consulting agencies and other associations. For instance, in 2014 the NSF International (a private organization globally running product safety and quality checks, and providing consulting and training sessions for the private industry[20]) released a whitepaper on criminal fraud in the food supply chain (NFS, 2014). Furthermore, the Global Food Safety Initiative (a worldwide consortium of food retailers and manufacturers created to control and audit food safety standards for businesses operating in the food supply chain) often organizes food conferences and expert series to exchange knowledge and training regarding food safety and how to secure it.

[19] Operation Provvidenza, Tribunale di Reggio Calabria, n. 206/2017 RGNR DDA. The first-grade sentence was overturned and recently many of the defendants were acquitted.
[20] For more information about the NFS, see https://www.nsf.org/about-nsf

To protect the food system against corruption in the supply chain, food companies have introduced mandatory compliance schemes, ethical codes of conduct, anti-bribery and corruption trainings, and whistleblowing systems to fight insiders or other illegitimate actors already active in the food market (NSF 2014). For example, within anti-fraud and anti-corruption programs, large food retailers (e.g., Tesco) have adopted anonymous hotlines for whistleblowing and also educational trainings for employees to spot issues of concern such as fraudulent or corruptive behaviors. Moreover, some companies (e.g., groups of retailers like Associated British Foods) conduct investigations and audits of documents and records into specific allegations and issues of corruption or to prevent breaking of anti-corruption regulation.

Enhancing forms of partnership and intelligence-sharing with public food regulators, expert group meetings and panels are organized with different stakeholders from industry, public sector, private consultants, and NGOs. As an example this type of cooperation, in 2017 in the UK a guideline on how to defend and protect the food and drink industry from deliberate attacks was written and published by a steering group composed by public and private food producers and retailers (British Standards Institution, Food Standards Agency, and DEFRA 2017). Additionally, to support businesses and share intelligence, the UK public National Food Crime Unit has recently developed a food fraud resilience self-assessment tool for helping private companies in counter-fraud strategies[21]. As fraudulent practices can be committed through the internet, some countermeasures focus specifically on preventing fraudulent food is sold through the use of e-commerce (e.g. via social media sites, online marketplaces, and the dark web) (NFCU, 2020). To tackle this phenomenon and protect the food made in Italy, e-commerce world-wide retailers and the Italian Ministry of Agricultural, Food and Forestry Policies signed agreements in relation to products of PDO (protected designation of origin) and PGI (protected geographical indication) (Ministero delle Politiche Agricole, Alimentari, Forestali e del Turismo 2018).

Moreover, consortia and other types of cooperation are advocated among stakeholders active at different stages of the supply chain (e.g., trade associations such as the UK Food and Drink Federation, or the Association of Independent Meat Suppliers). For example, Coldiretti is the Italian national association that gathers medium and small agri-food companies active in different stages and sectors of the food chain (e.g. oil, diary, meat, etc.); in representing and assisting local farmers, it also runs initiatives aimed at protecting food safety and market integrity from wrongdoings. Similarly, the UK Food Industry Intelligence Network reunites food industry actors from retail to manufacture and food service in order to collect, analyze, share, and disseminate information and intelligence to protect the safety of the food market and the consumers.

While some of these initiatives are created to respond to broader global issues of the food industry (e.g., food security), others are expressly involved in countering OCGs' penetration and distortion of market competition beyond the food sector. For example, in 2014, the Italian Observatory on Crimes in Agriculture and the Agri-food System (or Osservatorio Agromafie) was established by Coldiretti to develop awareness and knowledge on the criminal infiltration (also of the mafia-type) of the food system (Eurispes, Coldiretti, and Osservatorio sulla Criminalità nell'Agricoltura e sul sistema Agroalimentare 2015). Cooperation with police at both the national and supranational levels has also proven to be essential in addressing organized crime infiltration.

In fighting against organized crime groups involved in the trade of fake and substandard food and drinks, the series of INTERPOL-EUROPOL Operation Opson has shown the efficacy of the partnership between national authorities, law enforcement, and the

[21] For more information, see https://www.food.gov.uk/food-fraud-resilience-self-assessment-tool

private sector aiming to protect the safety, quality, and authenticity of food and drink products, and eventually, consumers' trust and their right not to be defrauded. In this series, multiple private partners (e.g., food corporations, international associations and federations of specific market sectors such as cheese or wine) assist by providing intelligence and risk assessments on their products as well as training sessions tailored for law enforcements, and expertise in legal proceedings.[22]

In addition to these measures, the food industry has tested unconventional forms of prevention against organized crime penetration. Instead of tackling the criminal infiltration by punishing criminal activities, they aim to actively involve the companies that are potential victims of organized crime and incentivize them to adopt virtuous policies to prevent the infiltration. For instance, in Italy, 'whitelists' of mafia-free companies active in food service and catering, but also in other private sectors, have been drafted by local governments with the help of Chambers of Commerce. These lists are publicized through institutional websites of local offices of the Ministry of Interiors[23] also as an example of resistance and reaction against mafia infiltration. Additionally, there have been discussions between public and private stakeholders such as industry trade associations (e.g., Confindustria, the Italian association of private industries) regarding the introduction of award schemes (e.g., lower interest rates for credit or privileged positions in public tenders based on 'ranking of legality'[24]) towards companies active in the food market as well as in other economic sectors reporting attempts or incidents of mafia infiltration (e.g., instances of extortion) (Sciarrone 2011). In other words, these 'virtuous companies' would be ranked and awarded for their willingness and capacity to oppose mafia penetration in the private sector. However, as sometimes food companies are colluding with organized crime (the so-called 'grey area', see Sciarrone, 2011), these policies have been criticized for their efficacy and for their role in 'cleaning' companies that are in fact committing wrongdoings.

To surveil the food system, industry stakeholders, such as retail companies, also apply modern blockchain technology (Bumblauskas et al. 2020) or the "Internet of Things" (Verdouw et al. 2016). Using sensors, monitors, and other IT-connected devices, the tracing of each stage of the chain from production to distribution enables the transparency, and eventually the safety of the supply chain for food companies, final consumers, and the whole food system. To provide an example, in 2018 one of the largest US retailers has started using blockchain technology, mostly for safety and authenticity issues, to track of its products at each stage of the chain.[25]

Finally, it is important to mention the ethical fair trade and ecological labels that aim to provide "clean" – free from organized crime infiltration supply chains (e.g., World Fair Trade Organization, Libera Terra in Italy), and the cooperatives of workers (e.g., Cooperativa Placido Rizzotto) promoting legality and transparency against labor and land exploitation perpetrated by OCGs in the agri-food sector.

Conclusion

[22] For more information regarding Operation Opson, see https://www.europol.europa.eu/sites/default/files/documents/report_opson_v.pdf

[23] For an example, see http://www.prefettura.it/vicenza/contenuti/White_list_antimafia-64471.htm

[24] https://st.ilsole24ore.com/art/economia/2012-02-10/rating-antimafia-riduce-rischio-064329.shtml?uuid=AaLLRapE&refresh_ce=1; https://palermo.repubblica.it/cronaca/2012/01/31/news/rating_maggiore_a_imprese_antimafia_c_l_ok_del_ministro_cancellieri-29048398/

[25] https://www.nytimes.com/2018/09/24/business/walmart-blockchain-lettuce.html

This chapter has briefly exposed the current scenario of organized crime's portfolio inside the food industry. It has highlighted the main dysfunctional features of the food sector that attract criminal actors, creating opportunities for harm. The chapter further focused on the involvement of OCGs through the food supply chain by distinguishing between food crimes (taking place at the stages of production, processing, labeling, and distributing directly affecting foodstuffs in their safety, quality, and integrity) and other types of criminal behaviors (happening, also indirectly, in other stages of the supply chain, including food service, catering, agricultural labor, etc.). This chapter has also stressed that, according to current institutional approaches, case law, and journalistic data, OCGs are committing such crimes as frequently as food industry actors. Following up on this, it has discussed how these two typologies of actors are juridically prosecuted and sentenced under the same charges. Moreover, the chapter has mentioned the measures adopted by the food industry to tackle criminality (also of the organized crime type), such as public-private partnerships for strategic intelligence-gathering and technologically innovative solutions, as well as reward measures for food entrepreneurs reporting OCGs' infiltration of the food market.

The food industry is necessarily linked to other private sectors such as ports, transportation, agrochemicals, or health. Connected to food, there are many public interests and juridical values involved (food security, public health, national economy, human rights, environmental protection, animal rights) that risk being threatened or harmed by organized crime's systematic infiltration.

The measures adopted by the food industry to protect and safeguard the food market from organized crime infiltration and, broadly, from criminal phenomena taking place at different stages and sectors of the industry, hold strengths and weaknesses. Cooperating with regulatory agencies by sharing intelligence, conducting safety checks, publishing guidelines (especially through specialized consortia of supply chain representatives), providing trainings for food employees and law enforcement officers, help to boost the integrity of the sector. Moreover, an active role of the private industry increases the level of vigilance and, hence, lessen the risk of criminal phenomena. Yet, these solutions seem to mostly address issues regarding the safety, authenticity, and quality of food products. Surely, the unconventional measures that incentivize food companies to act against OCGs and, for instance, to report cases of extortion (e.g., committed through imposition of goods and services by OC-linked companies) might reduce the opportunities to commit crimes and stop an organized crime infiltration. However, cases were reported where these measures were in fact concealing forms of cooperation between the private industry (also beyond the food sector) and mafia groups in Italy.[26] Last, the solutions adopted by the food industry do not seem to challenge the complexity and opaqueness of the supply chain that, eventually, seem to be the main factors enabling organized crime infiltration.

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