



UNIVERSITY OF TRENTO - Italy
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PH.D. DISSERTATION

ILLEGAL WASTE TRAFFIC AND LEGITIMATE MARKET PLAYERS: LEGISLATIVE OPPORTUNITIES IN ITALY

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Proprio come in Sardegna, ove la criminalità aveva radici profonde nello strato sociale, oggi la protezione dell'ambiente in Italia è frutto di un'incapacità e difficoltà a percepire la protezione dell'ambiente come fonte di protezione dell'uomo e della società.

Luigi Camboni, 1913¹

¹ Trans: 'Like in Sardinia, where criminality was deeply rooted in the social background, today environmental protection in Italy is the outcome of the incapacity and difficulty in understanding environmental protection as a source of protection for human beings and society'. Luigi Camboni, *Della Correlazione fra Alcuni Fenomeni Economici e Sociali e La Criminalità. Un Decennio di Vita Sarda* (Società Tipografia Sarda, Cagliari 1913).

ABSTRACT

Though causing water and soil contamination and serious threats to the natural environment and human well-being, waste crime has not been considered a serious crime in any society. Moreover, while the problem of waste crime has often been portrayed as the result of organized crime's involvement in the legitimate economy, scant attention has been given to the role of legitimate economic operators in illegal waste diversion activities. Seeking profitability and cost reduction, respected companies rationally opt for managing waste illegally in the course of everyday business activities when faced with crime opportunities.

Existing research has suggested that legislative loopholes or complex and ambiguous law rules can provide crime opportunities, which profit-driven market players may choose to exploit at the expense of the environment. These studies so far have been hampered by the lack of an empirical analysis of whether existing laws may facilitate or encourage illegal waste diversion activities. The present dissertation sought to examine the problem, which is mainly legal in nature, from a criminological perspective. It examined waste crime committed by legitimate economic operators, focusing specifically on the crime prosecuted in Italy under the heading of illegal traffic of waste. The purpose of such crime-specific focus was to qualitatively explore how this specific type of waste crime is committed and further identify crime opportunities provided by the legal environment in which waste management activities regularly take place. More specifically, the research attempted to determine whether legislative shortcomings within the legislation that regulates the waste management sector may bestow opportunities to lawbreaking.

The analysis of the data sources in the study provided reliable evidence about the involvement of legitimate market players in illegal waste diversion activities. The research not only revealed the process through which illegal waste traffic is perpetrated by legitimate market players, but also uncovered potential crime opportunities provided by the legislation that governs the waste management sector. Furthermore, the findings indicated that shortcomings within administrative controls play a substantial role in facilitating and encouraging illegal waste diversion activities. The results form the basis for inductive inferences about the existence of a relationship between crime opportunities provided by the law and administrative controls, and economic operators' involvement in waste crime.

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CHAPTER ONE: INTRODUCTION

Following an increase in illegal waste diversion activities, concern over this environmental crime has grown. Since then, research has begun to acknowledge that illegal management or dumping of waste can cause water and soil contamination and an overall threat to the natural environment and human well-being.² In Italy, a crucial role in illegal waste diversion activities has been played not only by organized crime but also by legitimate market players.³ Despite the strong evidence that legitimate market players have engaged in waste crime, criminology studies have mainly focused on the infiltration of criminal groups in the waste management sector, overestimating the extent to which these activities are perpetrated by syndicate crime. Specifically, what researchers have not fully acknowledged is that, seeking profitability and cost reduction, respected companies in the course of everyday business activities⁴ can bypass laws and controls to manage and recover or dispose of waste illegally.

The criminological literature posits that legitimate enterprises operating along with the waste management process may rationally prefer crime over compliance because it is considerably more profitable to do so.⁵ Moreover, scholars suggest that rationally motivated and profit-driven waste producers or waste operators may choose misconduct when faced with crime opportunities.⁶ Consistent with these arguments, researchers maintain that crime opportunities

² Hugh B. Kaufman, 'The Current Status of Hazardous Solid Waste Management' (1978) 27 *Environmental Health Perspectives* 211, 212.

³ Alan A. Block and Thomas J. Bernard, 'Crime in the Waste Oil Industry' (1988) 9 *Deviant Behaviour* 113, 114.

⁴ Wim Huisman and Judith van Erp, 'Opportunities for Environmental Crime. A Test of Situational Crime Prevention Theory' (2013) 53(6) *British Journal of Criminology* 1178; R. T. Naylor, 'Towards a General Theory of Profit-Driven Crimes' (2003) 43 *British Journal of Criminology* 81, 88.

⁵ Donald J. Rebovich, *Dangerous Ground: the World of Hazardous Waste Crime* (Transaction Publications, New Brunswick 1992).

⁶ As will be discussed below, the term opportunity is derived from the theoretical approach adopted by the new opportunity perspectives. It should be clarified that scholarly research has investigated and further employed crime opportunities as an explanatory factor of criminal deviance from different theoretical perspectives. See Charles R. Tittle, *Control Balance. Towards a General Theory of Deviance* (Westview Press, Boulder CO 1995); John

can also be provided by the law. In particular, scholars argue that loopholes in legislative provisions or inconsistent and ambiguous regulations provide opportunities for illegal entrepreneurial activities, which companies may rationally choose to exploit at the expense of the environment.⁷

1.1 OVERVIEW OF THE RESEARCH

While a body of work has accumulated on the aetiology of environmental crime, studies so far have not examined how legitimate market players have engaged in waste crimes. In particular, researches that examined in depth waste crime are generally few, within and across the disciplines. The consequence of this paucity is that information into the question of legitimate market players' involvement in waste crime is very little. Still, it goes without saying that there is much to disentangle to understand the process through which waste crime occurs along with the waste management process and reveal whether there exist environmental law rules that could encourage or facilitate lawbreaking.

The purpose of this dissertation is twofold. First, the aim is to explore waste crimes across the state of Italy involving legitimate market players – ie registered waste producers, collectors, transporters, brokers, disposal or recovery operators (hereinafter referred to as 'economic operators' or 'market players'). The intent of the analysis is to contribute to the understanding of mechanisms by which waste crimes may occur, exploring how legitimate market players have committed the criminal offence punishable under article 260 (referred to as 'illegal traffic of

Braithwaite, *Crime, Shame and Reintegration* (Cambridge University Press, Cambridge 1989), 31; Mark Warr, 'Crime and Opportunity: A Theoretical Essay' in Robert Frank Meier and others (eds) *The Process and Structure of Crime: Criminal Events and Crime Analysis. Advances in Criminological Theory* (Transaction Publishers, New Brunswick NJ 2001); Richard A. Cloward and Lloyd E. Ohlin, *Delinquency and Opportunity: A Theory of Delinquent Gangs* (Free Press, Glencoe IL 1960), 144.

⁷ Tom Vander Beken and Stijn Van Daele, 'Legitimate Businesses and Crime Vulnerabilities' (2008) 35(10) *International Journal of Social Economics* 739; Tom Vander Beken and Annalise Balcaen, 'Crime Opportunities Provided by Legislation in Market Sectors: Mobile Phones, Waste Disposal, Banking, Pharmaceuticals' (2006) 12(3) *European Journal on Criminal Policy and Research* 299; Tom Vander Beken (ed), *The European Waste Industry and Crime Vulnerabilities* (Maklu Publishers, Antwerp 2007).

waste') of the Italian Environmental code.⁸ Second, the objective is to understand whether there exist loopholes or complex or ambiguous administrative law provisions that may facilitate or encourage legitimate economic operators to traffic waste illegally.

To address this issue, the present study attempts an overview of administrative substantive law that regulate the waste management sector. It is not the intent of this research to examine the effectiveness of every single rule governing waste management. Instead, attention is given to the rules that showed evidence of linkage to the criminal cases investigated. The focus is on administrative law rules that, complex, ambiguous, or with legislative loopholes, give rise to legislative shortcomings that may potentially create crime opportunities.⁹

Before the analysis is carried out, it is necessary to introduce the definitions of environmental and waste crime. First, it is deemed relevant to illustrate the issue of environmental crime, under which waste crimes are incorporated, in order to develop a comprehensive and in-depth understanding of what has been investigated herein. The approach is multidisciplinary, providing a criminological viewpoint for understanding an issue which is mostly a matter of legal discussion. A second important insight that comes from this research is the definition of waste crime. The definition of waste crime brings into focus the meaning of the so-called illegal traffic of waste, which constitutes a criminal offense in Italy. In order to provide background and context, the section continues by introducing: theoretical framework, research question and research design. The concluding paragraph provides a discussion of the significance of the current study.

⁸ The criminal law sanction foreseen in article 260 of Legislative Decree no. 152 of 3.04.2006, trans: 'National legal provisions on environmental matters' (hereinafter referred to as the 'Italian Environmental Code') is entitled, trans: 'organized activity for the illegal traffic of waste' (hereinafter referred to as 'illegal traffic of waste'). See Decreto Legislativo 3 aprile 2006 n. 152 'Norme in Materia Ambientale' GU n. 88 del 14.04.2006.

⁹ As will be discussed below, the problem of ambiguity, complexity and loopholes in the law has been addressed by scholars embracing the criminal opportunities perspectives. For the purposes of the present research, ambiguity, complexity and legislative loopholes are defined as follows. Ambiguous laws can be described as those laws that lack in clarity. Complex laws are those laws that cause bewilderment. Legislative loopholes can be identified as lacks of law rules that leave parts unregulated. In the remainder of the present study, the term legislative shortcomings will be used to address either ambiguous, complex law rules or legislative loopholes. See Henk van de Bunt and Cathelijne van der Schoot (eds), *Prevention of Organized Crime. A Situational Approach* (Boom Juridische Uitgevers, Meppel 2003) <http://www.google.it/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&ved=0CFgQFjAH&url=http%3A%2F%2Fenglish.wodc.nl%2Fimages%2Fob215_full%2520text_tcm45-58059.pdf&ei=2XPKUoOSGqn9ygOh-4GwAg&usg=AFQjCNEyoNdQp33BSbakhq9T3tm-l2ovxA> accessed 14 May 2011, 30; Henk van de Bunt and Wim Huisman, 'Organizational Crime in the Netherlands' (2007) 35(1) *Crime and Justice* 217, 229; Tom Vander Beken and Annalise Balcaen (n 7) 307; cf Tom Vander Beken (n 7) 102.

1.1.1 DEFINITIONS AND DISTINCTIONS

Today, environmental crime is an issue of major concern at the national, regional, and global level, which threatens the environment and the health of millions of people. Crimes related to the waste management field are but one example of an increasing environmental crime problem.¹⁰ Despite its importance, the issue has not attracted much attention in the literature. Environmental crime has received less consideration than traditional crime, although the damages caused by environmental pollution are pervasive and systemic. The most recent scandals unearthed have raised public interest in the issue. Still, much remains to be learned about environmental crime. But, what is environmental crime and how does the literature deal with it?

Within criminology, environmental crime, although primarily regarded as harm against the environment, is considered as a complex and awkward term. As Clifford and Edwards have shown, '[t]he complexity of the issue associated with environmental crime makes identifying one definition quite difficult'.¹¹ There are several reasons for this difficulty. First, crime is commonly understood as an unlawful act committed by an individual against private property or persons and not against the environment, which is regarded as *res nullius*.¹² In particular, environmental crime is viewed as a victimless crime: it does not involve an identifiable injured party that will report the occurrence of the unlawful act.¹³ Second, the diversity of behaviours that are often referred to as environmental crime (eg illegal trade in endangered species¹⁴, logging¹⁵, and transnational

¹⁰ François Comte, 'Environmental Crime and the Police in Europe: A Panorama and Possible Paths for Future Action' [2006] *European Environmental Law Review* 190.

¹¹ Mary Clifford and Terry D. Edwards, 'Defining "Environmental Crime"' in Mary Clifford (ed), *Environmental Crime: Enforcement, Policy, and Social Responsibility* (Aspen Publication, Gaithersburg 1998), 23. See Carol Gibbs and Sally S. Simpson, 'Measuring Corporate Environmental Crime Rates: Progress and Problems' (2009) 51 *Crime, Law and Social Change* 87; Nigel South, 'Corporate and State Crimes against the Environment: Foundations for a Green Perspective in European Criminology' in Vincenzo Ruggiero, Nigel South and Ian Taylor (eds), *The New European Criminology* (Routledge, London and New York 1998); Nigel South, 'A Green Field for Criminology? A Proposal for a Perspective' (1998) 2 (2) *Theoretical Criminology* 211.

¹² cf François Comte (n 10) 193.

¹³ Michael J. Lynch and Paul B. Stretsky, 'The Meaning of Green: Contrasting Criminological Perspectives' (2003) 7(2) *Theoretical Criminology* 217, 219.

¹⁴ See Melanie Wellsmith, 'Wildlife Crime. The Problem of Enforcement' (2011) 17(2) *European Journal for Criminal Policy Research* 125.

trafficking in waste¹⁶) cause ambiguities.¹⁷ Additionally, the definition of environmental crime depends on the notion of harm to the environment, which can vary from one legal system to another.¹⁸ Third, the term crime has always spawned controversies among criminologists. Some have maintained that crimes are unlawful acts that fall only under criminal law. According to this view, environmental crime amounts to 'unauthorized acts or omissions that violate the law and are therefore subject to criminal prosecution and sanctions'.¹⁹

This definition, however, has raised two additional issues from a criminological viewpoint. First, a criminal law-based definition could be deemed too restrictive because unlawful activities that harm the environment are frequently sanctioned by civil or administrative penalties.²⁰ Indeed, environmental crime could also be understood as an act or omission that violates either criminal or administrative law provisions. Second, it has been argued that environmental crime should not be limited to unlawful acts, but should include crimes that 'fall outside the law'.²¹ Despite its potentials for improving environmental protection, this last notion is deemed inappropriate because it is contrary to the legal principle *nulla poena sine lege*, according to which an action is unlawful only when it breaches existent laws.

Also crimes related to the waste management field (hereinafter referred to as 'waste crime') are not clearly identified in the criminological literature. The reason is because waste crimes could

¹⁵ See Lieselot Bisschop, 'Out of the Woods: The Illegal Trade in Tropical Timber and a European Trade Hub' (2012) 13(3) *Global Crime* 191.

¹⁶ See Don Liddick, 'The Traffic in Garbage and Hazardous Wastes: An Overview' (2010) 13 *Global Crime* 134.

¹⁷ Neal Shover and Aaron S. Routhe, 'Environmental Crime' (2005) 32 *Crime & Justice. A Review of Research* 321, 323.

¹⁸ cf Michael J. Lynch and Paul B. Stretsky (n 13).

¹⁹ Yingyi Situ-Liu and David Emmons, *Environmental Crime: the Criminal Justice System's Role in Protecting the Environment* (Sage Publications, London 2000), 3.

²⁰ Michael Watson, 'The Use of Criminal and Civil Penalties to Protect the Environment: A Comparative Study' (2006) 15(4) *European Environmental Law Review* 108.

²¹ Lynch and Stretsky have maintained that 'violations of environmental laws that carry criminal (or civil) liability in one country may not be considered criminal outside that country's boundaries'. According to this view, environmental crimes should include behaviours that are harmful to the environment, regardless of whether they are unlawful or lawful. See Carol Gibbs and others, 'Introducing Conservation Criminology. Towards Interdisciplinary Scholarship on Environmental Crimes and Risks' (2010) 50 *British Journal of Criminology* 124; Harold Barnett, 'The Land Ethic and Environmental Crime' (1999) 10 *Criminal Justice and Policy Review* 161, 165; cf Michael J. Lynch and Paul B. Stretsky (n 13) 227; Rob White, *Crimes against Nature: Environmental Criminology and Ecological Justice* (Willan Publishing, Portland 2008); Rob White, 'Environmental Issues and the Criminological Imagination' (2003) 7 *Theoretical Criminology* 483, 485.

vary substantially across countries and from time to time. Also practices could be very different. Midnight dumping is but one of the many concrete examples that could be given to illustrate illegal dumping of waste.²² Waste crime could also involve different waste management operators: producers, collectors, transporters, brokers, treatment, and disposal or recovery facilities. Waste operators could either conspire among each other or act alone in order to manage or dispose of waste illegally.

In sum, difficulties could arise when attempting to define environmental crime and waste crime from a criminological perspective. For this reason and in order to avoid discrepancies or confusion, the terms used are consistent with extant law. Environmental crime is considered as an unlawful act that breaches environmental laws, potentially causes physical harm to the environment or to people and can be criminally prosecuted. Waste crimes are regarded as violation of environmental law regulating waste management, which culminate in criminal charges. In the study, for the purposes of the empirical analysis there will be examined a type of waste crime: the crime of illegal traffic of waste punishable under article 260 of the Italian Environmental Code.

It should be immediately clarified that the crime of illegal traffic in waste is not be confused with the increasing phenomenon of the illegal transboundary movement of waste.²³ The meaning and nature of the crime of illegal waste traffic strictly depends on the definition provided for by the Italian environmental code. Accordingly, illegal waste traffic refers to the unlawful management of waste or hazardous waste, which is collected, transported, put into storage, treated, or disposed of illegally, or discharged in the natural environment. There is no distinctive behaviour that can be

²² Freda Adler, 'Offender-Specific vs. Offense-Specific Approaches to the Study of Environmental Crime' in Sally M. Edwards, Terry D. Edwards and Charles B. Fields (eds), *Environmental Crime and Criminality. Theoretical and Practical Issues* (Garland Publishing Inc., New York 1996), 39; cf Donald J. Rebovich (n 5).

²³ Though transboundary (ie transnational) illegal movement (or traffic) of waste may share several common characteristics with the process from where stems domestic waste crime, the two originate from different causes. Also the criminology literature dealing with the two problems differs substantially. Stringent environmental regulations in developed countries (in respect to less industrialized states) together with globalization and market internationalization are identified as the main causes of transnational illegal traffic of waste. Reference to such literature is therefore omitted here. For an overview on Italian cases of transboundary illegal movement of waste, see: Beniamino Caravita, 'Italy' in Günter Heine, Mohan Prabhu and Anna Alvazzi del Frate (eds), *Environmental Protection- Potentials and Limits of Criminal Justice: Evaluation of Legal Structures* (Iuscrim Edition, Freiburg im Breisgau 1997), 244.

sanctioned for violating article 260 (referred to as 'illegal traffic of waste') of the Italian Environmental code. Indeed, illegal traffic of waste can embrace a host of activities, economic sectors, and be committed by one or more waste producers or waste operators.²⁴ Moreover, it can take place at any stage during the waste management process and both nationally, when waste is generated, transported and discharged within one country, or internationally, when waste generated in Italy is subsequently sent into another country.²⁵

1.1.2 BACKGROUND AND THEORETICAL FRAMEWORK

The legal basis providing a country with competence to tackle environmental crime is often a complex set of administrative law rules and regulatory provisions buttressed by criminal and administrative sanctions. In Italy, the entire process governing waste management is regulated by administrative law rules under which environmental law falls. Administrative substantive law regulates collection, transport and disposal or recovery of waste through a complex and intricate set of rules and authorization requirements. Stemming mainly from European Union (hereinafter referred to as 'EU') legislation, these legal provisions have been implemented with considerable delay in respect to other EU countries.²⁶ They have been amended often to correct and eliminate legislative loopholes and inconsistencies, also after infraction procedure was brought before the Court of Justice of the European Union (hereinafter referred to as 'CJEU').²⁷ Despite repeated revisions, the law regulating waste management in Italy remains burdensome, intricate and often has left parts unregulated.²⁸ This, in combination with a high incidence of waste crime in the country should recall attention to the role of environmental law governing the waste management

²⁴ cf Italian Environmental Code (n 8).

²⁵ cf Don Liddick (n 16).

²⁶ Giacinto Della Cananea, 'Extra Europam Nulla Salus' in Mario Pilade Chiti and Riccardo Ursi (eds), *Studi sul Codice dell'Ambiente* (Giappichelli, Torino 2009), 46; Monica Massari and Paola Monzini, 'Dirty Business in Italy: A case Study of Illegal Trafficking in Hazardous Waste (2004) 6(4) *Global Crime* 285.

²⁷ Adelina Adinolfi, 'The Judicial Application of Community Law in Italy (1981- 1997)' (1998) 35 *Common Market Law Review* 1313, 1364.

²⁸ Francesco Foderico, 'La Codificazione del Diritto dell'Ambiente in Italia: Modelli e Questioni' [2006] 3 *Rivista Trimestrale di Diritto Pubblico* 613; Francesco Foderico, 'L'Evoluzione della Legislazione Ambientale' (2007) 3 *Riv. Giur. Edilizia* 97.

sector. What is deemed relevant here to the question of lawbreaking is the potential correlation between environmental law provisions and waste crime. If legislation could be a precondition for unlawful activities, should not environmental law need a closer scrutiny?

The theoretical framework that informs this study is based on the new opportunity perspectives.²⁹ These perspectives maintain that criminal opportunities can facilitate or encourage wrongdoing. Specifically, they state that the choice of the motivated offender to commit a crime is governed by an assessment of the opportunities offered by the immediate environment.³⁰ Traditionally, the focus of criminology has been on offenders' criminal propensity. The crime itself and its correlation with the immediate environment have often been dismissed as unimportant. The new opportunity perspectives reverse the traditional criminology paradigm.³¹ They argue that criminal events, and the specific settings and circumstances in which crimes take place, need closer scrutiny. Not only do these perspectives have the merit of having reconsidered the role of external factors on criminal behaviour. They have also diverted attention to the specific offence, maintaining that without a crime-specific focus, it would not be possible to unfold the criminal event as embedded within a crime setting.

Stemming from the same research paradigm, studies suggest that crime opportunities can also be provided by shortcomings in existing legislation.³² In particular, market players may rationally prefer crime over compliance, as part of their ongoing activities, when faced with legislation that facilitates or encourages wrongdoing. Notwithstanding that criminal propensity emerges before a law is enacted and that the law itself cannot be regarded as a cause of crime, it should be recognised that legislative shortcomings may ultimately facilitate or encourage environmental

²⁹ Marcus Felson and Ronald V. Clarke, *Opportunity Makes the Thief* (Home Office, London 1998).

³⁰ Ronald V. Clarke and Derek B. Cornish, 'Modeling Offenders' Decisions: A framework for Research and Policy' (1985) 6 *Crime and justice* 147, 148.

³¹ Ronald V. Clarke and Marcus Felson, 'Introduction: Criminology, Routine Activity, and Rational Choice' in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 10.

³² Nicholas Dorn, Stijn Van Daele and Tom Vander Beken, 'Reducing Vulnerabilities to Crime of the European Waste Management Industry: the Research Base and the Prospects for Policy' (2007) 15(1) *European Journal of Crime Criminal Law and Criminal Justice* 23; Stijn Van Daele, Tom Vander Beken and Nicholas Dorn, 'Waste Management and Crime. Regulatory, Business and Product Vulnerabilities' (2007) 37(1) *Environmental Policy and Law* 34; cf Tom Vander Beken and Annalise Balcaen (n 7); cf Tom Vander Beken (n 7).

crime. This becomes particularly true for legitimate economic operators that are driven by the logic of profit increase.³³

1.1.3 RESEARCH QUESTIONS AND RESEARCH DESIGN

In seeking to investigate whether there is a possible correlation between shortcomings in substantive administrative law and illegal traffic in waste, it has been deemed crucial to examine how illegal traffic of waste is perpetrated by legitimate waste producers or operators. To guide the theoretical framework of this research, the following questions were answered:

1. How is illegal traffic in waste perpetrated by legitimate market players?
2. Are there legislative shortcomings (ie ambiguous, complex law rules or legislative loopholes) in substantive administrative law?
3. And could these legislative shortcomings facilitate or encourage illegal waste diversion activities?

This research aimed at inductively exploring one specific type of environmental crime committed within the waste management field in Italy: the crime of illegal traffic in waste, which is sanctioned in the country amounting to the violation of article 260 of the Italian Environmental code.³⁴ The study used a qualitative exploratory design. It was performed through an analysis of data gathered from primary sources: official documents (investigation reports, pre-trial decisions and sentencing decisions) and interviews with public prosecutors, State Forestry officials and officials from the regional public agencies for environmental protection. As being crime-specific³⁵, such analysis provided an in-depth view into the issue of illegal waste traffic in Italy, thus identifying specific problems within the waste management chain and its regulation. From the analysis of the gathered data, it was first possible to explore and understand the characteristics of the crime and

³³ Hans-Jörg Albrecht, 'Introduction' in *Criminal Preventive Risk Assessment in the Law Making Procedure* (Max Planck Institute, Freiburg im Breisgau 2001), 11.

³⁴ cf Italian Environmental code (n 8).

³⁵ A crime-specific focus is specifically required by the theoretical framework that informs this study. See Literature Review Section.

its commission process. Knowing more about the templates used was essential for providing a comprehensive understanding of the crime problem. Second, it was empirically investigated whether there are legislative shortcomings in waste law that may facilitate or encourage illegal traffic in waste.

1.1.4 SIGNIFICANCE OF THE STUDY

The study focused on criminal cases of illegal waste traffic gathered in Italy. Yet, one might ask: why devote attention to illegal waste traffic perpetrated in one country while illegal waste traffic is increasingly becoming a transnational phenomenon and 'all environmental criminality is marked by the fact that it does not respect international boundaries'?³⁶ The answer is twofold. Firstly, the adequacy of recent research that aims to provide a global mapping of illegal waste traffic should be reconsidered. A serious shortcoming of existing studies is that they ignore the importance of the local context. Instead, as shown by field research, 'the adding up and accumulation of [...] localized examples provides a global picture of millions of other 'little' events which bring with them modest to devastating changes' to the environment.³⁷ There is a trade-off between an empirical detailed research and the broader problem concerning waste crime. This study contributes to the relatively scarce empirical evidence on waste crimes by providing an in-depth understanding of the mechanism by which they occur and to the development of research techniques that can be used elsewhere.

Secondly, serious problems exist with studies that attempt to trace environmental crime. Due to information constraints, finding reliable sources could be extremely difficult. It proves much more difficult when studying transnational patterns of crime. Moreover, although waste management has increasingly become a problem of multiple levels of governance, the related law provisions are still implemented and enforced at the national level. And criminal law cases involving legitimate market players are available only on a national basis. A study that uses the most

³⁶ Gerhard O. W. Mueller, 'An Essay on Environmental Criminality' in Sally M. Edwards, Terry D. Edwards and Charles B. Fields (eds), *Environmental Crime and Criminality. Theoretical and Practical Issues* (Garland Publishing Inc., New York 1996), 22.

³⁷ cf Nigel South (n 11) 444.

reliable sources available, such as investigation reports, pre-trial decisions, sentencing decisions and interviews will provide useful insights into the phenomenon.

And, why focus on criminal law cases regarding apparently legitimate market players prosecuted or sentenced in Italy under article 260 of the Italian Environmental code³⁸? There are compelling rationales for this choice. First, in Italy recent studies have narrowly speculated that '[l]arge parts of Italy's waste management business are controlled by companies which belong to the Mafia', while paid little attention to the role of legitimate market players in illegal waste diversion activities, in spite of their longstanding and direct involvement.³⁹ While recognising that, the Criminal Supreme Court held in Italy, as follows:

'la legge non richiede che il traffico di rifiuti sia posto in essere mediante una struttura operante in modo esclusivamente illecito, ben potendo le attività criminose essere collocate in un contesto che comprende anche operazioni commerciali riguardanti i rifiuti che vengono svolte in modo lecito (Terza Sezione Penale, sentenza 15 dicembre 2010, Bonesi e altro). In altri termini, il delitto può essere integrato sia da una struttura operante in assenza di qualsiasi autorizzazione e con modalità del tutto contrarie alla legge sia da una struttura che includa stabilmente condotte illecite all'interno di un'attività svolta in presenza di autorizzazioni e, in parte, condotta senza altre violazioni. Ciò che rileva, infatti, è l'esistenza di "traffico" di rifiuti intenzionalmente sottratto ai canali leciti e l'inserimento all'interno di un percorso imprenditoriale ufficiale che può divenire addirittura una scelta mirante a mascherare l'illecito all'interno di un contesto imprenditoriale manifesto e autorizzato'.⁴⁰

³⁸ Cf Italian Environmental code (n 8).

³⁹ Giuseppe di Lello Finuoli, 'Crime Environmental Organisé; L'exemple de L'Italie' in Françoise Comte and Ludwig Krämer (eds), *Environmental Crime in Europe. Rules of Sanctions* (Europa Law Publishing, Groningen 2004); Tanja Fröhlich, *Organised Environmental Crime in the EU Member States* (Betreuungsgesellschaft für Umweltfragen – BfU, Kassel, 2003) <www.bfu-mbh.de> accessed 3 April 2010, 104.

⁴⁰ Trans: 'the law does not demand that the illegal traffic of waste is performed through a structure operating exclusively by illegal means. Indeed, criminal activities could be carried out in a context where commercial operations concerning waste are carried out in accordance to the law (Third Criminal Section, sentence 15 December 2010, Bonesi and others). In other terms, this crime could be committed either by an organization operating without any authorization and through only illegal means, or by an organization which constantly performs illegal conducts within a legally authorized activity and carried out without other violations. What is relevant, indeed, is the existence of the "traffic" in waste, waste which is intentionally diverted from legal channels and through the use of an official enterprise business, which can even become an *ad-hoc* choice endeavoured to hide illegal activities within a manifest and authorized corporate structure'. Cass. Pen. sez. III, 22.12.2011 n. 47870 (Supreme Criminal Court, III Section, Sentence no. 47870 of 22.12.2011), 16.

This is the underlying rationale for the choice of focusing on legitimate operators' involvement in waste crime. What does need to be emphasized here is that the presence of waste operators managing waste illegally increases the likelihood of organized crime involvement in the legitimate economy and creates distortion of competition.⁴¹ Having more information about existing criminal activities within the sector is therefore necessary to prevent serious forms of crime, considering also that 'the best predictor of future offending is past offending'.⁴² So therefore, the study sought to exclude from the analysis criminal cases where organized crime syndicates have been manifestly involved. In order to do so, criminal offences punishable under article 260 of the Italian Environmental Code in conjunction with the offense enshrined in article 416 bis of the Italian Criminal Code (criminal association of mafia type) have not been taken into consideration.

Second, it has been chosen to explore data about the offence enshrined under article 260 of the Italian Environmental Code⁴³ because criminal cases punishable under this law can provide significant insights over a range of illegal waste diversion activities. Indeed, this criminal offence can be enforced against any legitimate waste producer or operator, perpetrating the crime alone or together with other economic subjects at any phase of the waste management process and through any illegal means (ie technique or activity).⁴⁴ Hence, exploring cases of illegal traffic of waste facilitates the understanding of all interactions among persons and economic entities involved in the crime and the different waste diversion activities that can be perpetrated in waste crimes.⁴⁵

Finally, the theoretical perspective that has shaped this research is specifically designed to investigate predatory crimes of commission, as the case is of this criminal offence that requires

⁴¹ cf Tom Vander Beken and Annalise Balcaen (n 7) 306.

⁴² Raymond Paternoster and Sally Simpson, 'A Rational Choice Theory of Corporate Crime' in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 286; Ronald V. Clarke, *Situational Crime Prevention. Successful Case Studies* (2nd edn Harrow and Heston Publishers, Guilderland 1997).

⁴³ cf Italian Environmental code (n 8).

⁴⁴ This issue will be thoroughly discussed in the paragraph dedicated to illustrate the specific elements of the crime under investigation, as required by law.

⁴⁵ cf Wim Huisman and Judith van Erp (n 4).

the specific criminal intent of maximizing economical profits.⁴⁶ In sum, a qualitative study utilising these data sources helps to uncover the complex structure of illegal waste diversion activities as they unfold within the legitimate economic context from when waste is first generated to when waste ends its life cycle.

It should also be underlined that data on waste crimes committed by legitimate market players are almost non-existent.⁴⁷ Hence, an exploratory study based on primary data is needed to understand the extent of the problem more accurately while recognising and acknowledging the limitations of the data. Thus, the research is important to the field of study because it sheds light on a phenomenon, which has greatly increased in recent years.⁴⁸

Finally, it might be asked. Why should administrative law provisions governing the waste management sector in Italy deserve closer scrutiny? As illustrated above, this set of rules has raised some serious concern because it often failed to provide an adequate response to the problem of waste management in the country. Hence, an investigation of the possible relationship between waste crime in Italy and administrative law rules governing waste management can contribute to define a part of a problem that, although global in nature, originates from the legal environment and domestically. The value of this research is that the findings of the study could be useful to legislators in crafting environmental law.

1.2 ORGANIZATION OF THE DISSERTATION

In order to comprehensively explore the crime problem and answer the research questions identified, it is imperative to look simultaneously at the criminological and legal background that inform this study. The criminological literature provides the theoretical support for both research

⁴⁶ cf Wim Huisman and Judith van Erp (n 4).

⁴⁷ Lisa Tompson and Spencer Chainey, 'Profiling Illegal Waste Activity: Using Crime Scripts as a Data Collection and Analytical Strategy' (2011) 17 *European Journal on Criminal Policy and Research* 179, 184.

⁴⁸ Studies have extensively underlined the increasing volume of illegal waste activities, but also have underlined that the problem stems from the industry, ie from the legitimate sector. cf Tom Vander Beken and Annalise Balcaen (n 7) 306.

questions and research design. The legislative background provides rationale and context from which to proceed to explore qualitatively the crime problem under investigation. In order to address the objectives outlined above, the present thesis is organized as follows.

To introduce the topic of the present work, Chapter II, Literature Review, summarizes the existing criminological literature on environmental crime and, more specifically on waste crime. Since the research is developed on the basis of a specific criminological viewpoint, *ie* the new opportunity perspectives, the remainder of the chapter proceeds as follows. First, it presents the new opportunity perspectives, including the literature that highlights the need for an offence-specific focus, required to unfold the criminal event as embedded within a crime setting and disentangle opportunities to crime. Second, it focuses on the criminal opportunities unintentionally created by the legislation and outlines the rationale for selecting this approach.

In order to address the legal issues that are raised by the present study and provide background and context, Chapter III, Legislative Background, illustrates the evolution of environmental law and waste law in Italy through a review of the prevailing legal literature and case-law on the issue. More specifically, the chapter presents a summary on administrative substantive law rules that governs the waste management process and an analysis of the current sanction regime, including the criminal law offence punishable against illegal traffic of waste. An overview of the current legislative and policy framework provides a comprehensive background into the specific legal issues that the research raises.

Chapter IV, Methodology and Data Sources, is dedicated to present the method used and the sources, which were retrieved and analyzed to garner insights into the crime problem and answer the research questions. Chapter V, Overview and Interpretation of Findings, is devoted to describe the results of the present study. First, it explains the crime characteristics and illustrates the process through which illegal traffic of waste, involving legitimate market players, takes place. Second, it discusses the specific administrative law rules, which offered the most opportunities for lawbreaking, and the other opportunities provided by the legal environment, which could be associated with the crime under scrutiny. After a brief summary of the findings, Chapter VI, Limitations, Recommendations and Conclusions, is dedicated to assess the limitations of the results, make recommendations for future research and present the overall conclusions of the present study.

CHAPTER TWO: LITERATURE REVIEW

Although scholars have acknowledged the problem of illegal waste traffic, there is a substantial lack of studies investigating the involvement of legitimate market players in this environmental crime. To provide background and context, the section first focuses on the historical evolution of the criminological literature on the issue. As almost neither theoretical nor empirical research has been conducted in Italy on the issue, the review of the literature explores scholarly research on environmental and waste crime also from across the Atlantic though stemming from different criminal law traditions.

Second, the chapter examines the theoretical framework that informs the present study, which is based on the literature that investigates opportunities for crime. These perspectives set forth the theoretical premises upon which the present research is based, providing a basis and a funnel plot to the further analysis of waste crime from an opportunity perspective. According to these perspectives, besides profit motive and rational calculated choices that guide deviance, 'situational factors' or 'opportunities' may also be assessed.⁴⁹ The value of such approaches focusing on the criminal event is that they contribute to understand how specific wrongdoings are committed, including complex and organized forms of crime.⁵⁰ What is essential to grasp here is

⁴⁹ cf Ronald V. Clarke (n 42) 2; cf Marcus Felson and Ronald V. Clarke (29) 11.

⁵⁰ Studies embracing the opportunity perspectives (in particular situational crime prevention studies, as will be discussed below) have been mainly designed to explore property offences. More recently, research embracing this theoretical paradigm has delved into a much wider array of crimes, including identity theft, sexual crime, economic crime, organized crime and terrorism. In this regard, it is important to underline that these theoretical perspectives have been able to explore and disentangle complex and organized forms of criminal activities. The most recent works employing situational crime prevention approach, which have explored complex forms of criminality are the following: Etienne Blais and Jean-Luc Bacher, 'Situational Deterrence and Claim Padding: Results from a Randomized Experiment' (2007) 3 *Journal of Experimental Criminology* 337; Karen Bullock, Ronald V. Clarke and Nick Tilley (eds), *Situational Prevention of Organized Crime* (Willan Publishing, Cullompton 2010); Michael Levi, 'Combating Identity and Other Forms of Payment Fraud in the UK. An Analytical History' in Megan M. McNally and Graeme R. Newman (eds), *Perspectives on Identity Theft* (Criminal Justice Press, Monsey 2008); Richard Wortley and Steve Smallbone, *Situational Prevention of Child Sexual Abuse* (Crime Prevention Studies Vol. 19, Criminal Justice Press, Monsey 2006) <www.popcenter.org> accessed 11 September 2011; Ronald V. Clarke and Graeme Newman, *Outsmarting Terrorists* (Preager Security International, Westport 2006); Edwards R. Kleemans and others,

that criminal opportunity approaches do not downplay theoretical explanations about criminality and its behavioural or social causes. Instead, they shift attention to crime-specific analysis, which may be able to disentangle the process through which waste crime could occur.

From this preliminary analysis the focus moves to the thesis behind the present contribution, specifically that shortcomings in a legal regulatory framework may play a role in facilitating or encouraging illegal entrepreneurial activities. While looking at the offender's external environment, the new opportunity perspectives predated that legislative shortcomings may create opportunities for crime. In particular, vulnerability studies and crime assessment studies have supported and further developed the idea that unwanted consequences may be produced when regulations are riddled with loopholes, inconsistent and incoherent. However, despite their empirical findings showing that the 'legislation does not always achieve its full potential because of shortcomings in the law itself', there has been an incomprehensible tendency to overlook environmental administrative law and its inherent ineffectiveness.⁵¹ In order to address this issue, the chapter finally reviews a body of literature from criminological studies, suggesting the need for a closer scrutiny of the law governing the waste management sector.

2.1 BACKGROUND ON WASTE CRIME AND CRIME OPPORTUNITY

This paragraph introduces the problem of environmental crime in the waste sector from a criminological viewpoint. The aim of the literature review is first to summarize the current state of art, ie to identify existing studies on environmental and waste crime. The intent is to show that research is still needed to explore waste crime perpetrated by legitimate market players. From there, the focus shifts to the theoretical background that informs this study: the new opportunity

'Organized Crime, Situational Crime Prevention and Routine Activity Theory' (2012) 15 *Trends in Organized Crime* 87.

⁵¹ European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), *Effective Enforcement Needs a Good Legal Base: Final Report of the IMPEL Better Legislation Project* <http://ec.europa.eu/environment/impel/pdf/better_legislation_report.pdf> accessed 11 September 2009, 8.

perspectives. A review of the literature is presented to lay the foundation and main standpoints of this approach and offer support to the rationale behind the present study.

2.1.1 EARLY RESEARCH ON ENVIRONMENTAL AND WASTE CRIME

Contemporary interest in illegal management of waste arose particularly in North America after dramatic environmental contaminations that took place in the 1970s.⁵² Only in the wake of these and other environmental disasters have researchers, mainly lawyers, started to explore the problem of environmental crime committed by legitimate corporations.⁵³ But, so far there was the idea that conventional crime was far more detrimental than environmental crime. Despite this change and the fear that the environment could become unfit for life, waste crimes were not sufficiently investigated and often they were named disasters, accidents, catastrophes, or scandals rather than crimes.⁵⁴ After two decades of 'virtually no empirical research [...] on either the commission of the environmental crime or enforcement efforts', starting from the late 1980s there has been a resurgence of interest in the issue.⁵⁵ So far, criminology researchers, instead of investigating the illegal performance of legitimate/*bonafide* corporations, mainly examined the infiltration of criminal organizations in the waste management industry.⁵⁶

⁵² Jay S. Albanese, 'Love Canal Six Years Later. The Legal Legacy' (1984) 48 *Federal Probation* 533.

⁵³ Marshall B. Clinard and Peter C. Yeager, 'Corporate Crime. Issues in Research' (1978) 16(2) *Criminology* 255, 263.

⁵⁴ cf Marshall B. Clinard and Peter C. Yeager (n 53).

⁵⁵ Donald J. Rebovich, 'Environmental Crime Research. Where We Have Been, Where We Should Go' in Mary Clifford (ed), *Environmental Crime: Enforcement, Policy, and Social Responsibility* (Aspen Publication, Gaithersburg 1998) 342.

⁵⁶ Alan Block, 'Environmental Crime and Pollution: Wasteful Reflections' (2002) 29(1/2) *Social Justice* 61; Alan Block and Frank Scarpitti, *Poisoning for Profit: The Mafia and Toxic Waste in America* (William Morrow & Company, New York 1985); Andrew Szasz, 'Corporations, Organized Crime, and the Disposal of Hazardous Waste. An Examination of the Making of a Criminogenic Regulatory Structure' (1986) 24(1) *Criminology* 1; Hans-Jorg Albrecht, 'The Extent of Organized Environmental Crime' in Françoise Comte and Ludwig Krämer (eds), *Environmental Crime in Europe. Rules of Sanctions* (Europa Law Publishing, Groningen 2004) 80- 87; James B. Jacobs, *Gotham Unbound. How New York City Was Liberated from the Grip of Organized Crime* (New York University Press, New York and London 1999); cf Giuseppe di Lello Finuoli (n 39) 107-108; Julie Salzano, 'It's Dirty Business: Organized Crime in Deep Sludge' (1994) 8 *Criminal Organizations* 17; cf Tanja Fröhlich (n 39); Timothy S. Carter, 'The Failure of Environmental Regulation in New York' (1996/97) 26(1) *Crime, Law and Social Change* 27; Vincenzo Ruggiero, *Organised and Corporate Crime in Europe: Offers That Can't Be Refused* (Aldershot, Dartmouth 1996).

Despite this, scholars have recognised that, though syndicated crime activity may be present, environmental crimes could also be 'committed by legitimate enterprises which, for the most part, act more or less lawfully'.⁵⁷ Research focusing primarily on organized crime involvement in the waste sector in Italy has acknowledged the key role played by legitimate haulers in waste crime as follows:

In Italy trafficking in toxic waste seems to be committed by a wide variety of actors ranging from the more traditional mafia-type organisations to loose networks of individuals with no criminal background belonging to various economic sectors. Information collected emphasises the presence of corporate entities seeking to save money illegally; respectable people with high social status who commit crimes in the course of their careers in order to gain a competitive edge over business rivals.⁵⁸

Except for this and other research conducted by NGOs, virtually no other studies have examined waste crime in the country.⁵⁹ Instead, since the late 1980s, research across the Atlantic has focused on the issue.⁶⁰ Exploring hazardous and non-hazardous waste crime in the United States, Rebovich's study has provided substantial evidence about the role played by corporations in the waste sector. In his research, Rebovich has observed: 'the criminal dumper is an ordinary, profit-motivated businessman who operates in a business where syndicate crime activity may be present but by no means pervasive'.⁶¹ Hammit and Reuter have conducted an exploratory study to understand the extent of illegal disposal of hazardous waste involving legitimate operators in three jurisdictions in the United States.⁶² More specifically, their research has explored and examined the major factors that affect illegal disposal among generators and haulers, the

⁵⁷ cf Gerhard O. W. Mueller (n 36); Michael L. Benson and Francis T. Cullen, *Combating Corporate Crime. Local Prosecutors at Work* (Northeastern University Press, Boston 1998), 145; Timothy S. Carter, 'Ascent of the Corporate Model in Environmental-Organized Crime' (1999) 31(1) *Crime, Law and Social Change* 1cf Yingyi Situ-Liu and David Emmons (n 19) 5.

⁵⁸ cf Monica Massari and Paola Monzini (n 26) 300.

⁵⁹ Legambiente, Gruppo Abele-Nomos and GEPEC-EC, *The Illegal Trafficking in hazardous waste in Italy and Spain* (Final Report, Rome, October 2003) <http://ec.europa.eu/environment/legal/crime/pub_en.htm> accessed 4 September 2009.

⁶⁰ cf Alan A. Block and Thomas J. Bernard (n 3); cf Donald J. Rebovich (n 5); James Hammit and Peter Reuter, *Measuring and Deterring Illegal Disposal of Hazardous Waste: A Preliminary Assessment* (Rand Corporation, Santa Monica CA 1988).

⁶¹ cf Donald J. Rebovich (n 5) xiv.

⁶² cf James Hammit and Peter Reuter (n 60).

enforcement effort and the optimal level of enforcement resources required to tackle illegal waste disposal committed by legitimate corporations.⁶³

Yet, it remains to be said that most of the studies also across other disciplines, in particular, legal⁶⁴ and management science⁶⁵, have dealt with the broad-spectrum of environmental crime and not specifically with waste crime. One of these avenues of criminological research, which embraces the environmental justice paradigm, has focused on the issue of the distribution of environmental and waste contaminations across different racial and social groups.⁶⁶ Still, the majority of existing empirical studies on environmental crime have been conducted within the field of white-collar and corporate crime analysis.⁶⁷ The reason is because researchers have

⁶³ cf James Hammitt and Peter Reuter (n 60).

⁶⁴ The issue has been examined by legal scholars, mainly from the United States, who focused on the intersection between environmental crime, criminal law and punishment. This literature is voluntarily omitted to focus on a criminological perspective. See Michael M. O'Hear, 'Sentencing the Green-Collar Offender: Punishment, Culpability, and Environmental Crime' (2004) 95(1) *The Journal of Criminal Law and Criminology* 133, 134.

⁶⁵ Researchers from management disciplines have thoroughly explored environmental crime within the firm level. The review of the management literature is voluntarily omitted to focus on a criminological perspective. See Mairie A. McKendall, and John A. Wagner, 'Motive, Opportunity, Choice, and Corporate Illegality' (1997) 8(6) *Organization Science* 624; Robert Baylis and others, 'Company Size, Environmental Regulation, and Ecological Modernization: Further Analysis at the Level of the Firm' (1998) 7(5) *Business Strategy and the Environment* 285; Sarah Stafford, 'The Effect of Punishment on Firm Compliance with Hazardous Waste Regulations' (2002) 44(2) *Journal of Environmental Economics and Management* 290.

⁶⁶ See Andrew Szasz and Michael Meuser, 'Environmental Inequalities. Literature Review and Proposals for New Directions in Research and Theory' (1997) 45(3) *Current Sociology/La Sociologie Contemporaine* 99; Paul B. Stretesky and Michael J. Lynch, 'Environmental Hazards and School Segregation in Hillsborough, 1987-1999' (2003) 43(4) *The Sociological Quarterly* 553; David R. Simon, 'Corporate Environmental Crimes and Social Inequality: New Directions for Environmental Justice Research' (2000) 43(4) *American Behavioural Scientist* 633.

⁶⁷ Since the term white-collar crime firstly appeared in the 1940s, lawyers and criminologists have wrangled over its definition. The term white-collar crime was originally coined by Edwin Sutherland, who suggested that persons of high social status commit crimes in the course of their occupational activity. Although much criticized, this work has been fundamental for subsequent research because it drew attention to the study of criminal activities committed by high status criminals. Notwithstanding the extensive literature on this issue (ie white-collar, occupational, corporate and organizational crime studies), this analysis does not intend to re-engage in the plethora of debates about white-collar crime. This choice has been made for two reasons. First, as shown by Felson and Boba, '[d]efining white-collar crime as elite crime makes absolutely no sense in today's world...[since] white-collar workers today are a good majority of the labor force, so we cannot simply equate "white-collar crime" with "crime in the suites" or offenses committed by those in elite ranks'. Indeed, as maintained by Barlow, environmental violations are committed by both high status managers and small business owners. The second reason is because the study employs an offence-specific approach and does not intend to explore offenders' characteristics. This is also consistent with the view of Sean Maddan and others who have argued that '[a]n offender-related approach examines only those individuals in the upper class, whereas an offense-related approach focuses on the nature of the crime with a breach of trust as a requisite characteristic. Thus, any individual in any class could potentially be a white-collar offender'. Hugh D. Barlow, 'From Fiddle Factors to Networks of Collusion: Charting the Waters of Small Business Crime' (1993) 20 *Crime, Law and Social Change* 319; Marcus Felson and Rachel Boba, *Crime and Everyday Life* (Sage Publications

recognised that corporations are the main culprits behind the most serious environmental threats.⁶⁸

Within the field of white-collar and corporate crime analysis, empirical studies on environmental crime have explored different aspects of the crime problem through various theoretical lenses. Research has attempted to explain why some corporations commit crimes and others not, exploring the relationship between firm characteristics, violations, and enforcement.⁶⁹ Scholars have also investigated the interaction between crime and firm size, finding that most prosecutions for environmental violations were undertaken against small companies, which often cannot afford a legal department or a permanent counsel and are therefore more vulnerable to prosecution.⁷⁰ Researchers empirically proved that positive industry profitability scores were inversely associated with environmental violations, thus contradicting the general results of their study, which initially asserted that 'firms with poorer profit trends tend to have more proportionate violations'.⁷¹ Other scholars exploring the interrelation between environmental crime and the sanctioning system have shown that, besides conventional penalties, other measures are needed to foster corporate compliance.⁷² Besides, studies investigated the role of punishment in deterring environmental crime, thus revealing that deterrence plays a role in shaping rule-breaking behaviours.⁷³ In addition to the likelihood of enforcement and severity of sanctions, empirical

Inc., London 2010), 118; Sean Maddan and others 'Sympathy for the Devil: An Exploration of Federal Judicial Discretion in the Processing of White-Collar Offenders' (2012) 37 *American Journal of Criminal Justice* 4, 5; Susan P. Shapiro, 'Collaring the Crime, Not the Criminal: Reconsidering the Concept of White-Collar Crime' (1990) 55(3) *American Sociological Review* 346, 363.

⁶⁸ Ronald G. Burns and Michael J. Lynch, *Environmental Crime. A Sourcebook* (LFB Scholarly Books, New York 2004); Vincenzo Ruggiero and Nigel South, 'Green Criminology and Dirty Collar Crime' (2010) 18(4) *Critical Criminology* 251.

⁶⁹ Sally S. Simpson, Joel Garner and Carole Gibbs, *Why Do Corporations Obey Environmental Law?: Assessing Punitive and Cooperative Strategies of Corporate Crime Control: Final Technical Report* (US Dept. of Justice, National Institute of Justice, 2007) <<http://www.ncjrs.gov/pdffiles1/nij/grants/220693.pdf>> 10 October 2010.

⁷⁰ Mark A. Cohen, 'Environmental Crime and Punishment: Legal/Economic Theory and Empirical Evidence on Enforcement of Federal Environmental Statutes' (1992) 82(4) *J. Crim. L. & Criminology* 1054.

⁷¹ Marshall Clinard and others, *Illegal Corporate Behaviour* (National Institute of Law Enforcement and Criminal Justice, Washington DC, 1979), 167. See Cindy R. Alexander and Mark A. Cohen 'New Evidence on the Origins of Corporate Crime' (1996) 4 *Managerial and Decision Economics* 421.

⁷² Lars Emanuelsson Korsell, 'Big Stick, Little Stick: Strategies for Controlling and Combating Environmental Crime' (2001) 2 *Journal of Scandinavian Studies in Criminology and Crime Prevention* 127.

⁷³ Marcus A. Cohen, 'Empirical Research on the Deterrent Effect of Environmental Monitoring and Enforcement' (2000) 30 *Environmental Law Reporter* 10245.

findings have demonstrated that economic constraints, social pressure and company's management play a central role in promoting environmental compliance.⁷⁴

This body of literature not only has revealed the role of corporations in the cause of environmental crimes. It has also ruled out the possibility that business operators are affected by forces from outside the firm's internal setting, which encourage law violations. Though focusing mainly on the organizational level of analysis⁷⁵, the significance of these researches is that they predate that external factors, other than offender's criminal propensity could influence market players and their business preferences.⁷⁶

2.1.2 OPPORTUNITIES AND CRIME

The previous literature on environmental crime suggests that external factors can provide lucrative opportunities, introducing prospects of gain from criminal conduct that would not otherwise be present. Yet, it has not been clarified why this is particularly true for profit-driven market players. To provide background and context, the first paragraph illustrates the economic model of lawbreaking, which is at the roots of the new opportunity perspectives. The second and third paragraphs present the new opportunity perspectives. The rationale behind this review underlies beneath the fact that the new opportunity perspectives subsume the theoretical approaches that guided the present research. Moreover, not only they further the understanding of crime events through a crime-specific viewpoint but also predate the idea that crime opportunities can be provided by the law.

⁷⁴ Robert A. Kagan, Dorothy Thornton and Neil Gunningham, 'Explaining Corporate Environmental Performance: How Does Regulation Matter?' (2003) 37(1) *Law and Society Review* 51.

⁷⁵ In particular, corporate/organizational crime research has identified 'industry concentration, organization size, structural complexity, and organizational decentralization' as main opportunity factors which play a role in promoting deviance. Carol Regina Graham, 'Corporate Environmental Crime: An Empirical Test of a Model Integrating Concepts from Organizational Crime Theory and Corporate Social Performance Theory' (DPhil thesis, Vanderbilt University 1994).

⁷⁶ Robert A. Rosenthal, 'Economics and Crime' in Susan Guarino-Ghezzi and A. Javier Treviño (eds), *Understanding Crime: A Multidisciplinary Approach* (Anderson Publishing, 2005), 69.

2.1.2.1 MARKET PLAYERS AND THE CHOICE TO POLLUTE

Criminology research has comprehensively examined the role of market players, particularly within the field of corporate crime analysis. Corporate and white-collar crime studies have supported the idea that economic actors are the archetypal of the rational actor.⁷⁷ As they seek to make rational profit-driven decisions, economic actors may purposely choose to violate the law because it is simply very profitable.⁷⁸ The idea that crime is partially caused by profits maximization, has interested researchers across the disciplines, often informed by utilitarian paradigms about offending.⁷⁹ Above all, Becker's economic model of crime (also known as the rational choice theory of crime), which maintains that potential offenders make rational choices in deciding between legal and illegal courses of conduct, has been considered a promising etiological paradigm, in particular for corporate crime analysis and control policies among which is deterrence.⁸⁰

Becker's model has been deemed as well suited to the analysis of crimes committed within everyday business activities, because corporate wrongdoing is seen as a 'highly rational form of criminality'.⁸¹ Empirical work has confirmed these assumptions: a major motivation behind corporate crime is economic gain.⁸² Companies do undertake illegal activities if the expected

⁷⁷ With regard to the concept of rationality, it should be noted that field scholars maintain that under the rational actor model 'the interests of individuals are identical to those of their corporation'. Following this approach, this study considers corporate rationality as equal to individual rationality. See eg Kenneth G. Elzinga and William Breit, *The Antitrust Penalties: A Study in Law and Economics* (Yale University Press, New Haven 1976).

⁷⁸ Brian Wolf, *Organized Environmental Crime: An Analysis of Corporate Noncompliance with the Law* (Edwin Mellen Press, Lewiston 2009), 46.

⁷⁹ cf Robert A. Rosenthal (n 76) 61.

⁸⁰ Gary S. Becker, 'Crime and Punishment: An Economic Approach' (1968) 76 *Journal of Political Economy* 169. Within criminology, studies have examined the role of deterrence in controlling corporate crime. See John Braithwaite and Toni Makkai, 'Testing an Expected Utility Model of Corporate Deterrence' (1991) 1 *Law and Society Review* 7; Toni Makkai and John Braithwaite, 'The Dialectics of Corporate Deterrence' (1994) 31 *Journal of Research in Crime and Delinquency* 347.

⁸¹ David Weisburd and Elin Chayet, 'Specific Deterrence in a Sample of Offenders Convicted of White-Collar Crimes' (1995) 4 *Criminology* 587, 589.

⁸² The Ford-Pinto case is one of the most mentioned examples of cost-and-benefit calculations of legal versus illegal acts. The Pinto case was exemplar because Ford chose not to substitute the unsafe gas tanks because the company estimated that it would have incurred in higher costs than those estimated for the lawsuits and reimbursement of damages for personal injuries caused by the unsafe tanks' explosion. See eg Matthew T. Lee and M. David Ermann, 'Pinto "Madness" as a Flawed Landmark Narrative: An Organizational and Network Analysis' (1999) 1 *Social Problems* 30.

benefits of the crime outweigh its costs, which are evaluated in terms of the chance of being apprehended/caught and the possible maximum sanctions that can be imposed.⁸³ This has been further substantiated by findings proving that economic entrepreneurship often leads to routine deviant acts.⁸⁴

Scholars have maintained that also crimes against the environment are regularly 'calculated and deliberative and directed to economic gain', so to fit into a 'rational polluter model'.⁸⁵ This view is best captured by Wolf, who explains this issue simply and clearly: 'firms may choose to violate the laws and pay the fines simply because it is much cheaper than complying with them'.⁸⁶ Though limited in some respects, the economic model of crime forestalls that the context in which the criminal act occurs can facilitate or encourage criminal deviance. In so doing, it recognizes that the external environment, other than offender's personal characteristics, could increase crime because crimes are perpetrated when occasions for committing crimes are created.⁸⁷

2.1.2.2 THE NEW OPPORTUNITIES PERSPECTIVES

The idea that the external environment provides criminal opportunities has been developed by the so-called new opportunity perspectives⁸⁸, under which are the routine activity approach⁸⁹,

⁸³ Michael Faure and Maartje Visser, 'Law and Economics of Environmental Crime' in Hans Sjögren and others (eds), *New Perspectives on Economic Crime* (Edward Elgar Publishing, Cheltenham 2004), 57.

⁸⁴ Marshall Clinard and others, *Illegal Corporate Behaviour* (National Institute of Law Enforcement and Criminal Justice, Washington DC, 1979), 147.

⁸⁵ Anthony Emery and Michael Watson, 'Organizations and environmental crime: Legal and economic perspectives' (2004) 6 *Managerial Auditing Journal* 741. See also, Joseph F. DiMento, *Environmental Law and American Business. Dilemmas of Compliance* (Plenum Press, New York 1986), 86; cf Michael Faure and Maartje Visser (n 83) 61; cf Neal Shover and Aaron S. Routhe (n 17) 333.

⁸⁶ cf Brian Wolf (n 78) 46.

⁸⁷ Michael L. Benson and Sally S. Simpson, *White-Collar Crime. An Opportunity Perspective* (Routledge, New York 2009), 67.

⁸⁸ cf Marcus Felson and Ronald V. Clarke (29).

⁸⁹ Initially developed for studying predatory crimes, the routine activity approach assumes that crimes are dependent on the 'convergence in time and space of three minimal elements [...] (1) motivated offenders, (2) suitable targets, and (3) the absence of capable guardians against a violation'. Lawrence E. Cohen and Marcus Felson, 'Social Change and Crime Rate Trends: A Routine Activity Approach' (1979) 44(4) *American Sociological Review* 588, 589. This approach does not want to rebut 'the importance of factors motivating offenders to engage in crime', but attempts to

crime pattern theory⁹⁰ and the rational choice perspective.⁹¹ Stemming from the economic model illustrated above, in particular the latter posits that offenders are rational actors who make choices to maximize profits, although their decisions may ultimately be constrained by time, cognitive abilities and information accessibility.⁹² This view has been also expounded in the field

justify variations in crime rates by giving 'specific attention upon violations themselves and the pre-requisites for their occurrence'. Lawrence E. Cohen and Marcus Felson, 'Social Change and Crime Rate Trends: A Routine Activity Approach' (1979) 44(4) *American Sociological Review* 588, 605. Assuming the presence of a motivated offender as a constant, it argues that fluctuations in predatory crime rates can be explained by the absence of guardianship (ie neighbours or ordinary citizens in the target area of the crime), and of suitable commodities (ie physical access, visibility of goods etc.). Consider, for example, offence patterns for residential burglary. Studies have demonstrated that the number of reported burglaries rose as the 'outcome of the increased portability of electronic goods and of an increase in numbers of unoccupied houses as more women go out to work'. cf Ronald V. Clarke and Derek B. Cornish (n 30). Similarly, it could be argued that situations, which are presented during legitimate professional activities, could foster crime.

⁹⁰ Crime pattern theory, developed within the framework of environmental criminology, explores crime patterns and criminal behaviour. This approach has enlightened that the incidence of crime varies in spatial and temporal terms. It sees crime as 'an event that is best viewed as an action that occurs within a situation at a site on a nonstatic backcloth'. Patricia L. Brantingham and Paul J. Brantingham, 'Environment, Routine, and Situation: Toward a Pattern Theory of Crime' in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 265. Within this theoretical premise, crime pattern theory argues that patterns are dependent on areas and times where possible offenders enter personal activities and everyday life. On the basis of this information, crime pattern theory generates maps of crime to cluster together criminal activities as distributed in time and space. Today, crime pattern theory serves a complementary role in crime prevention, in particular as a strategy to forestall street and property crime. In particular, they are used to develop crime mapping analyses which are helpful to redesigning areas (eg areas of social housing) where crimes cluster the most. Patricia L. Brantingham and Paul J. Brantingham, 'Environment, Routine, and Situation: Toward a Pattern Theory of Crime' in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 260. Patricia L. Brantingham and Paul J. Brantingham, 'A theoretical Model of Crime Site Selection' in M. Krohn and R. Akers (eds), *Crime, Law and Sanctions* (Sage Publications, Beverly Hills 1978), 105- 118; Patricia L. Brantingham and Paul J. Brantingham, *Environmental Criminology* (Sage Publications, Beverly Hills 1981).

⁹¹ The rational choice perspective maintains that offenders have specific goals which are intended for their direct benefit. Contrary to the economic model of crime, benefits are not always economically discernible. Accordingly, it assumes that offenders 'take into account only a few benefits and risks at time' given that they have limited time and information to decide. Most importantly, it maintains that rationality in offenders is imperfect and that offenders are unable to foresee the long term impact of their actions, including possible sanctions. cf Marcus Felson and Ronald V. Clarke (29) 7. See Eric Johnson and John Payne, 'The Decision to Commit a Crime: An Information-Processing Analysis' in Derek B. Cornish and Ronald V. Clarke (eds), *The Reasoning Criminal: Rational Choice Perspectives on Offending* (Springer-Verlag, New York 1986), 172; Derek B. Cornish and Ronald V. Clarke, 'Introduction' in Derek B. Cornish and Ronald V. Clarke (eds), *The Reasoning Criminal: Rational Choice Perspectives on Offending* (Springer-Verlag, New York 1986), 1. While focusing on offence-specific analysis, this perspective aims to understand criminal choice from the offender's perspective. This approach deserves credit for having emphasized the role of opportunities, which may influence decisions about offending.

⁹² Contrary to the economic model, this perspective recognises that 'human rationality is spurious' or 'bounded' in the sense that information processing is limited in number of information that can be obtained and evaluated to reach a rational decision. John Carroll and Frances Weaver, 'Shoplifters' Perceptions of Crime Opportunities: A Process-Tracing Study' in Derek B. Cornish and Ronald V. Clarke (eds), *The Reasoning Criminal: Rational Choice Perspectives on Offending* (Springer-Verlag, New York 1986), 21; Derek B. Cornish and Ronald V. Clarke, 'Understanding Crime Displacement: An Application of Rational Choice Theory' (1987) 25 *Criminology* 933; Karl-Dieter Opp, "Limited Rationality" and Crime' in Graeme Newman, Ronald V. Clarke and S. Giora Shoham (eds),

of environmental crime, where scholars have maintained that the rational polluter model could successfully predict lawbreaking.⁹³ As maintained by Freda Adler, rationality acts as a condition for triggering human choice to pollute since '[v]iolators of environmental law [...] make decisions based on the chance of apprehension, the availability of employees who are willing to commit offenses, the cost differential between legal and illegal operation and, frequently, technological expertise'.⁹⁴

A crucial aspect of the rational choice perspective is that it emphasizes the importance of external factors influencing the decision to break the law, thus providing substantial support for the idea that only the interplay between a natural suitable environment and motivated offenders (ie individuals with criminal dispositions) can lead to criminal activities. Cornish and Clarke describe these factors 'as those properties of offences' that are taken into account when performing cost-benefit calculus of breaking the law.⁹⁵

The influence of external factors on levels of crime is not new to the literature. Though approaching the issue from different theoretical lenses, scholars have underlined that 'the crime of illegal dumping of toxic waste [...] requires not only a generator who needs to dispose of such waste but also a place in which to dump and a dearth of law enforcers'.⁹⁶ The practice known as midnight dumping, which involved the illegal discharge of hazardous waste along roadsides or into waterways, revealed night-time as a possible factor facilitating the commission of waste crime.⁹⁷

Rational Choice and Situational Crime Prevention. Theoretical Foundation (Ashgate, Dartmouth 1997), 49; Olof Dahlbäck, *Analyzing Rational Crime- Models and Methods* (Kluwer Academic Publishers, Dordrecht 2003), 17.

⁹³ cf Freda Adler (n 22).

⁹⁴ cf Freda Adler (n 22) 41.

⁹⁵ cf Dereck B. Cornish and Ronald V. Clarke (n 92) 934.

⁹⁶ cf Freda Adler (n 22) 40.

⁹⁷ cf Michael L. Benson and Sally S. Simpson (n 87) 15.

The same theoretical bases have been incorporated in an approach stemming from the rational choice perspective: situational crime prevention.⁹⁸ Situational crime prevention maintains that psychological, social influences or inherited traits do not fully explain why crimes are perpetrated.⁹⁹ Instead of looking at offenders and their inherent propensity to violate the law, situational crime prevention looks at the outside, arguing that crime necessitates situational factors for the crime to occur, which are independent of the offender.¹⁰⁰ In particular, situational crime prevention states that, besides profit motive and rational calculated choices that guide deviance, 'crime opportunities' may also be assessed.¹⁰¹ Arguing that 'opportunities for crime draw people into criminal conduct just as much as criminal dispositions lead people to seek out crime opportunities'¹⁰², situational crime prevention researchers posit that offenders 'undertake cost-benefit analyses of crime opportunities' presented to them.¹⁰³

The approach has been expounded by Clarke and other scholars who have been mainly interested in crime prevention policies.¹⁰⁴ These researchers maintain that crime control effort ought to be directed at those features of the immediate environment and that crime can be prevented if criminal opportunities are reduced.¹⁰⁵ Situational crime prevention, indeed, aims to identify physical components and structures within the immediate environment that may facilitate

⁹⁸ Situational Crime Prevention has been predicated by Mayhew et al., who have emphasized that environmental factors and not only behavioural and attitudinal characteristics of the offender, predict crime. P.M. Mayhew and others (eds), *Crime as Opportunity* (Home Office Research Study No. 34, HMSO, London 1976), 4.

⁹⁹ cf Ronald V. Clarke (n 42) 2.

¹⁰⁰ Ronald V. Clarke, 'Situational Crime Prevention: Its Theoretical Basis and Practical Scope' (1983) 4 *Crime and Justice* 225, 229.

¹⁰¹ cf Marcus Felson and Ronald V. Clarke (29) 11; cf Ronald V. Clarke (n 42) 2; cf Ronald V. Clarke (n 100) 229.

¹⁰² Ronald V. Clarke, 'Situational Prevention, Criminology, and Social Values' in A. von Hirsch David Garland and A. Wakefield (eds), *Ethical and Social Perspectives on Situational Crime Prevention* (Hart Publishing, Oxford 2000), 97.

¹⁰³ Richard Wortley, 'Reconsidering the Role of Opportunity in Situational Crime Prevention' in Graeme Newman, Ronald V. Clarke and S. Giora Shoham (eds), *Rational Choice and Situational Crime Prevention. Theoretical Foundation* (Ashgate, Dartmouth 1997), 65.

¹⁰⁴ cf Ronald V. Clarke (n 42) 2.

¹⁰⁵ In particular, situational crime prevention promotes the use of specific methods, tailored for type of crime, (eg surveillance technology in public spaces to prevent street crime) which 'make crime more difficult and risky, or less rewarding' for the offender. While stressing that 'situational crime prevention gives criminology a direct and practical role in crime control', the same authors have recognised that this approach represents an additional method besides general social formal and informal control measures, which can 'ameliorate not eliminate a problem'. cf Ronald V. Clarke (n 42) 3, 4, 26. See cf Ronald V. Clarke (n 102) 109.

criminal acts.¹⁰⁶ In order to prevent or limit certain types of crime, the environment should be manipulated, so that potential offenders could judge unattractive to commit a crime. The reason underlies beneath the fact that '[c]riminal behaviour is significantly influenced by the nature of the immediate environment in which it occurs [...]. The environment is not just a passive backdrop for criminal behaviour; rather, it plays a fundamental role in initiating the crime and shaping its course'.¹⁰⁷ Designed to explore property offences, situational crime prevention has been successfully applied to a much wider array of crimes, including complex and organized forms of criminal activities.¹⁰⁸ More recently, situational crime prevention has been used to study environmental crime, in particular wildlife crime.¹⁰⁹ Employing the analytical framework of situational crime prevention, empirical research has been undertaken in the Netherlands to examine opportunities also for waste crimes.¹¹⁰ Despite its limitations due to the choice of examining various environmental crimes that may warrant markedly different responses, the study deserves credit for having recognised the role of opportunities in illegal waste diversion activities.¹¹¹

¹⁰⁶ Richard Wortley and Lorraine Mazerolle, 'Environmental Criminology and Crime Analysis: Situating the Theory, Analytic Approach and Application' in Richard Wortley and Lorraine Mazerolle (eds) *Environmental Criminology and Crime Analysis* (Willan Publishing, Cullompton/Portland 2008), 10; Ronald V. Clarke & John E. Eck, *Crime Analysis for Problem Solvers in 60 Small Steps* (Center for Problem Oriented Policing, Washington DC 2005) <<http://www.cops.usdoj.gov/Publications/CrimeAnalysis60Steps.pdf>> accessed 12 April 2011, step 34.

¹⁰⁷ cf Richard Wortley and Lorraine Mazerolle (n 106) 2.

¹⁰⁸ The most recent situational crime prevention studies exploring complex forms of criminality are the following: cf Edwards R. Kleemans and others (n 50); cf Etienne Blais and Jean-Luc Bacher (n 50); cf Henk van de Bunt and Cathelijne van der Schoot (n 9); cf Karen Bullock, Ronald V. Clarke and Nick Tilley (n 50); Klaus von Lampe, 'The Application of the Framework of Situational Crime Prevention to "Organized Crime"' (2011) 11(2) *Criminology and Criminal Justice* 145; cf Michael Levi (n 50); cf Richard Wortley and Steve Smallbone (n 50); cf Ronald V. Clarke and Graeme Newman (n 50).

¹⁰⁹ Andrew M. Lemieux and Ronald V. Clarke, 'The International Ban on Ivory Sales and Its Effects on Elephant Poaching in Africa' (2009) 49 *British Journal of Criminology* 451; Melanie Wellsmith, 'The Applicability of Crime Prevention to Problems of Environmental Harm: A Consideration of Illicit Trade in Endangered Species' in Rob White (ed) *Global Environmental Harm: Criminological Perspectives* (Willan Publishing, Cullompton 2010), 138; cf Melanie Wellsmith (n 14); Stephen F. Pires and Ronald V. Clarke, 'Are Parrots CRAVED? An Analysis of Parrot Poaching in Mexico' (2012) 49(1) *Journal of Research in Crime and Delinquency* 122; Stephen F. Pires and Ronald V. Clarke, 'Sequential Foraging, Itinerant Fences and Parrot Poaching in Bolivia' (2011) 51 *British Journal of Criminology* 314; Stephen F. Pires and William D. Moreto, 'Preventing Wildlife Crimes: Solutions That Can Overcome the "Tragedy of the Commons"' (2011) 17(2) *European Journal of Criminal Policy and Research* 101.

¹¹⁰ cf Wim Huisman and Judith van Erp (n 4).

¹¹¹ cf Wim Huisman and Judith van Erp (n 4).

Yet, it remains to clarify what exactly constitutes an opportunity.¹¹² According to the new opportunity perspectives, opportunities can be defined as temptations or crime facilitating factors, which are independent of the offender. As claimed by researchers, the term “[o]ppportunity” implies only that certain situational factors make it easy for the individual to follow a course of action that will deliver benefits.¹¹³ No general definition can be given since opportunities are plentiful, non static and change and evolve based on time, places and circumstances.¹¹⁴ Rather, what can be stated is firstly that ‘crime opportunities are highly specific’.¹¹⁵ Specificity refers to the fact that crime opportunities ‘are highly specific to each offence and offender subset’ and, so therefore, vary substantially from one crime to another.¹¹⁶ For this reason the new opportunity perspectives maintain that a crime-specific focus is required to disentangle crime opportunities. Second, ‘crime opportunities are concentrated in time and space’ and ‘depend on everyday movements of activity’ because they are provided by the immediate environment or crime setting in which a potential offender operates.¹¹⁷

¹¹² The term ‘opportunities’ should not be confused with the use made in other criminological literature. Merton and, subsequently, Cloward and Ohlin have argued that compliance depends on the existing opportunities to break the law versus accessible opportunities to obtain the same desired results without violating the law. This research tradition, which developed the strain theory of crime and delinquency, maintains that, ‘the cultural demand made on persons’ requires to ‘accumulat[e] wealth and on the other,...deni[es] legitimate opportunities to do so’. As a result, ‘[t]he equilibrium between culturally designated means and ends becomes highly unstable with the progressive emphasis on attaining the prestige-laden ends by any means whatsoever’. Societal pressure, as a result, leads individuals to crime. Robert K. Merton, ‘Social Structure and Anomie’ (1938) 5 *American Sociological Review* 672, 679. It should be underlined that other scholars, employing different theoretical assumptions, have used opportunities as an explanatory factor of criminal deviance. cf Charles R. Tittle (n 6); cf John Braithwaite (n 6) 31; cf Mark Warr (n 6); Richard A. Cloward and Lloyd E. Ohlin (n 6) 144. The term ‘opportunity’, as used in the present work, does not refer to the theoretical foundation of the aforementioned scholars, but to a different research tradition stemming from the rational choice perspective: the so-called new opportunity perspectives.

¹¹³ cf Richard Wortley (n 103) 66.

¹¹⁴ Patricia L. Brantingham and Paul J. Brantingham, ‘Environment, Routine, and Situation: Toward a Pattern Theory of Crime’ in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 262; cf P.M. Mayhew and others (n 98) 7.

¹¹⁵ cf Marcus Felson and Ronald V. Clarke (29) v.

¹¹⁶ cf Marcus Felson and Ronald V. Clarke (29) 13; cf Ronald V. Clarke (n 100) 232.

¹¹⁷ cf Marcus Felson and Ronald V. Clarke (29) v; Stephen F. Pires and William D. Moreto, ‘Preventing Wildlife Crimes: Solutions That Can Overcome the “Tragedy of the Commons”’ (2011) 17(2) *European Journal of Criminal Policy and Research* 101, 109.

When crimes are committed in the course of everyday business activities, criminal opportunities can be found within the economic sector itself.¹¹⁸ Indeed, crime opportunities surround business activities and are embedded within the legal environment in which economic activities take place.¹¹⁹ As observed by scholars, also ‘intensity, duration, and methods of criminal act will be more likely determined by the criminal opportunities available in the legitimate marketplace’.¹²⁰ To give an example, exploring organizational crime in the Netherlands, recent studies have shown the existence of crime opportunities within the waste industry; such opportunities were provided by the difficulty in achieving effective industry monitoring and the ease in hiding illegal activities.¹²¹ Scholars have also found that opportunities to opt for illegal transboundary shipment of waste are situated within the business sector, more specifically, within the negative value of waste which, if reprocessed into tradable commodity, acquires a high positive value.¹²²

Crime opportunities within the legal environment are easily accessible and exploitable by profit-driven economic actors who, under the cover of apparent legality, can carry out their activities while breaking the law.¹²³ Yet, surprisingly, there is a paucity of research examining opportunities arisen out of legitimate economic activities.¹²⁴ This reluctance persists although, as a result of greater market demand for new products and services, occasions for perpetrating crimes as part of ongoing economic activities have greatly expanded.¹²⁵ In sum, it should not be overlooked that

¹¹⁸ Michael L. Benson, Tamara D. Madensen, and John E. Eck, ‘White-Collar Crime from an Opportunity Perspective’ in Sally S. Simpson and David Weisburd (eds) *The Criminology of White-Collar Crime* (Springer, New York 2009), 175.

¹¹⁹ It should be clarified that the term environment refers to ‘all that surrounds: the sociocultural environment; the economic and legal environment; and the institutional and physical structure of the area’. Patricia L. Brantingham and Paul J. Brantingham, ‘Environment, Routine, and Situation: Toward a Pattern Theory of Crime’, in Ronald V. Clarke and Marcus Felson (eds), *Routine Activity and Rational Choice* (Transaction Publishers, New Brunswick 1993), 286.

¹²⁰ Though stemming from different theoretical perspectives, also Rebovich has recognised that opportunities are crucial in waste crime. cf Donald J. Rebovich (n 5) xiv.

¹²¹ cf Henk van de Bunt and Wim Huisman (n 9) 229.

¹²² cf Wim Huisman and Judith van Erp (n 4).

¹²³ cf Michael Levi (n 50).

¹²⁴ Michael L. Benson and Tamara D. Madensen, ‘Situational Crime Prevention and White-Collar Crime’ in Henry N. Pontell and Gilbert L. Geis (eds), *International Handbook of Corporate and White-Collar Crime* (Springer, New York 2007); cf Michael L. Benson, Tamara D. Madensen, and John E. Eck (n 118) 185; David J. Middleton and Michael Levi, ‘The Role of Solicitors in Facilitating “Organized Crime”: Situational Crime Opportunities and their Regulation’ (2004) 42 *Crime, Law and Social Change* 12; cf Michael Levi (n 50).

¹²⁵ As Grabosky has maintained ‘crime follows opportunity, and globalization, accelerated by developments in technology, has created an abundance of opportunities for criminal activities of all sorts’. Peter Grabosky,

'legitimate economic activities create opportunities to deceive, abuse trust, and conspire against other'.¹²⁶ And it is there where more empirical research should be demanded.¹²⁷

2.1.2.3 A CRIME-SPECIFIC VIEWPOINT

Scholars exploring crime opportunities maintain that criminal offences differ greatly from each other.¹²⁸ Therefore, in order to understand crimes and identify crime opportunities, , as discussed previously, it becomes compelling to focus on specific criminal offences.¹²⁹ Before examining the issue more closely, it should be mentioned that criminological theories are divided under the main headings of theories of criminality and theories of crime. Theories of criminality, which are 'offender-specific', attempt to identify factors that explicate criminal conduct.¹³⁰ Such theories focus on criminal motivation and overlook opportunities that are necessary for a criminal event to occur.¹³¹ In doing so, they fail to go beyond the analysis of personal and social factors and speculate about why individuals commit offences.¹³² All what is missing from theories of criminality is the understanding that an offender specific focus does not contextualize criminal conduct in the social and physical environment. In contrast, theories of crime view crimes as events that need closer scrutiny.¹³³ This is the rationale behind an offence-specific focus: criminal opportunities differ greatly from one crime to another and must be therefore identified on the

'Globalization and White-Collar Crime' in Sally S. Simpson and David Weisburd (eds), *The Criminology of White-Collar Crime* (Springer, New York 2009), 132, 136; Judith van Erp and Wim Huisman, 'Smart Regulation and Enforcement of Illegal Disposal of Electronic Waste' (2010) 9(3) *American Society of Criminology* 579.

¹²⁶ cf Michael L. Benson and Sally S. Simpson (n 87) 219.

¹²⁷ cf Marcus Felson and Rachel Boba (n 67) 121.

¹²⁸ Ronald V. Clarke, 'Situational Crime Prevention' in Richard Wortley and Lorraine Mazerolle (eds) *Environmental Criminology and Crime Analysis* (Willan Publishing, Cullompton/Portland 2008).

¹²⁹ cf Ronald V. Clarke & John E. Eck (n 106) Step 6.

¹³⁰ cf Freda Adler (n 22) 36.

¹³¹ Mayhew et al. have critically underlined that 'opportunity has been acknowledged in passing rather than taken as the main object of empirical scrutiny'. cf P.M. Mayhew and others (n 98) 4.

¹³² In the field of white-collar crime research, Shapiro's study purported an offence-based viewpoint. cf Susan P. Shapiro (n 67).

¹³³ cf Freda Adler (n 22) 37; Michael R. Gottfredson and Travis Hirschi, *A General Theory of Crime* (Stanford University Press, Stanford 1990), 14.

basis of types of crime. Indeed, only an offense-specific focus is able to identify the specific settings and circumstances under which potential offenders will in fact commit a crime. This is the rationale behind a research focusing specifically on waste crimes: the characteristics of waste crimes necessitate to be scrutinized to find the unique dimension of such crime.

Following an offence-specific focus, the new opportunities perspectives have reversed the whole framework of traditional criminology, highlighting that the offence itself should be the object of closer scrutiny.¹³⁴ The value of such approaches focusing on the criminal event is that they contribute to understand how specific wrongdoings are committed. To give an example, Poyner and Webb exploring residential burglaries in one English city, found that understanding 'how' offences were perpetrated was essential for identifying specific crime opportunities and suggesting crime prevention strategies.¹³⁵ Though mainly focused on street crime and organized crime infiltration in the legitimate economy¹³⁶, these theoretical approaches deserve substantial credit for having recalled the need to explore the "how" of criminal activities, requiring throughout knowledge of the crime commission process.¹³⁷ Without such knowledge, it would be difficult to identify 'weak spots' within any crime and crime commission process.¹³⁸ This is the reason why criminal acts committed during the ongoing economic process require closer analysis to understand how they unfold throughout business activities.¹³⁹

Researchers have highlighted the importance of studying the crime commission process of specific types of crimes, including environmental crimes. Thompson and Chainey, for instance, have lately proposed to apply the so-called crime script method borrowed from situational crime

¹³⁴ Yi-Ning Chiu, Benoit Leclerc and Michael Townsley, 'Crime Script Analysis of Drug Manufacturing in Clandestine Laboratories. Implications for Prevention' (2011) 51 *British Journal of Criminology* 355.

¹³⁵ Barry Poyner and Barry Webb, *Crime Free Housing* (Butterworth Architect, Oxford 1991).

¹³⁶ cf Henk van de Bunt and Cathelijne van der Schoot (n 9).

¹³⁷ cf Freda Adler (n 22) 41; Derek Cornish, 'The Procedural Analysis of Offending and Its Relevance for Situational Prevention' in Ronald V. Clarke (ed), *Crime Prevention Studies* (Vol. 3, Criminal Justice Press, Monsey N.Y. 1994), 155; cf Ronald V. Clarke and Marcus Felson (31) 10.

¹³⁸ Michael Levi and Mike Maguire, 'Reducing and Preventing Organized Crime: An Evidence-Based Critique' (2004) 41 *Crime Law and Social Change* 397, 409.

¹³⁹ cf Michael L. Benson, Tamara D. Madensen, and John E. Eck (n 118) 185.

prevention studies to explore the process through which illegal waste activities take place.¹⁴⁰ Crime-script is a method for 'generating, organizing and systematizing knowledge about the procedural aspects and procedural requirements of crime commission'.¹⁴¹ It is useful for obtaining detailed crime commission information, including the procedural aspects of offending.¹⁴² What is relevant here is not that Thompson and Chainey's approach stems from the new opportunity perspectives and, above all, suggests a specific method for investigating the crime problem under scrutiny.¹⁴³ Their study is important because it underlines that information about the crime commission process, as it develops from waste generation to the end of its life cycle, is necessary to enlighten possible crime opportunities.

As previous research has outlined, before exploring crime opportunities it becomes compelling to investigate in details a criminal offence. Yet, there are specific aspects of a crime problem that require closer scrutiny. As maintained by Adler, '[c]haracteristics of offences [...] become key to understanding the commission of the crime. These characteristics include where, when, how and by what types of persons offences are committed'.¹⁴⁴ Consistent with the theoretical model proposed by Adler, the present study seeks to explore where, when, how and by whom waste crime is perpetrated within the waste management sector. In order to answer these questions, this research investigates waste crime and the crime commission process to enhance knowledge about a relatively unknown crime, which has proved to be extremely complex and remain to be completely understood.¹⁴⁵ Indeed, a clear understanding of the nature of the crime problem cannot be achieved without knowing how illegal practices have become unfolded.

¹⁴⁰ cf Lisa Thompson and Spencer Chainey (n 47).

¹⁴¹ cf Derek Cornish (n 137) 151.

¹⁴² cf Derek Cornish (n 137) 160.

¹⁴³ cf Derek Cornish (n 137) 158.

¹⁴⁴ cf Freda Adler (n 22) 41.

¹⁴⁵ cf Donald J. Rebovich (n 5); cf Lisa Thompson and Spencer Chainey (n 47).

2.2 EXPLORING CRIMINAL OPPORTUNITIES CREATED BY THE LEGISLATION: THE PATH NOT TAKEN

This paragraph reviews the literature supporting the idea that crime opportunities can be provided by the legislation. First, this is done from a general perspective. Then, the focus shifts to vulnerability studies and research developing crime risk assessment mechanisms to proof legislation against crime. The discussion is subsequently narrowed to explore how vulnerability and risk assessment studies have dealt with the question of crime boosted by the ineffectiveness of environmental law rules. Finally, to support the rationale behind the choice of studying crime opportunities created by the legislation, particular attention is paid to the debate over the issue of the law as crime causation.

2.2.1 CRIME AND THE LAW: DILEMMAS OF UNINTENDED CONSEQUENCES

The idea that crime can unintentionally be created by the law itself has existed for many years across the disciplines.¹⁴⁶ Also, past criminological research has delved into the issue of regulatory ineffectiveness. In the fifties, Robert Lane has maintained that ambiguity in law rules ultimately increases the rate of violation within the business community.¹⁴⁷ Exploring corporate crime in the pharmaceutical industry, late in the eighties Braithwaite has argued that an excessive proliferation of rules ultimately increases the likelihood that loopholes can be created.¹⁴⁸ American legal scholarship has also addressed the problem of legislative ineffectiveness. In his work on the optimal precision of administrative rules, Colin Diver has identified three problems in regulatory

¹⁴⁶ In the field of management research, scholars have pinpointed that the legal and regulatory environment provides opportunities for wrongdoing, together with economic and organizational characteristics. For example, Bacus has identified that law itself and law enforcement provide opportunities to crime. In particular, she has observed: '[l]aws, regulations, and government agencies have been set up to control or limit illegality, and opportunity exists when controls are ineffective. When complex and ambiguous laws regulate a firm's activities, managers may engage in wrongdoing to take advantage of ambiguities in the law'. Melissa S. Bacus, 'Pressure, Opportunity and Predisposition: A Multivariate Model of Corporate Illegality (1994) 20(4) *Journal of Management* 699, 708.

¹⁴⁷ Robert E. Lane, 'Why Business Men Violate the Law' (1953) 44(2) *The Journal of Criminal Law, Criminology, and Police Science* 151, 165.

¹⁴⁸ John Braithwaite, *Corporate Crime in the Pharmaceutical Industry* (Routledge and Kegan Paul, 1984 London), 314.

standards: vagueness, complexity and overinclusiveness.¹⁴⁹ Diver has claimed that administrative law rules should be transparent, congruent, and accessible to reduce their social costs and increase norms' efficiency.¹⁵⁰

While revealing that shortcomings within substantive law are somehow related to lawbreaking, studies have not provided insights into the issue. Research on environmental crime has suffered similar limitations. The role of environmental law in preventing law violations has often been dismissed or overlooked as unimportant.¹⁵¹ The tendency to focus on the appropriateness and severity of criminal sanctions has obscured the important dimensions of the legislative mandate to thwart environmental misconduct. Yet, there have been few studies that blamed the law for its inherent failure to provide a comprehensive and clear set of provisions.

In the 1990s, research dealing with environmental and waste crime, have addressed this issue. Rebovich, for example, has noted that brokers played a substantial role in waste crime 'in part because of an absence of government regulation of the brokerage function'.¹⁵² Carter explicitly stated that 'environmental law and policy should be clear and comprehensive' in order to prevent 'a loophole [...] to be exploited by criminals'.¹⁵³ Block and Bernard, exploring crime in the waste oil industry, observed that legislative loopholes were used at the expense of the environment, as '[a]ttorneys...[were] hired by firms to exploit their knowledge of loopholes'.¹⁵⁴ In their study on prosecutions of corporate environmental and fraud crime, Benson and Cullen found that prosecutors complained about environmental law, particularly against environmental criminal sanctions and its confusing and overlapping maze of words.¹⁵⁵ Also Van Duyne, investigating organized crime in the Netherlands as a form of enterprise crime, pinpointed that 'entrepreneurs

¹⁴⁹ Colin S. Diver, 'The Optimal Precision of Administrative Rules' (1983) 93(1) *The Yale Law Journal* 65.

¹⁵⁰ cf Colin S. Diver (n 149) 68.

¹⁵¹ Craig Collins, *Toxic Loopholes. Failure and Future Prospects for Environmental Law* (Cambridge University Press, Cambridge 2010).

¹⁵² cf Donald J. Rebovich (n 5) 42.

¹⁵³ cf Timothy S. Carter (n 56) 41. Grabosky has also observed that 'circumvention of hazardous waste policies [has] become a serious problem in a number of industrialized nation'. Peter Grabosky, 'Counterproductive Regulation' [1995] 23 *International Journal of the Sociology of Law* 347, 349.

¹⁵⁴ cf Alan A. Block and Thomas J. Bernard (n 3) 125.

¹⁵⁵ cf Michael L. Benson and Francis T. Cullen (n 57) 162.

had been specialized in virtually all the loopholes in the Dutch environmental law' to dispose of waste illegally.¹⁵⁶ Similarly, studies on environmental crime in South Eastern Europe have maintained that legislative loopholes were exploited by criminals.¹⁵⁷ Recent research on organizational crime in the Netherlands has observed that waste law is complex and the market sector is not sufficiently regulated.¹⁵⁸

So far, these studies have focused on more general aspects pertaining to waste crime and not on the law itself. Existing research has pointed out that changes in waste regulation increased the costs of legal disposal, thus possibly encouraging or tempting companies to confer waste to illegal handlers.¹⁵⁹ Scholars have also acknowledged a causal link between environmental crime and lax controls or law enforcement.¹⁶⁰ Yet, in reality, legislation itself has never been regarded as a cause of crime. The view that crime could be created by the legislation has emerged only very recently.¹⁶¹ Vulnerability studies and research proofing legislation against the risk of crime have supported and further developed the concept that criminal opportunities are situated within the legal regulatory environment and, more specifically, within legislative provisions.¹⁶² Behind

¹⁵⁶ Petrus C. Van Duyne, 'Organized Crime and Business Crime Enterprises in the Netherlands' (1993) 19 *Crime Law and Social Change* 103, 124.

¹⁵⁷ Katja Eman and others, 'Environmental Crime and Green Criminology in South Eastern Europe. Practice and Research (2013) 59 *Crime Law and Social Change* 341, 344.

¹⁵⁸ cf Henk van de Bunt and Wim Huisman (n 9) 229.

¹⁵⁹ Theodore M. Hammett and Joel Epstein, *Local Prosecution of Environmental Crime* (U.S. Department of Justice, 1993).

¹⁶⁰ Szasz explains that the infiltration of organized crime in the waste management industry was mainly due to inadequate implementation of laws and law enforcement. cf Andrew Szasz (n 56) 10; Debra Elaine Ross, 'Explanation of Factors Related to Hazardous Waste Crimes Using the Organizational Field as the Level of Analysis' (DPhil thesis, Rutgers, The State University of New Jersey 1999); Donald Rebovich, *Understanding Hazardous Waste Crime. A Multistate Examination of Offense and Offender Characteristics in the Northeast* (New Jersey Department of Law and Public Safety. Division of Criminal Justice, 1986), 48; cf Michael L. Benson and Sally S. Simpson (n 87) 122.

¹⁶¹ Hans-Jörg Albrecht and Michael Kilchling, 'Crime Risk Assessment, Legislation, and the Prevention of Serious Crime-Comparative Perspectives' (2002) 10(1), *European Journal of Crime, Criminal Law and Criminal Justice* 23; Hans Jörg Albrecht and others (eds), *Criminal preventive Risk Assessment in the Law-Making Procedure* (Max-Planck- Institute For Foreign And International Criminal Law, Freiburg Im Breisgau 2002); cf Henk van de Bunt and Cathelijne van der Schoot (n 9) 30.

¹⁶² Ernesto U. Savona, 'Double Thematic Issue on: Proofing EU Legislation Against Crime' (2006) 12 (3-4) *European Journal on Criminal Policy and Research* 177; Ernesto U. Savona and others, 'Finalising the Crime Risk Assessment Mechanism for the Crime Proofing Activities of European Legislation/Regulation' (2006) 12 (3-4) *European Journal on Criminal Policy and Research* 365; cf Tom Vander Beken and Stijn Van Daele (n 7).

these research paradigms is the idea that regulations can have detrimental consequences on economic sectors, increasing the likelihood of organized crime infiltration or economic crime. Both research approaches find their theoretical grounding in the opportunity perspectives, specifically in situational crime prevention.¹⁶³ Their underlying purposes, however, are quite different.

Research proposing methodologies to proof legislation against the risk of crime has been primarily concerned with the development of risk indicators to evaluate the possibility that legislation may produce unintended crime consequences, that is to say, displace crime to other locations or offences.¹⁶⁴ Crime risk assessment mechanisms have been developed to scan legislation before and after its entry into force, with the final objective of suggesting legislative amendments.¹⁶⁵ Legislative crime proofing has been conducted on different market sectors legislation in the EU (eg corruption¹⁶⁶) while, to date, research has only advocated the need for crime proofing of the law governing the waste management sector.¹⁶⁷ Still, studies on crime proofing are useful not only because they guide research towards the crucial question of the

¹⁶³ Ernesto U. Savona and others, *A Study on Crime Proofing – Evaluation of Crime Risk Implications of the European Commission's Proposals Covering a Range of Policy Areas* (Transcrime, Trento and Milano 2006) <<http://transcrime.cs.unitn.it/tc/850.php>> accessed 11 December 2010, 11; Tom Vander Beken and Stijn Van Daele (n 7).

¹⁶⁴ These studies have clarified that the laws to be monitored by crime risk assessment methods are legislative proposals or new legislation. Legislation at risk is the one that introduces or increases a burden, fee or tax, introduces a concession on a tax or other fee, increases the costs of legal goods, introduces a compensatory scheme or other benefit scheme, prohibits or restricts a product or service or diminishes their availability, introduces, increases or removes law enforcement, or gives regulatory power to officials. Russell Morgan and Ronald V. Clarke, 'Legislation and Unintended Consequences for Crime', (2006) 12 *European Journal on Criminal Policy and Research* 189, 199. See Ernesto U. Savona, 'Initial Methodology for the Crime Proofing of New or Amended Legislation at the EU Level' (2006) 12 *European Journal on Criminal Policy and Research* 221; cf Ernesto U. Savona and others (n 162); Nicholas Dorn and Michael Levi, 'From Delphi to Brussels, the Policy Context: Crime Prophecy, Proofing, Assessment' (2006) 12 *European Journal on Criminal Policy and Research* 213.

¹⁶⁵ This method is referred to as legislation crime proofing. Developed under the auspices of the European Commission (EC) and further used by the EC, '[c]rime proofing of legislation is a particular form of crime risk assessment and management that measures existing (crime proofing ex post) or future (crime proofing ex ante) opportunities for crime due to legislation'. Ernesto U. Savona, *The Crime Risk Assessment Mechanism (CRAM) for Proofing EU and National Legislation against Crime: Final Report of Project MARC – Developing Mechanisms for Assessing the Risk of Crime due to Legislation and Products in order to Proof them against Crime at an EU Level* (Università Cattolica del Sacro Cuore and Transcrime, Milan 2006) <<http://transcrime.cs.unitn.it/tc/852.php>> accessed 9 December 2010, 2.

¹⁶⁶ Federica Curtol and others, 'Testing the Mechanism on EU Public Procurement Legislation' (2006) 12 *European Journal on Criminal Policy and Research* 337; Nicholas Dorn, Michael Levi and Simone White, 'Do European Procurement Rules Generate or Prevent Crime?' (2008) 15(3) *Journal of Financial Crime* 243.

¹⁶⁷ cf Tom Vander Beken and Annalise Balcaen (n 7) 307.

linkage 'between the involvement of crime in the waste disposal sector and the regulation of this market sector' but also because it pinpoints existent problems related to complexity, clarity and implementation of the legislation regulating the waste management sector in Italy.¹⁶⁸ It remains to be clarified that crime risk assessment is not designed to monitor primary data, such as judicial or police materials, but exclusively legislation contents. Despite the value of such studies, the methodological framework adopted presents some limits. Yet, scholars have not further considered that crime opportunities created by legislative shortcomings could be identified only after they have been exploited by criminals. As indicated by the same researchers employing crime proofing, it would be 'vital for effective crime risk assessment to understand how new legislation translates into real life, that is, the impact of the regulations at the level of those regulated'.¹⁶⁹

Vulnerability studies have been endeavoured to explore economic sectors and their weak points (the so called vulnerabilities). The developed research strategy focuses on the vulnerability potential of economic sectors to organized crime infiltration in the legitimate economy.¹⁷⁰ The term vulnerabilities refers to crime opportunities provided by the legal environment. The focus is not only on vulnerabilities within the legal framework but bridges sector, market and product vulnerabilities. These are 'surrounding factors, both legal (regulations and enforcement) and economic (sector and market characteristics)' that expose firms to organized crime infiltration.¹⁷¹ Although specifically designed to explore organized crime's infiltration in the legitimate economy, the significance of this approach is that it focuses on single economic activities, thus revealing important caveats and drawbacks of specific business sectors. The research standpoint is not the

¹⁶⁸ cf Tom Vander Beken and Annalise Balcaen (n 7).

¹⁶⁹ cf Russell Morgan and Ronald V. Clarke (n 164) 200.

¹⁷⁰ The approach attributes indicators of vulnerability, according to a scan method called MAVUS, which looks at the macro-, meso-, and micro- levels of an economic-industrial activity. The acronym MAVUS stands for 'Method for and Assessment of Vulnerability of Sectors'. It firstly examines the broader economic sector. Second, it investigates 'the regulatory context, enforcement measures in place, the financial, legal and social environments of the business, and criminals around and within the industry'. Third, it focuses on the 'business structure and processes' of the specific sector under scrutiny. cf Stijn Van Daele, Tom Vander Beken and Nicholas Dorn (n 32). See Tom Vander Beken (ed), *Organised Crime and Vulnerability of Economic Sectors: The European Transport and Music Sector* (Maklu, Antwerp 2005).

¹⁷¹ Tom Vander Beken and Stijn Van Daele (n 7) 743.

crime but the economic sector or industry.¹⁷² For example, vulnerabilities of the goods transport sector have been explored by field scholars, who found that opportunities for crime stem from both sector vulnerabilities and weak controls.¹⁷³ The value of vulnerability studies is to have recognised that legal loopholes, inherent complexities of the law and, additionally, 'interpretation difficulties' can encourage criminal deviance also in the waste sector.¹⁷⁴ For example, Dorn and others found that crime opportunities in the waste disposal industry were associated with vulnerabilities of the legislation governing waste brokerage.¹⁷⁵

The waste management industry and its vulnerabilities have been further investigated by Vander Beken.¹⁷⁶ Following a methodology that goes from a macro to a micro level of analysis, the study identifies potential sector vulnerabilities from a broader perspective. This is done first by exploring and describing sector, market, and business process. The phase that follows is a stage endeavoured to isolate risk indicators and assign them a vulnerability score. Together with the product and market, attention is given to the institutional framework under which there are legislation and law enforcement. The legislation is analysed for the reason that it is considered an important opportunity factor that increases the likelihood of its exploitation by organized crime. As underlined by the author, '[o]nly effective regulation (one which is not too extensive or defective) [...] can be efficient as a barrier against criminal activity'.¹⁷⁷ Legislation is examined on the basis of its 'quality' and 'quantity'.¹⁷⁸ A high quality and sufficient quantity of laws corresponds to low vulnerability, which ultimately lowers the risk of organized crime infiltration in the economic sector. The law ought to be scrutinized in conjunction with law enforcement (ie administrative and penal

¹⁷² Noël Klima, 'Vulnerability to Crime of the Hotel and Catering Industry in Belgium' in Marc Cools and Others (eds) *EU Criminal Justice, Financial and Economic Crime: New Perspectives* (Maklu, Antwerpen 2011), 131.

¹⁷³ Noël Klima, 'The Goods Transport Network's Vulnerability to Crime: Opportunities and Control Weaknesses' (2011) 17(3) *European Journal on Criminal Policy and Research* 203.

¹⁷⁴ cf Nicholas Dorn, Stijn Van Daele and Tom Vander Beken (n 32) 34; cf Tom Vander Beken and Annalise Balcaen (n 7) 307.

¹⁷⁵ cf Nicholas Dorn, Stijn Van Daele and Tom Vander Beken (n 32).

¹⁷⁶ cf Tom Vander Beken (n 7).

¹⁷⁷ cf Tom Vander Beken (n 7) 172.

¹⁷⁸ The quality of the legislation is determined on the basis of its vagueness and the lack of precise definitions. The quantity of the legislation is determined on the basis of the fact that there are sufficient legal provisions dealing with 'all aspects of the sector. The quality of law enforcement is determined on the basis of the 'actual practice of controls'. The quantity of law enforcement, instead, is determined on the basis of the quantity of controls (ie their regularity), which are carried out. cf Tom Vander Beken (n 7) 173.

controls) because the latter ‘means the practical application of the law’ and ‘has an important impact on the legal framework’.¹⁷⁹ Vander Beken argues that a sufficient quantity of law enforcement and a high quality of it are likely to diminish the vulnerability of the sector.

The research by Vander Beken on the European waste industry and crime vulnerabilities is important because it shows that criminal opportunities in the waste sector not only are ‘inherent to the business and related to the nature of the...product’¹⁸⁰, but also are caused by gaps in the legislation, which ‘companies try to explore and exploit’ for illegal ‘creative entrepreneurship’.¹⁸¹ Besides, raising the important issue that the law governing the waste management sector could facilitate or encourage waste crime, the study underlines that the business process needs to be examined in order to identify crime vulnerabilities. Yet, the study has some limitations that future research should address. First, because of data constraints, vulnerability studies on the waste sectors have only accounted for a part of the problem. The reason is because the information gained is derived from secondary data. Second, the study does not consider that, under the heading of controls, there are administrative controls and penal controls (ie controls performed by police forces), which should not be grouped together because of the differences in purpose and functioning among them.

Despite these limitations, Vander Beken’s study provides a strong rationale for further scrutiny of the waste sector and shortcomings provided by the legal environment. In respect to crime proofing of the legislation, the added value of vulnerability studies is to have focused not on ‘all elements of a legislative crime proofing exercise’ but only on ‘vulnerabilities of the existing environment (and thus the legislation in force)’.¹⁸² Moreover, as observed by Vander Beken, the fact that vulnerability studies could exclusively focus on ex post proofing ‘does not mean that vulnerability studies are not relevant for crime proofing of legislative proposals (ex ante proofing). Ex ante crime proofing needs vulnerability studies to assess the existing situation as a necessary

¹⁷⁹ cf Tom Vander Beken (n 7) 104.

¹⁸⁰ cf Tom Vander Beken (n 7) 13.

¹⁸¹ cf Tom Vander Beken (n 7) 82, 93.

¹⁸² cf Tom Vander Beken (n 7) 163.

condition to evaluate the impact of future legislation'.¹⁸³ Taking this as a point of departure, it is argued that a closer study of the specific characteristics of waste crime and its crime commission process, with a view of pinpointing potential low quality or inadequate quantity of legislation (ie legislative shortcomings), can be an invaluable guide to learn more about the legislation in practice, prevent or predict criminal acts and potentially assess any prospective and forthcoming legislation.

2.2.2 LAW AND ENVIRONMENTAL CRIME. NOT THE REMEDY BUT THE CAUSE?

Notwithstanding that vulnerability and crime assessment studies have received support by field research, it is important to speculate on the limitations of their theoretical assumptions. The aim is to show the potential utility of a study focusing on the legislation and its inherent limits. A central assumption of these and the present study is that the propensity to commit a crime exists prior to the creation of law. In particular, what is important to clarify here is that law emerges to address this propensity and, therefore, cannot be considered as the cause of crime. Rather, what law does in this case is simply to labels a behaviour as criminal, re-evaluating behaviours that were previously acceptable. In the early 1930s, Jerome Michael and Mortimer Adler wrote a report criticizing the state of the first twentieth century criminology and its empirical and theoretical caveats.¹⁸⁴ While discussing the meaning of the word crime, Michael and Adler have addressed the issue of the law, as a possible cause of crime, as follows:

If crime is merely an instance of conduct which is proscribed by the criminal code it follows that the criminal law is the formal cause of crime. That does not mean that the law produces the behavior which it prohibits, although, as we shall see, the enforcement or administration of the criminal law may be one of the factors which influence human behavior; it means only that the criminal law gives behavior its quality of criminality.¹⁸⁵

¹⁸³ cf Tom Vander Beken (n 7) 163.

¹⁸⁴ Jerome Michael and Mortimer J. Adler, *Crime, Law and Social Science* (Publication No. 118 Patterson Smith Reprint Series in Criminology, Law Enforcement, and Social Problems, Patterson Smith, Montclair 1971).

¹⁸⁵ cf Jerome Michael and Mortimer J. Adler (n 184) 5.

In their thought-provoking analysis, Michael and Adler buttressed that 'since a crime is merely an instance of behavior which is prohibited by the criminal law, all of the problems of crime, practical and theoretical, have their roots in the criminal code'.¹⁸⁶ This rather convoluted and provoking statement is an essential point of departure for a discussion about the role of the law. In particular, this raises the question of whether it is possible to claim that the law itself can act as an incentive for criminal behaviours.

In their report, Michael and Adler referred to the role of substantive criminal law, explaining that a new law prohibits behaviours that were previously considered legitimate. Without discussing here whether crime is a product of society, it is worth noting, at this juncture, that neither criminal nor administrative nor civil law can be identified as the cause of crime. Consider, for example, the problem of illegal shipment of waste to developing states.¹⁸⁷ Scholars across the disciplines have claimed that the pressure of new environmental laws has fuelled the illegal market of hazardous waste to less industrialized countries. In simple terms, more stringent environmental standards and lax regulations in developing states have been identified as the cause of environmental crimes.¹⁸⁸ As clarified by Compté, if this argument is followed, in the same way 'we

¹⁸⁶ cf Jerome Michael and Mortimer J. Adler (n 184) 20.

¹⁸⁷ In last decade, the waste management industry has changed substantially as a result of increasing regulatory effort in industrialized countries, together with the advent of globalization and market internationalization. Stringent regulations on hazardous waste management in industrialized countries have increased the costs of waste management. Hence, waste has begun to be exported to developing countries, instead of being disposed of at the point of origin. As a consequence, this phenomenon has sharply increased the transboundary, illegal trafficking of waste. Eg Lara Ognibene, 'Dumping of Toxic Waste in Côte d'Ivoire. The International Framework' (2007) 37(1) *Environmental Policy and Law* 31; Zada Lipmann, 'A Dirty Dilemma. The Hazardous Waste Trade' (2002) 23(4) *Harvard International Review* 67.

¹⁸⁸ Exploring the problem of illegal transboundary movement of waste, van Erp and Huisman have pinpointed that illicit opportunities are created by the law, more specifically, by regulatory asymmetries among developed and less developed countries (cf Judith van Erp and Wim Huisman (n 125)). Investigating the issue of corporate crime from a transnational perspective, Michalowski and Kramer have argued that relocation of corporate activities in developing states have been determined by differences in environmental standards (Raymond J Michalowski and Ronald C.Kramer, 'The Space Between Laws: The Problem of Corporate Crime in a Transnational Context' (1987) *Social Problems* 34, 37). In this regard, the authors have explained that corporations 'have sought to avoid the costs of mandated controls on hazardous waste storage in their home nation by transporting wastes to countries which have few or no legal controls on hazardous waste disposal'. Notwithstanding the crucial importance of these studies for enhancing environmental protection worldwide, the present research does not take into account the problem of crime opportunities created by legislative asymmetries among countries. In this regard, it is maintained that, before looking at the crime problem from a global perspective, it is necessary to look at waste crime from a national standpoint. The rationale behind such choice has been already widely discussed. Still, it is important to note here two additional points. First, legislative hurdles at the national level may undermine the effectiveness of the law as much as transnational asymmetries may do and ultimately create opportunities to transboundary illegal movement of waste.

[must] support the idea that the creation of competition law has in fact encouraged cartels'.¹⁸⁹ But this is not the case..What should be made clear is that '[n]ew laws – of themselves – do not “cause” crime'.¹⁹⁰ New laws, instead, increase the costs of waste treatment and disposal, thus making black-market activities all the more lucrative.¹⁹¹

Notwithstanding that the propensity for polluting exists before environmental law is created, what should be stressed here is that the law, as a human artifice, is not always perfect. This is what the present study is concerned with. As a blunt policy instrument, law may be inherently vague, complex and ultimately inefficient. This concept is not new. As discussed previously, the literature is rife with examples of studies claiming the inadequacy of legal provisions. Scholars suggest that also environmental law, whatever it is a command and control regulation, a self-policy regulation, or a mixed system using market incentives, certificates, and sanctions, is often intricate and unclear. Research has shown that law is often intricate because of complex overlapping regulatory requirements. And it is unclear because it leaves to corporations the challenge of reconciling regulatory differences and, to law enforcement officials, the task of interpreting regulatory provisions and parameters.¹⁹² In a paradigmatic comment, Carter effectively illustrates the issue of regulatory overlaps, imprecision, and complexity as follows:

It can be argued that no law can be comprehensive enough to cover all possible contingences. Some might also add that environmental laws are intended to lend guidance to industry actors, the majority of whom are responsible and legitimate. Unnecessary proliferation of environmental law leading to incomprehensibility might hinder industrial activity that is vital to society [...] Too little emphasis has been placed on scholarly research into the inadequacies of existing environmental law. This situation must be corrected.¹⁹³

Second, it should not be overlooked that long before waste can travel across boundaries and be disposed of in the most remote parts of the globe, legitimate economic operators, eager to externalize environmental management costs, make use of crime opportunities in order to bypass national laws and dump waste illegally in nearby areas. For this reason, it is deemed necessary to first investigate the crime problem under scrutiny within a domestic legislation.

¹⁸⁹ cf François Comte (n 10) 192.

¹⁹⁰ cf François Comte (n 10) 192.

¹⁹¹ cf Theodore M. Hammett and Joel Epstein (n 159).

¹⁹² cf Henk van de Bunt and Cathelijne van der Schoot (n 9) 30.

¹⁹³ cf Timothy S. Carter (n 56) 41.

What does this comment suggest is that complex, and incoherent laws which regulate, through an intricate set of rules and permits, a specific sector, as for instance is the case of waste management, may ultimately be more harmful than beneficial to the environment and may ultimately facilitate or encourage noncompliance.¹⁹⁴ Still, scholars have generally eschewed a closer scrutiny of environmental law and its potential limits, thus overlooking its causal connection with criminal conducts.

¹⁹⁴ cf Tom Vander Beken and Annalise Balcaen (n 7) 309.

CHAPTER THREE: LEGISLATIVE BACKGROUND

Waste management encompasses a wide range of environmental, technical and, mostly, legal considerations. Regardless of the type of waste and waste treatment employed, waste management follows a common stepwise process, which is regulated by substantive administrative law. These steps start with waste generation and then move through waste collection and transportation to the final stage of disposition (ie recovery, transboundary delivery, or disposal), thus involving different market players and activities. Non compliance with administrative law requirements, including unlawfully performance of activities without or in breach with the required permits or registrations, will attract administrative or criminal sanctions. These sanctions are intended to punish waste law infringements and prevent or minimize pollution by acting as a disincentive to potential offenders.

The purpose of the present chapter is to give a background on the legislation that governs waste management in Italy. In order to achieve this objective, a review of the Italian legislation, the most important case-law¹⁹⁵ (drawn from the Supreme Criminal Court) and an analysis of the Italian legal literature on the issue have been conducted.¹⁹⁶ The strategy used to present the review is to introduce the reader to the field while showing the issues of major concern in waste law. The final aim is to highlight areas of concern, which have been the focus of legal debate in the country and provide a framework of reference for the research design and further analysis of the data collected.

To provide some historical context, the section begins by presenting an overview of national environmental and waste law past developments. Secondly, an illustration of the waste management process is provided. The objective is to gain an understanding of the whole

¹⁹⁵ The analysis of cases brought before the Supreme Court allowed indentifying major legal issues and providing a first understanding of the critical legal issues in the field.

¹⁹⁶ It should be underlined that, in addition to the Italian legal literature, legal research (from foreign scholars) dealing with or related to the Italian sector legislation has also been analysed.

mechanism that lies behind waste management in Italy from a legal viewpoint. In particular, the intent is to provide an overview of the regime governing special waste management while defining the meaning of terms used, which are very specific to the field of environmental law. Attention is subsequently given to administrative and criminal sanctions in waste law.

Finally, the focus is on the criminal sanction imposed against illegal traffic of waste, which at the moment could be considered the most severe penalty enforced against natural persons who have managed waste illegally. The reason for a specific scrutiny of this offence and a detailed analysis of its constituting elements is that criminal cases prosecuted under article 260 of the Italian Environmental Code¹⁹⁷ have the merit of bringing out clearly general structure, scope and organization of unlawful waste management activities. In particular, an analysis of such criminal cases could facilitate a better understanding of business structure and methods used for the perpetration of the crime of illegal traffic of waste, including roles and responsibilities of market players.

3.1 OVERVIEW OF ENVIRONMENTAL LAW

From the 1970s, the environment has increasingly been viewed worldwide as a resource to be preserved and not damaged or exploited. Over time, it came to be understood that water, air and oceans, although '*res communes omnium*', could not be used indefinitely since they began to be scarce, thus increasing in value.¹⁹⁸ The wave of heightened environmental awareness led to the enactment of the first international and European legal instruments to control pollution and environmental degradation resulting from economic activities.¹⁹⁹

¹⁹⁷ cf Italian Environmental code (n 8).

¹⁹⁸ Amedeo Postiglione, *Manuale dell'Ambiente: Guida alla Legislazione Ambientale* (Nuova Italia Scientifica, Roma 1984), 25.

¹⁹⁹ Philippe Vladimir Boss. *Le Droit Penal à l'Aide de l'Efficacité du Droit Européen – l'Exemple du Droit Pénal Européen de l'Environnement* (Schulthess Médias Juridiques SA, Genève 2008), 62.

In Italy, the long journey towards environmental protection policy began in the early 1900s, when it was enacted the first legislation on the protection of natural beauties.²⁰⁰ Despite these early developments, environmental protection has undergone a long and slow process under Italian legislation. The first period of environmental lawmaking was hindered by the lack of environmental awareness, which in part mirrored the scarce legal debate and intellectual and political constraints on the issue.²⁰¹ Additionally, the environment was erroneously identified as an aggregation of separate assets (ie landscape protection, environmental protection for human and ecological welfare).²⁰² The result was undirected, piecemeal legislation incapable of regulating and managing the sector properly.

Despite the impact the post-war industrialization was having on the natural environment, there was a delay until the 1970s before law on environmental protection was adopted in Italy. In 1966, it was promulgated law no. 615/1966 on provisions against atmospheric pollution.²⁰³ In 1974, it was enacted Decree-Law no. 657/1974, establishing the Ministry of Cultural Heritage and the Environment and, in 1976, entered into force Legislation no. 319/1976 on water pollution.²⁰⁴ Yet, the legislation on environmental protection was scattered in several statutes of which each was dedicated to different environmental objectives and interests.

²⁰⁰ Legge 20 giugno 1909 n. 364 'Che Stabilisce e Fissa Norme per l'Inalienabilità delle Antichità e delle Belle Arti' GU n. 150 del 28.06.1909; Legge del 29 giugno 1939 n.1497 'Protezione delle Bellezze Naturali' GU n. 241 del 14-10-39. Legislation 1497/1939 was the first organic law on landscape beauties that expanded the concept of protectable assets. On the basis of aesthetic criteria, it qualified villas, gardens and parks of historic and artistic interests (which were considered unique because of their distinctive beauty), other buildings with traditional and aesthetic value, and landscape beauties (which were considered as natural pictures) as natural beauties to be protected because of their public interest. Gianluigi Ceruti, 'From the Protection of Landscape and "Natural Beauties" to the Defence of Ecosystems in Italy' in Dan Gafta and John Akeroyd (eds) *Nature Conservation: Concepts and Practice* (Springer, Berlin 2006).

²⁰¹ cf Francesco Foderico (n 28).

²⁰² Massimo Severo Giannini, 'Ambiente: Saggio sui Diversi suoi Aspetti Giuridici' (1973) 1 *Riv. trim. dir. Pubbl.* 15.

²⁰³ Legge 13 luglio 1966 n. 615 'Provvedimenti contro l'Inquinamento Atmosferico' GU n. 201 del 13-8-1966.

²⁰⁴ Decreto-legge 14 dicembre 1974 n. 657 'Istituzione del Ministero per i Beni Culturali e per l'Ambiente' (Decree-Law no. 657/1974) GU n. 332 del 19.12.1974; Legge 29 gennaio 1975 n. 5 'Conversione in Legge, con Modificazioni, del Decreto-Legge 14 dicembre 1974, n. 657, Concernente la Istituzione del Ministero per i Beni culturali e Ambientali' GU n. 43 del 14.02.1975; Legge 10 maggio 1976 n. 319, 'Norme per la Tutela delle Acque dall'Inquinamento' GU n. 141 del 29.05.1976; Legge 8 luglio 1986 n. 349 'Istituzione del Ministero dell'Ambiente e Norme in Materia di Danno Ambientale' GU n. 162 del 15.07.1986, Suppl. Ord. n. 59. The Ministry of Environment was established in 1986 with Law no. 349/1986. See cf Amedeo Postiglione (n 198) 28.

Over the ensuing decade, the situation changed. Shortly after the Chernobyl accident, in 1986 the Parliament adopted Legislation no. 349 on environmental protection (hereinafter referred to as 'Legislation 349/1986'), being required to reorganize the sector and, specifically, introduce a modern environmental law.²⁰⁵ Legislation 349/1986, which created the Ministry of Environment, had the merit of having placed Italy in a more advanced position than that of other European countries which, at that time, had no legislation on environmental damage. Indeed, Legislation 349/1986 expanded the scope of environmental protection - with reference to the provisions on environmental damage - by qualifying as damage any alteration of the environment and imposing punitive damages rather than simple compensation. Despite its undeniable qualities, Legislation 349/1986 was substantially repealed by the Italian Environmental Code.²⁰⁶ The Italian Environmental Code, which amended legislation on emissions, waste, environmental impact assessment and strategic impact assessment, was adopted with the primary aim of re-organizing national environmental legislation and of transposing rules and principles provided for by the European Union.²⁰⁷

Despite substantial progress in environmental protection, the term environment has never been defined in the Italian Constitution. It was with the rulings of the Constitutional Court that the notion made its first appearance and was subsequently, acknowledged as a constitutional value.²⁰⁸ It was only after that time that scholars generally accepted that the concept environment comprises all natural and cultural resources.²⁰⁹ The judiciary was the first to recognize that the environment had to be regarded as a public asset to be protected, and to shape environmental law principles.²¹⁰ In sum, the role of the judiciary has been essential in interpreting and defining the

²⁰⁵ Legge 8 luglio 1986 n. 349 'Istituzione del Ministero dell'Ambiente e Norme in Materia di Danno Ambientale' GU n. 162 del 15.07.1986, Suppl. Ord. n. 59.

²⁰⁶ cf Italian Environmental Code (n 8).

²⁰⁷ Alberto Majocchi, 'New environmental Policy Instruments in Italy' in Jonathan Golub (ed), *New Instruments for Environmental Policy in the EU* (Routledge London & New York, London 1998) 147.

²⁰⁸ Corte Cost. 22.05.1987 n. 210, para. 4.2; Corte Cost. 17.12.1987 n. 641, para. 2.2; Corte Cost. 05.02.1992 n. 67, para. 2; Corte Cost. n. 356/1994, para. 3; Francesco Fonderico, 'La Corte Costituzionale e il Codice dell'Ambiente' [2010] 4 *Giornale Dir. Amm.* 368.

²⁰⁹ Amedeo Postiglione, 'Ambiente: Suo Significato Giuridico Unitario' [1985] 1 *Riv. trim. dir. pubbl.* 32, 49.

²¹⁰ See C. Ct. n. 86/1980; C. Ct. n. 61/1979 on Carlino's red sludge from bauxite and aluminium production, C. Ct. n. 39/1973 on the recognition of the legal value of the environment and Cass. Civ., Sez. U., 6.10.1979, n. 5172 on environmental health.

principles, which lie at the basis of constitutional protection of the environment, hence filling the gap left by the legislator.²¹¹

3.2 CONCEPTS AND POLICIES IN WASTE LAW

Having examined the historical developments of environmental law in Italy, the present chapter provides an overview on the issues central to waste management. It proceeds as follows. The chapter begins with a brief review of the evolution of waste law in Italy. Secondly, it analyses the institutional and legal framework that governs the waste sector. Thirdly, a review of the key terms used in waste law is provided. The fourth part gives attention to each of the phases that compose the waste management sector, from generation to final recovery or waste disposal. The aim is to clarify the mechanisms under which illegal waste diversion activities may take place during each of the identified phases.²¹² Specifically, attention is paid to the analysis of special waste management regime by providing a brief critical perspective on the legislation in force. This introduction will provide the basis for examining administrative and criminal penalties given that the identification of administrative law requirements is essential for identifying the related sanction regime. Indeed, as it will be seen from below, the scope of sanctions in waste law depends mainly on administrative law, the breach of which gives rise to criminal or administrative accountability.²¹³

²¹¹ The Italian Constitution does not explicitly recognize environmental protection. The concept of environmental protection has been developed by the Constitutional Court on the basis of the constitutional principles of health protection (art. 32 of the Constitution) and landscape protection (art. 9 of the Constitution). See, on judicial review on environmental and health protection and interpretation of art. 9 and 32 of the Italian Constitution: Corte Cost. 22.05.1987 n. 210, Corte Cost. 17.12.1987 n. 641, Corte Cost. 05.02.1992 n. 67, and Corte Cost. n. 356/1994.

²¹² The waste sector comprises the following phases: production, analysis, collection, transport, storage and recovery or disposal of waste.

²¹³ Luca Pietrini, 'L'Ambito di Applicazione della Disciplina sui Rifiuti' (2010) 9 *Diritto Penale e Processo* 29.

3.2.1 THE EVOLUTION OF WASTE LAW

Waste management has long been recognised as one of the most pressing problems of contemporary industrial society. Although waste is a major supply of secondary raw materials, it also represents a potential source of environmental pollution.²¹⁴ In the last three decades, waste management has evolved into a vastly complex system of activities, involving different industrial sectors, waste types and economic actors. In the past, contrarily, scant attention was paid to waste-related activities and waste pollution problems. Waste was not recycled or recovered but simply removed from sight and placed in landfills.

The history of waste management in Italy reveals that the development of Italian waste law mirrors the evolution of the European Community legislation.²¹⁵ Since the 1970s, it has become increasingly clear that waste management could not take place in absence of an integrated European and national legislation as waste was not only a primary cause of environmental degradation but also a potential source of fuels and secondary materials.²¹⁶ At the European Communities level, it was recognized that the interdependence between waste management and industrial and commercial activities required a supranational strategy able also to meet the needs of the internal market and, in the meantime, to regulate waste shipment across the EU's internal and external borders.²¹⁷ For this reason establishing a comprehensive EC legislation would have

²¹⁴ According to article 1.9 of Directive (EC) 98/2008 waste management means: 'collection, transport, recovery and disposal of waste, including the supervision of such operations and the after-care of disposal sites, and including actions taken as a dealer or broker'. European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3.

²¹⁵ EC environmental and waste management law has been crucial in the European Union because it influenced direction and shape of environmental policy and legislation of Member States. The European Union established common rules for treatment, movement and disposal, ie management, of waste, which were compulsorily implemented at national level.

²¹⁶ European Commission, Declaration of the Council of the European Communities and of the Representatives of the Governments of the Member States meeting in the Council of 22 November 1973 on the programme of action of the European Communities on the environment [1973] OJ C 112/1. As shown by Schmidt, '[t]he 1977 2nd and 1983 3rd set up considerably more precise and ambitious objectives [including] prevention, reuse and recycling and safe disposal of non-recoverable residues'. See further Alke Schmidt, 'Transboundary Movement of Waste under EC Law: The Emerging Regulatory Framework' (1992) 4 JEL 57, 60.

²¹⁷ Commission (EEC), 'A Community Strategy for Waste Management' (Communication) SEC (89) 934 Final, 18 September 1989, 2.

been essential to govern waste movement, prevent obstacles to free trade and distortion of competition, with the overall aim of preventing pollution and protecting the environment.²¹⁸

Before EEC (European Communities) environmental law entered into force, concern for environmental issues related to waste management was not a focus of attention in Italy. Until the eighties, indeed, waste management was governed by Law 366/1941 on collection, transport and disposal of solid municipal waste. Law 366/1941 was too obsolete to meet the needs and environmental problems of a newly industrialising country, which had a population increasing at unprecedented high rates and an equivalent increase in production and disposal of waste.²¹⁹ EEC legislation was the impulse behind the first comprehensive Italian legislation on waste management: the Decree of the President of the Italian Republic (hereinafter referred to as 'DPR') 915/1982, which was adopted to implement Directive (EEC) 75/442 on waste, Directive (EEC) 76/403 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls and Directive (EEC) 78/319 on toxic and dangerous waste.²²⁰ DPR 915/1982 introduced legal provisions for the protection of air, water, soil and subsoil, thus providing the first comprehensive body of law on waste management in the country.²²¹ DPR 915/1982 classified waste in urban, special and toxic and dangerous waste²²², being subject to different administrative procedure and sanctions.²²³ In particular, DPR 915/1982 specified that urban waste had to be managed by

²¹⁸ Alke Schmidt, 'Transboundary Movement of Waste under EC Law: The Emerging Regulatory Framework' (1992) 4 *JEL* 57, 59; Claudia Benedetti, *Il Sistema dello Smaltimento dei Rifiuti Solidi Urbani, Industriali, Speciali Tossici e Nocivi* (Maggioli Editore, Rimini 1994) 43.

²¹⁹ Legge 20 marzo 1941 n. 366 'Raccolta, trasporto e Smaltimento dei Rifiuti Solidi Urbani' GU n. 120 del 23.05.1941. See Ettore Paolo Di Zio, 'I confini del Servizio Pubblico di Gestione Integrata dei Rifiuti Solidi Urbani: Parte Prima' [2010] 7 *Ambiente e sviluppo* 621.

²²⁰ Council Directive (EEC) 75/442 on waste [1975] OJ L 194/39; Council Directive (EEC) 76/403 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls [1976] OJ L 108/41; Council Directive (EEC) 78/319 on toxic and dangerous waste [1978] OJ L 84/43; Decreto del Presidente della Repubblica 10 settembre 1982 n. 915 'Attuazione delle Direttive CEE n. 75/442 Relativa ai Rifiuti, n. 76/403 Relativa allo Smaltimento dei Policlorodifenili e dei Policlorotrifenili e n. 78/319 Relativa ai Rifiuti Tossici e Nocivi' (DPR 915/1982) GU n. 343 del 15.12.1982.

²²¹ Gunter Heine (ed) *Umweltstrafrecht in Mittel-und Südeuropäischen Ländern* (Iuscrim Edition, Freiburg im Breisgau 1997), 309.

²²² Pursuant to article 1(b) Council Directive (EEC) 78/319 on toxic and dangerous waste [1978] OJ L 84/43, "toxic and dangerous waste" means any waste containing or contaminated by the substances or materials listed in the Annex to this Directive of such a nature, in such quantities or in such concentrations as to constitute a risk to health or the environment'. The term toxic and dangerous waste was subsequently substituted by the term hazardous waste.

²²³ Decreto del Presidente della Repubblica 10 settembre 1982 n. 915 'Attuazione delle Direttive CEE n. 75/442 Relativa ai Rifiuti, n. 76/403 Relativa allo Smaltimento dei Policlorodifenili e dei Policlorotrifenili e n. 78/319 Relativa ai Rifiuti

municipalities (having the so called exclusive right) while special waste producers (ie industrial waste generators) of toxic, dangerous waste or non-dangerous waste had to manage waste at their expenses, directly or indirectly upon other private undertakings holding a regional authorization or utilities performing public cleansing upon agreement with municipalities.²²⁴

In 1997, it was adopted Legislative Decree 22/1997 to implement Directive (EEC) 91/156 on waste, Directive (EEC) 91/689 on hazardous waste and Directive (EEC) 94/62 on packaging and packaging of waste.²²⁵ Legislative Decree 22/1997 repealed all previous laws on waste management though it required additional integration as it referred to Ministerial Decrees to be adopted by ministries, regions, provinces and municipalities.²²⁶ The implementation of Legislative Decree 22/1997 was not without difficulties. First, Legislative Decree 22/1997 was enacted after a significant delay.²²⁷ For this reason, the European Commission initiated an infringement procedure against Italy in February 1996.²²⁸ Second, Legislative Decree 22/1997 presented several interpretative once enacted problems because it was not entirely consistent with the required environmental standards as it failed to implement the basic principles of European Community law.

After several amendments²²⁹, Legislative Decree 22/1997 was finally repealed in 2006 by the Italian Environmental Code.²³⁰ The Italian Environmental Code has pulled together in a single

Tossici e Nocivi' (DPR 915/1982) GU n. 343 del 15.12.1982. Toxic and dangerous waste was listed in an Annex to (DPR 915/1982 on the basis of the quantities, concentration and characteristic of substances in the waste.

²²⁴ DPR 915/1982, art. 3.

²²⁵ Council Directive (EEC) 91/156 amending Directive 75/442/EEC on waste [1991] OJ L 78/32; Council Directive 91/689 on hazardous waste [1991] OJ L 377/20; European Parliament and Council Directive (EC) 94/62 on packaging and packaging of waste [1994] OJ L 365/10.

²²⁶ Decreto Legislativo 5 febbraio 1997 n. 22 'Attuazione delle Direttive 91/156/CEE sui Rifiuti, 91/689/CEE sui Rifiuti Pericolosi e 94/62/CE sugli Imballaggi e sui Rifiuti di Imballaggio' (Legislative Decree 22/1997) GU n. 38 del 15.02.1997, Suppl. Ord. n. 33.

²²⁷ Indeed, Legislative Decree 22/1997 implementing Directive (EEC) 91/156 (to comply by 1.04.1993), Directive (EEC) 91/689 (to comply by 12.12.1993) and (EC) Directive 94/62 (to comply by 30.06.1996) was promulgated in 1997 after years of delay. Rosalba Martino, *Compendio Normativo per La Gestione dei Rifiuti e la Bonifica dei Siti Inquinati: Commento Organico della Parte IV, coordinata con la Parte I, del Codice dell'Ambiente* (Maggioli Editore, Santarcangelo di Romagna 2010) 15.

²²⁸ The procedure provided by article 226 of the European Community Treaty.

²²⁹ Decreto Legislativo n. 389 del 8 novembre 1997 'Modifiche ed Integrazioni al Decreto Legislativo 5 Febbraio 1997, n. 22, in Materia di Rifiuti, di Rifiuti Pericolosi, di Imballaggi e di Rifiuti di Imballaggio' (Legislative Decree 389/1997) GU

volume the Italian legislation on environmental protection, thus regulating waste management, cleanup of contaminated sites, water protection and management of water resources, soil protection, protected areas, civil liability and compensation for environmental damage, authorization procedures with respect to the location of industrial activities, protection against air pollution and emissions.²³¹ Yet, some sectors are not disciplined in the Decree which, it is possible to say, does not codify environmental law under a single act.²³²

The legal provisions on waste management are in part IV (art. 177- 266) of the Italian Environmental Code.²³³ Also the Italian Environmental Code has been subject to several amendments. In particular, it was amended by Legislative Decree 4/2008,²³⁴ which was promulgated in order to supplement legislation according to European Community law and to avoid infraction procedures.²³⁵ More recently, it was modified by Legislative Decree 205/2010, which has implemented the provisions of Directive (EC) 2008/98 and has modified the regime for waste transportation and movement introducing a system for the monitoring and traceability of special waste, known as SISTRI.²³⁶ . SISTRI, which is not fully in force yet because of several

n. 261 del 8.11.1997; Legge 9 dicembre 1998, n. 426 'Nuovi interventi in campo ambientale' GU n. 291 del 14.12.1998; Legge 23 marzo 2001 n. 93 'Disposizioni in Campo Ambientale' GU n. 79 del 4.04.2001.

²³⁰ cf Italian Environmental Code (n 8).

²³¹ Fabrizio Fracchia, "Codification" and the Environment' [2009] 1 *Italian Journal of Public Law* 49.

²³² cf Fabrizio Fracchia (n 231).

²³³ cf Italian Environmental Code (n 8).

²³⁴ Decreto Legislativo 16 gennaio 2008 n. 4 'Ulteriori disposizioni correttive ed integrative del decreto legislativo 3 aprile 2006, n. 152, recante norme in materia ambientale' GU 24 del 29.01.2008, Suppl. Ord. n. 24/L.

²³⁵ It should be noted that the European Commission filed an infraction procedure against Italy (no. 2005/4051) concerning the authentic interpretation of the meaning of waste given by article 14 of Decree-Law no. 138/2002 (implemented by Law no. 178/2002) before the enactment of the Italian Environmental Code because such definition was contrasting with the European Community law. See Case C-457/02 *Criminal Proceedings against Niselli* [2004] ECR I-10853.

²³⁶ Decreto Legislativo 3 dicembre 2010 n.205 'Disposizioni di Attuazione della Direttiva 2008/98/CE del Parlamento Europeo e del Consiglio del 19 novembre 2008 Relativa ai Rifiuti e che Abroga Alcune Direttive' GU n. 288 del 10.12.2010, Suppl. Ord. n. 269; European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3.

implementation problems, has been introduced with the aim to transform the paper-based regime for monitoring waste management with an electronic-based control and surveillance system.²³⁷

In sum, the Italian Environmental Code is the framework legislation that governs the waste management sector as it transposes key concepts derived from EC law, defines the requirements for the management of waste and the permit and authorization requirements for undertakings carrying out waste management operations.²³⁸ It also transposes environmental principles (ie the precautionary, the proximity, self-sufficiency and the polluter pays principles) and endorses the waste hierarchy (ie prevention, preparing for re-use; recycling, other recovery - eg energy recovery -, and disposal) in order to minimize waste generation as required by EC law. Finally, it introduces sanctions (both administrative and criminal) to guarantee compliance and enforcement of waste law.²³⁹

Rules and regulations governing sector issues or procedural requirements, which complement and integrate the provisions enshrined in the Italian Environmental Code, can instead be found in other primary and secondary sources.²⁴⁰ For example, with reference to the governance of

²³⁷ Designed to control waste movement within the national territory, SISTRI adopts an electronic system of monitoring. It requires companies (ie transporters, waste producers, waste treatment plants) to provide data on the waste managed by using a USB device through which data on waste are transmitted (and further gathered by a computerized system) to the environmental police division (known as NOE) of the police force Arma dei Carabinieri, which is a branch of the Italian Army under the Ministry of Defence. In addition to the USB device, transport companies are required to apply a black box on the trucks used for waste transportation. This black box is intended to trace waste movements across the country. Finally, waste disposal plants (ie landfill, and incineration facilities) shall be equipped with CCTV to monitor waste entrance. The monitoring system does not apply to foreign and national companies that transport waste from or to Italy across borders. SISTRI has suffered several delays and is partially in force since October 2013. The deadline for the implementation of SISTRI has been extended to March 2014 for all categories of waste operators required to implement the system. For original waste producers that generate special hazardous waste and have more than ten employees and for entities and companies that manage special hazardous waste as pursuant to articles 3.1 lett. c), d), e), f), g), and h) of Ministerial Decree 52/2011 the deadline for implementation is 1.10.2013. Decreto Ministeriale 18 febbraio 2011 n. 52 'Regolamento Recante Istituzione del Sistema di Controllo della Tracciabilità dei Rifiuti, ai sensi dell'Articolo 189 del Decreto Legislativo 3 aprile 2006, n. 152 e dell'Articolo 14-bis del Decreto-Legge 1° luglio 2009, n. 78, Convertito, con Modificazioni, dalla Legge 3 agosto 2009, n. 102' (Ministerial Decree no. 52/2011) GU n. 95 del 26.04.2011, Suppl. Ord. 107/L; Decreto Ministeriale 20 marzo 2013 n. 96 'Definizione Termini Iniziali di Operatività del Sistema di Controllo della Tracciabilità dei Rifiuti (SISTRI)'; Council of the European Union, *The Italian Waste Traceability control system (SISTRI) and the Regulation on Transboundary Shipments of Waste* (Brussels, 15.12.2010) <http://www.europa-nu.nl/9353000/1/j4nvgs5kjg27kof_j9vvikqpopjt8zm/vila9f10umz1/f=/pdf> accessed 4 April 2012.

²³⁸ cf Italian Environmental Code (n 8).

²³⁹ Geert Van Calster, *Handbook of EU Waste Law* (Richmond Law Tax, Richmond 2006) 44; Ugo Salanitro, 'I Principi Generali nel Codice dell'Ambiente' [2009] 1 *Giornale Dir. Amm.* 103.

²⁴⁰ Table n. 1.

transboundary shipment of waste, the Italian Environmental Code refers to the directly applicable EC provisions enshrined in Regulation (EC) 1013/2006, which regulates transport of waste within and outside EU borders and associated sanctions in case of unlawful shipment of waste.²⁴¹ This plethora of laws, regulations and rules governing waste management, which are subject to constant amendments or repealed, represents a challenge to economic operators and to anyone attempting to become knowledgeable about environmental law. The following table provides a list of the main legislative provisions in force and related field of application.²⁴²

LEGAL PROVISIONS AND RULES OUTSIDE THE ITALIAN ENVIRONMENTAL CODE	FIELD
MINISTERIAL DECREES 5.02.1998 AND NO.186/2006	RECOVERY OF NON-HAZARDOUS WASTE
MINISTERIAL DECREES NO. 161/2002 AND 269/2005	RECOVERY OF HAZARDOUS WASTE
MINISTERIAL DECREE NO. 145/1998 MINISTERIAL COMMUNICATION OF 4.08.1998 N. GAB/DEC/812/98, AND MINISTERIAL DIRECTIVE 9.04.2002	WASTE IDENTIFICATION DOCUMENT (HEREINAFTER REFERRED TO AS 'FIR')
MINISTERIAL DECREE NO. 148/1998 AND MINISTERIAL COMMUNICATION OF 4.08.1998 N. GAB/DEC/812/98	LOADING/UNLOADING REGISTER
LEGISLATIVE DECREE NO. 36/2003	LANDFILLING
MINISTERIAL DECREE OF 27.09.2010	ADMISSIBILITY OF WASTE TO LANDFILLS
DECREE OF THE COUNCIL OF MINISTERS PRESIDENT (DPCM) OF 20.12.2012	ENVIRONMENTAL DECLARATION MODEL (HEREINAFTER REFERRED TO AS 'MUD')
REGULATION (EC) NO. 1013/2006	TRANSBOUNDARY SHIPMENT OF WASTE
MINISTERIAL DECREE 52/2011 MINISTERIAL DECREE OF 20.03.2013	SISTRI (NOT IN FORCE)

Table n. 1.

3.2.2 THE INSTITUTIONAL FRAMEWORK

Environmental issues in Italy are regulated at the national, regional and local level. Also the power to regulate and govern the waste sector is divided between the national government and

²⁴¹ European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste [2006] OJ L 190/1.

²⁴² Table n. 1.

the governments of regions, provinces and municipalities as pursuant to the provisions of the Italian Environmental Code.²⁴³ First, the national government is entitled to make general laws concerning intervention, coordination and governance criteria (art. 195, Italian Environmental Code) and specific technical legislation, having made sure that its powers do not transcend the constitutional limits conferred upon it (art. 117, Italian Constitution).²⁴⁴ Second, regions can issue regional laws, which shall comply with the general provisions provided for by national law. Moreover, regions govern waste management activities through the adoption of regional plans aimed at governing urban waste management at the regional level and through the adoption of regulations implementing primary sources (art. 196, 199, Italian Environmental Code).²⁴⁵ Additionally, regional plans identify the criteria for the disposal of special waste to sites close to the place of waste production and the criteria, which shall be followed by provinces for identifying suitable areas where to locate recovery or disposal sites. Third, provinces are assigned to duties on the management, coordination and government of waste recovery and disposal activities at the local level (art. 19, Legislative Decree 267/2000; art. 197, Italian Environmental Code). As pursuant to the Italian Environmental Code, regions or provinces grant also permits for the building and operation of plants for the storage, recovery and disposal of waste.²⁴⁶

In addition, provinces have their institutional arrangements for verifying compliance and securing sanctions. Accordingly, control bodies perform periodical inspections and specific environmental sampling assisted, for the execution of such activities, by regional public agencies for environmental protection (called ARPA) and specialized departments of local health units. Provinces are also entitled to impose administrative pecuniary sanctions, as provided for by the Italian Environmental Code (art. 262). Control of compliance, outside the enforcement of administrative pecuniary sanctions (art. 262, Italian Environmental Code), is instead guaranteed

²⁴³ Environmental law is governed, on the one hand, by primary sources that are issued by the national parliament (ie laws), by the national government (eg legislative decrees) and by regional councils (ie regional laws acts) and, on the other, by secondary sources issued to fully implement primary sources, which can be promulgated by national, regional, provincial or municipal bodies. cf Italian Environmental Code (n 8).

²⁴⁴ Corte Cost. 26.07.2002 n. 407, para. 3.2; Corte Cost. 24.06.2003 n. 222, para. 3; Corte Cost. 20.11.2006 n. 398, para. 4.4; Corte Cost. 8.07.2004 n. 259, para. 2; Corte Cost. 18.12.2002 n. 536, para. 4; Corte Cost. 5.11.2007 n. 378, para. 4.

²⁴⁵ cf Italian Environmental Code (n 8).

²⁴⁶ It depends on regional regulations and nature of the construction.

by the patrolling activities of five police enforcement agencies which, although have different expertise and specializations, have equal powers and authority to make investigations in environmental matters. Specifically, such tasks can be carried out by the environmental police division of Carabinieri - (known as NOE), by the State Forestry Corps (Corpo Forestale dello Stato), by the coast guard (Corpo delle Capitanerie di Porto), by the financial police (Guardia di Finanza), and by the state police (Polizia di Stato) (art. 195 para. 5, Italian Environmental Code).²⁴⁷

Finally, municipalities perform all tasks related to the management, collection and transport of urban waste (and special waste assimilated to urban waste), both directly, by participating, or indirectly through the entrustment of third private entities, by means of a tender procedure for public procurement. Municipalities are grouped in consortia (called *Autorità d'Ambito*), which are established within each homogeneous local area the region is divided in, with the aim of optimizing urban waste management. Municipalities (specifically, the mayor) can also impose administrative pecuniary sanctions in case of abusive abandonment of waste (arts. 192 and 262, Italian Environmental Code).²⁴⁸

3.2.3 THE DEFINITION OF WASTE

The definition of waste has been one of the most controversial issues in waste law and source of much debate in the European Union (EU) because of the inherent difficulties it has entailed. The definition, however, plays a crucial role in the development of environmental protection and prevention of pollution.²⁴⁹ The term has undergone several amendments, brought also by the developing case-law of the Court of Justice of the European Union (CJEU) and by the

²⁴⁷ See European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL), *Criminal Enforcement of Environmental Law in the European Union: Report* (July 2000).

²⁴⁸ cf Italian Environmental Code (n 8).

²⁴⁹ Ilona Cheyne, 'The definition of Waste in EC Law' (14) [2002] I *Journal of Environmental Law*, 61; Philippe Sands, *Principles of International Environmental Law* (2nd edn Cambridge University Press, Cambridge 2003), 677.

jurisprudence of national courts.²⁵⁰ The definition of waste - as provided for by the European Union in art. 3.1 of Directive (EC) 2008/98 – has been fully transposed into national law.²⁵¹ As defined by art. 183 para 1. lett. a) of the Italian Environmental Code, waste is defined as ‘any substance or object which the holder discards or intends or is required to discard’.²⁵² Accordingly, the inclusion of a material or substance in the European Waste Catalogue (EWC) does not imply that such material or substance is waste because, on the basis of the definition provided, is the subjective element, ie the intention and/or requirement imposed to the holder of the substance or object that identifies what is waste and what is not.²⁵³

A non exhaustive list of wastes is nonetheless provided for by the EWC, which introduces a system of waste codification based on six digit codes and a supplementary waste description.²⁵⁴ Such EWC codification established is essential for the correct classification of wastes and represents an indispensable guide for waste management activities. The first two numbers of the code identify the activities from which waste is generated; the second two identify the process which generates the waste; the third couple of numbers refer to the specific type of waste.

3.2.3.1 BY-PRODUCTS AND END-OF-WASTE

As costs associated with waste treatment are very high, it becomes crucial to determine under what circumstances waste ceases to be classified as such or when substances or materials can

²⁵⁰ Giovanni De Santis, ‘La Nozione di Rifiuto nel Diritto Penale e il Controllo di Legittimità Costituzionale delle Norme Nazionali «di Favore» in Contrasto con Quelle Comunitarie non Autoapplicative’ [2008] *Giur. It.*, 4.

²⁵¹ European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3.

²⁵² Article 185 of the Italian Environmental Code, implementing Directive (EC) 2008/98, provides a list of substances and materials that shall not be considered waste. Accordingly, there are not considered wastes the following: radioactive waste; waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries; animal carcasses and the following agricultural waste: faecal and other natural, non-dangerous substances used in farming; waste waters, with the exception of waste in liquid form; decommissioned explosives (eg ammunition, fireworks, flares).

²⁵³ Commission Decision (EC) 2000/532 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste [2000] OJ L 226/3.

²⁵⁴ The EWC was implemented by Commission Decision (EC) 2000/532 and subsequently amended to accommodate changes.

be alternatively classified as waste or not. This is of great importance because waste could be misclassified in order to avoid the strict and expensive requirements of waste law. In this regard, it is of interest to focus on by-products and end-of-waste because of their complementarities with waste which implies that, with overall economic implications, such products can be treated and commercialised as any other type of goods.

By-products are defined by article 184-bis of the Italian Environmental Code, which transposes the definition provided for by article 5 of Directive (EC) 2008/98. A by-product is any substance or object (i) resulting from a production process which is integral part of it, the primary aim of which is not the production of that substance or object, (ii) further use of the substance or object is certain in the course of the same or subsequent production or utilization process by the producer or third subjects (iii) the substance or object can be used directly without any further processing other than normal industrial practice, (iv) further use is lawful, ie the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts. These characteristics must be simultaneously present for classifying materials or substances as by-products.²⁵⁵ As it is clear, a substance or material can be considered as a by-product depending on the choice/conduct of its producer. Should one of the listed characteristics be absent, then the material or substance must be classified as waste.²⁵⁶

After the entry into force of Directive (EC) 2008/98, it was repealed the definition of secondary raw materials from the Italian legislation²⁵⁷ in order to comply with the EU requirements as the concept of raw materials was not expressly defined by the European Union legislation – art. 3.1 lett. b) of Directive (EC) 2006/12. It was instead introduced the related notion of end-of-waste, the term used to describe when waste turns into being a good after it is processed. The definition of end-of-waste is directly transposed from Directive (EC) 2008/98 (art. 6) and included in the Italian

²⁵⁵ Luca Ramacci, *Rifiuti: La Gestione e le Sanzioni. Commento Organico al Testo Unico Ambientale Dopo il Quarto Correttivo (D.L.vo n. 205/2010) e il Sismi* (CELT Casa Editrice la Tribuna, Piacenza 2011).

²⁵⁶ Carlo Maria Grillo, "Il Ruolo della Normativa Comunitaria Ambientale nella Giurisprudenza degli Stati Membri: Due Casi Italiani" [2013] 1 *Ambiente e sviluppo* 41.

²⁵⁷ The concept of raw materials was not expressly defined by the European Union legislation – art. 3.1 lett. b) of Directive (EC) 2006/12. European Parliament and Council Directive (EC) 2006/12 on waste [2006] OJ L114/9.

Environmental Code. According to the provisions of art. 183 lett. u) of the Italian Environmental Code, the waste ceases to be waste and acquires the end-of-waste status when it is subject to a recovery operation, including recycling and preparation for reuse (Art. 183 lett. q) of the Italian Environmental Code) and complies with the following criteria: (a) the substance or object is commonly used for specific purposes; (b) a market or demand exists for such a substance or object; (c) the substance or object fulfils technical requirements referred to the specific purposes and meets the existing legislation and standards applicable to products; and (d) the use of the substance or object will not lead to overall adverse environmental or human health impacts (Art. 184-ter of the Italian Environmental Code). The national standards that should identify when exactly waste ceases to be waste and becomes product have not been issued yet. Until new implementation rules are promulgated, there still applies Ministerial Decree 5.02.1998 and Ministerial Decree 161/2002, which regulate recovery processes for, respectively, non-hazardous and hazardous waste.²⁵⁸

3.2.4 CRITERIA FOR THE CLASSIFICATION OF WASTE

According to the Italian Environmental Code, waste is classified on the basis of its origins and on the basis of the level of hazard of the substances contained in it. Specifically, according to art. 184 of the Italian Environmental Code, waste is classified in (i) urban waste and (ii) special waste (also known as industrial waste) and in (iii) hazardous and (iv) non-hazardous waste. There also exist separate categories of special waste (both hazardous and non-hazardous), or waste streams (ie waste from electronic and electrical equipment, end-of-life vehicles, sewage sludge), which are subject to the general provisions of the Italian Environmental Code and the general classification above specified but are specifically regulated by distinct bodies of laws..

²⁵⁸ With regard to the promulgation of secondary sources that are necessary for the full applicability of the Italian Environmental Code (ie implementation rules), it should be noted that the Country failed to issue such provisions. For this reason the secondary sources of reference are still those promulgated with Legislative Decree 22/1997. Fabio Anile, 'Rifiuti, sottoprodotti e Mps: Commento ai Nuovi Articoli 184-bis e 184-ter' [2012] 180-1 *Rifiuti*, 38.

3.2.4.1 URBAN AND SPECIAL WASTE

According to the provisions of art. 184.3 of the Italian Environmental Code, special waste (as also called industrial waste) is waste generated by farming, private industrial facilities, commercial, artisanal and third sector activities, and healthcare activities, waste from recovery and disposal, sludges from water treatments, from wastewaters treatments and from gas treatment. Urban waste (also called household waste) is instead waste generated by private houses, by street sweepings, but also non dangerous waste generated in buildings other than private houses (ie waste from commercial activities, shops and administration) which is assimilated for quantity and quality to urban waste (ie the term 'assimilated' means that it is the law, which consider that type of waste as urban waste), waste from public areas, yards, and parks, and waste generated by graveyards (Art. 184.2 of the Italian Environmental Code).²⁵⁹

Before examining the issue more deeply, it is necessary to underline that in Italy urban and special waste are subject to different regulatory regimes. In the past, urban waste used to be under the exclusive right of management by public authorities, which meant the exclusion of urban waste from free market mechanisms. Shortly, urban waste could not be sold, collected, stored or disposed if the management entity did not obtain the necessary concession by municipalities or consortia of municipalities. As a result, urban waste could not be conferred to the most economically advantageous and technologically suitable installation. Nowadays, entities entitled to carry out urban waste integrated management regimes and urban waste management plants are chosen through a tendering procedure. Special waste, instead, has been always managed by private entities. Thus, the access to the free market is guaranteed not only for

²⁵⁹ As mentioned, non dangerous waste generated by buildings other than private houses (ie waste from commercial activities, shops and administration) is assimilated for quantity and quality to municipal waste (art. 184.2 lett. b) of the Italian Environmental Code), that is to say, it is considered urban waste despite of its origins. In this regard, it should be clarified that the criteria (quantity and quality of waste to be assimilated) for assimilation should have been defined by a national decree (not emanated yet) on the basis of which each single municipality should have issued a regulation identifying waste that could be assimilated. Since no national decree has been promulgated yet, the criteria to be followed by municipalities are still those defined by Decision of the Inter-Ministerial Committee of 27.07.1984. Deliberazione Comitato Interministeriale 27 luglio 1984 'Disposizioni per la Prima Applicazione dell'Articolo 4 del DPR 10 settembre 1982, n. 915, concernente lo Smaltimento dei Rifiuti' (Decision of the Inter-Ministerial Committee of 27.07.1984) Suppl. Ord. GU 13.09.1984 n. 253. Gino Pompei, 'L'assimilazione tra Rifiuti Speciali e urbani' [2012] 8-9 *Azienditalia - Fin. e Trib.* 695.

special waste but also for urban waste destined to recovery operations.²⁶⁰ Nonetheless, despite these two regulatory regimes have undergone major changes, the subdivision of the waste management chain into urban and special waste has been maintained. Urban waste is managed by municipalities which, individually or as part of a consortium of municipalities, have to implement an integrated management regime for urban waste management (arts. 199 to 206-bis of the Italian Environmental Code). Special waste, instead, can be managed through self-disposal, conferral to duly authorized parties, and conferral to urban waste managers after specific agreements have been signed and, moreover, exportation under the specific conditions identified in article 194 of the Italian Environmental Code (art. 188.2. of the Italian Environmental Code).

With specific reference to waste movement within the country, it should be mentioned that special and urban waste are subject to different regimes. On the one hand, urban waste movement is geographically limited. In view of the proximity principle, it has been established that urban waste should be recovered and disposed of close to where it was generated, though taking into consideration that waste shall always be treated in the most technologically appropriate facility (art. 182-bis of the Italian Environmental Code). With the aim to incentivise best technological treatments, it has been established that urban waste, which is separately collected and intended for recycling or recovery, can freely circulate in the country (art.181.5 of the Italian Environmental Code).²⁶¹ There exists, instead, a free circulation ban for urban non-hazardous waste, which cannot be disposed of outside the region of its origin (art. 182.3 of the Italian Environmental Code).²⁶² On the other hand, both hazardous and non-hazardous special waste can move freely within national borders. The aim of the free circulation regime for special waste is twofold. First, it is intended to enable special waste recovery or disposal treatments at the most suitable plant. Second, it is required to ensure compliance with the EU legal provisions on free circulation of goods.

²⁶⁰ cf Ettore Paolo Di Zio (n 219).

²⁶¹ Such activities shall be carried out by individuals or entities registered as pursuant to article 212.5 of the Italian Environmental Code.

²⁶² Corte Cost. 14.01.2009 n. 10; Maria Grazia Della Scala, 'La Circolazione dei Rifiuti tra Discipline Regionali, Normativa Statale, Vincoli Costituzionali e Principi del Diritto Europeo' [2009] 2 *Foro amm.* CDS 361.

3.2.4.2 ABSOLUTE HAZARDOUS, MIRROR ENTRIES AND NON-HAZARDOUS WASTE

The Italian Environmental Code defines also the criteria for assigning the categories of danger to waste, on the basis of the codification introduced by the EWC and the EU legislative requirements. In particular, Annex D to Part IV of the Italian Environmental Code (which implements the EWC) identifies three categories of waste: absolute dangerous, mirror entries and absolute non-dangerous wastes. The classification of non-hazardous waste does not, in general, pose any problem. Indeed, when a type of waste is neither absolute nor mirror hazardous, then it shall be classified as non-hazardous waste (ie 04 01 09 wastes from dressing and finishing). Similarly, if a type of waste is included in Annex D to Part IV of the Italian Environmental Code as absolute hazardous (ie 13 07 01* fuel oil and diesel) then, irrespective of chemical concentrations, such waste shall be classified as hazardous.

There are wastes (defined as mirror entries) that can be either hazardous or not, depending on whether they contain dangerous substances at or above certain quantities. Each type of waste is individually identified by 6-digit codes. Mirror entries have two paired of 6-digit codes, one marked with an asterisk (hazardous) and the other (non-hazardous) not marked with an asterisk (ie 07 01 11* sludges from on-site effluent treatment containing dangerous substances and 07 01 12 sludges from on-site effluent treatment other than those mentioned in 07 01 11). In order to identify whether mirror entry waste is hazardous or not as pursuant to the provisions of art. 184, it should be verified whether it contains dangerous substances above the threshold level. Ministerial Directive 9.04.2002 specifies that mirror entry wastes shall always be considered dangerous, if chemical analyses do not refute so.²⁶³ So therefore, it becomes compelling to carry out chemical analyses, which are necessary for identifying whether waste is hazardous or non-hazardous.

²⁶³ Direttiva Ministeriale 9 aprile 2002 'Indicazione per la Corretta e Piena Applicazione del Regolamento Comunitario n. 2557/2001 sulle Spedizioni di Rifiuti ed in Relazione al Nuovo Elenco dei Rifiuti' GU n. 108 del 10.05.2002, Suppl. Ord. n. 102.

In order to ascertain whether substances contained in waste are dangerous, it is necessary to control whether waste displays one or more of the characteristics listed in Annex I to Part IV of the Italian Environmental Code. The reference is made to the codes - H1 to H15 – defined as pursuant to Annex III of Directive (EC) 2008/98, which identify an inventory of hazardous properties to be assigned to dangerous substances and/or materials, including waste.²⁶⁴ Hazardous properties that can be assigned to hazardous waste (ie flammability (H3), ecotoxicity (H14), corrosive (H8), carcinogenic (H7)), are based on the criteria defined by Directive (EEC) 67/548 (Annex VI) and by Directive (EC) 1999/45 - as amended - on the classification, packaging and labelling of dangerous substances and preparations.²⁶⁵ Also the test methods for the identification of hazardous properties are defined by Directive (EEC) 67/548 (Annex V).

In order to classify the waste generated, companies shall therefore make use of information available on the chemical substances used during the industrial process, analyze industrial process and treatment applied and, as last, characterize their waste. Such investigation is not only essential for the correct classification of waste but has also potentially important legal implications: indeed, permits, annual registration of waste generated and, more generally, any compulsory requirement and also enforceable penalty will vary depending on whether the waste managed is hazardous or not.

²⁶⁴ Regulation (EC) 1272/2008 shall repeal Directive (EEC) 67/548 from 1 June 2015 by introducing the Globally Harmonized System of Classification and Labelling of Chemicals. Council Directive (EEC) 67/548 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances [1967] OJ 196/1. European Parliament and Council Regulation (EC) 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 [2008] OJ L 353/1.

²⁶⁵ European Parliament and Council Directive (EC) 1999/45 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations [1999] OJ L 200/1; Decreto Legislativo 14 marzo 2003 n. 65 'Attuazione delle direttive 1999/45/CE e 2001/60/CE Relative alla Classificazione, all'Imballaggio e all'Etichettatura dei Preparati Pericolosi' GU n. 87 del 14.04.2003, Suppl. Ord. n. 61; Decreto Legislativo 28 luglio 2008 n. 145 'Attuazione della Direttiva 2006/121/CE, che Modifica la Direttiva 67/548/CEE Concernente il Ravvicinamento delle Disposizioni Legislative, Regolamentari ed Amministrative in Materia di Classificazione, Imballaggio ed Etichettatura delle Sostanze Pericolose, per Adattarle al Regolamento (CE) n. 1907/2006 Concernente la Registrazione, la Valutazione, l'Autorizzazione e la Restrizione delle Sostanze Chimiche (REACH) e Istituisce un'Agenzia Europea per le Sostanze Chimiche' (Legislative Decree 145/2008) GU n. 219 del 18.09.2008.

3.3 THE WASTE MANAGEMENT SECTOR AND MARKET PLAYERS

Special waste management encompasses different activities and processes, depending on whether waste is disposed or recovered, on the type of waste generated and on the waste stream. Each of these processes and activities involve also different market players (either natural persons or economic entities). The objective of this chapter is to illustrate the waste management chain on the basis of the law provisions, which govern it. Firstly, attention is focused on the administrative law requirements at the basis of authorizations, registrations and controls of waste movement and waste management activities. Secondly, consideration is given to natural persons and/or economic entities involved in the waste management chain, which are: original waste producers, secondary waste producers, companies which perform chemical analyses, brokers and traders, collectors and transporters, recovery and disposal facilities (hereinafter referred to as 'market players'). Specifically, the analysis is directed to general activities and processes with the aim to provide a view of the whole process that lie behind waste management while facilitating a better understanding of the criticalities identified by legal scholars and jurisprudence.

Before illustrating the specific administrative requirements established by law and describing roles, activities, responsibilities and critical issues related to each of the market players and activities, it is worth summarizing the waste management chain in table n. 2. In table 2, attention is given to the common features of the stepwise waste management process, which it is not always identical for any type of waste but slightly differs depending on the waste stream and treatment methods employed. The term 'possible' is used to identify stages (or phases) with the waste management process that may or may not take place depending on the waste treatment. The letters (A, B, and C) indicate the final destination of waste that may, alternatively, recovered, or disposed of within or outside the country depending, again, on the type of waste (including waste hierarchy priorities).²⁶⁶ The focus of the analysis is on the waste management process,

²⁶⁶ The waste hierarchy is a priority order that shall apply in order to prevent waste generation. If not possible to prevent waste generation, waste treatments that give priority to recovery other than disposal operations shall be chosen. The

which starts at waste generation premises and finds its closing stages within national borders, after recovery or disposal take place. Transboundary shipment is not a part of the analysis as it is not subject to the same legal requirements of waste movement within national borders.

principle is enshrined into national legislation, which implements EU legal requirements (art. 179 of the Italian Environmental Code).

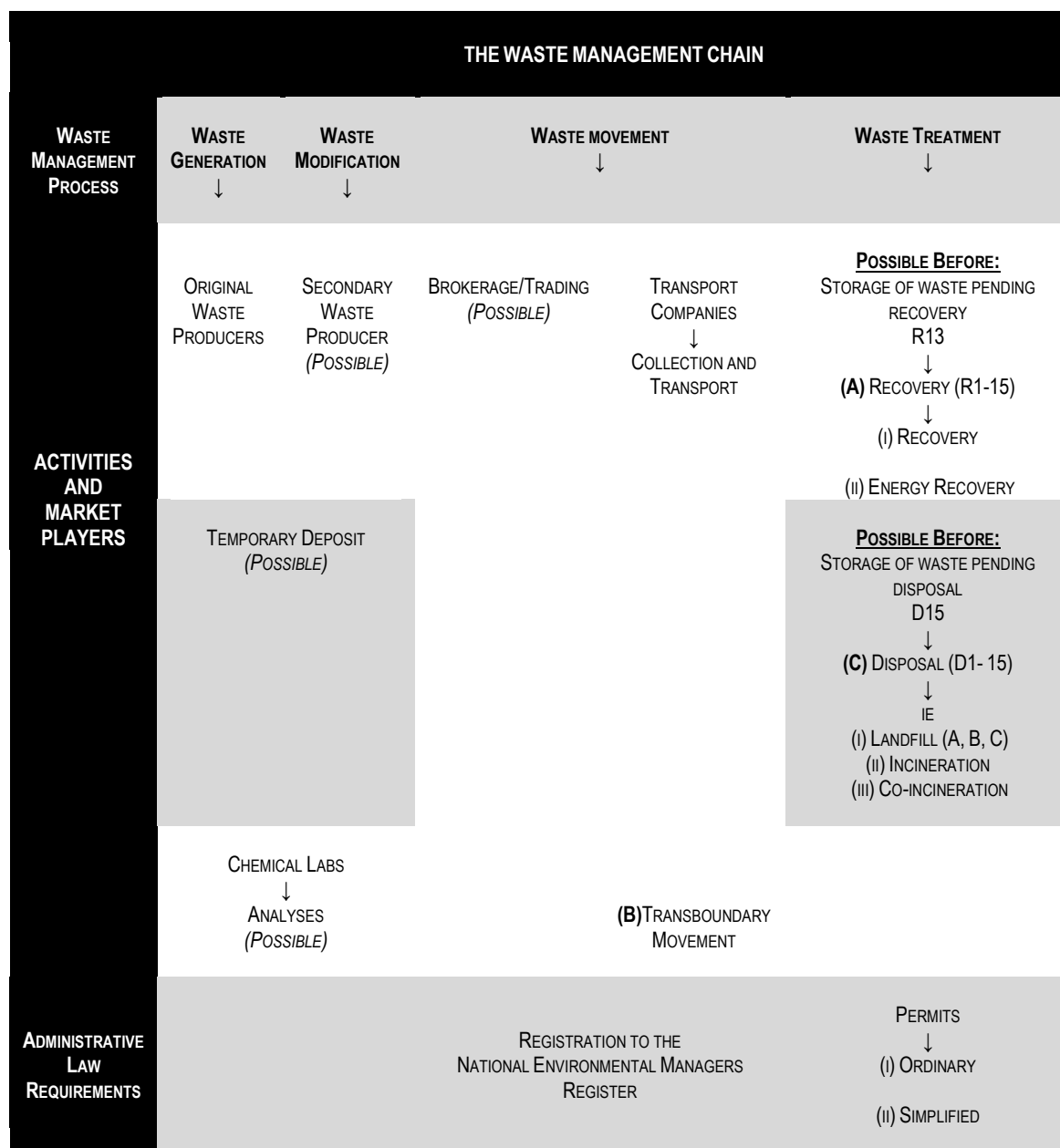


Table n. 2.

3.3.1 ADMINISTRATIVE LAW REQUIREMENTS IN THE WASTE MANAGEMENT SECTOR

To understand the mechanisms that lie behind waste management in Italy and, more importantly, illegal waste diversion activities, it is essential to understand which specific administrative law requirements are compelled for each of the operations and activities taking place in the field. For

these purposes, attention is firstly given to the traceability system for monitoring waste movement, which is the system that should track waste from generation premises to final recovery or disposal plants. Secondly, the analysis focuses on the registration and permit requirements operators shall obligatorily conform to in order to start performing waste management activities.

3.3.1.1 THE WASTE MONITORING SYSTEM

In the country it has recently been designed an electronic system of waste traceability control (called SISTRI). The SISTRI has not been fully implemented yet. To date, a paper-based system of waste monitoring is in force in the country. The paper-based monitoring system can be defined as the 'backbone' of waste management as it has been the main system used to verify where waste is transferred, from generation sites to final recovery or disposal facilities. Since control and compliance are mainly based on its formal requirements, it is crucial to understand the functioning of the paper-based monitoring system in order to comprehend also how the illegal traffic of waste can take place. The reason is due to the fact that, as it will be observed from below, illegal waste diversion activities are often carried out by falsifying the documents required by the waste monitoring system. The paper-based monitoring system is designed to trace waste transportation through the employment of the following documents: (i) the loading/unloading register, (ii) waste the identification document (FIR), and (iii) the single annual environmental declaration.

The loading/unloading register is a record where original and secondary hazardous waste producers, collectors and transporters, brokers and traders (also when they do not take physical possession of the waste) and disposal and recovery facilities, shall enter quality and quantity details of the waste managed (art. 189.3 and art. 190 of the Italian Environmental Code). Specifically, these market players shall record in the loading/unloading register the waste load once it is received and, subsequently, once it exits waste management premises (art. 190 of the Italian Environmental Code).

The waste identification document (FIR) is a manifest, which shall accompany waste transportation from when waste exits generation premises to where final recovery/disposal takes

place (art. 193 of the Italian Environmental Code). In the FIR, it shall be reported: name and address of waste generator and holder, origin, typology and waste quantity, destination plant, date and travel information, name and address of the destination plant/operator. The FIR is issued in four copies: one is kept by the waste producer; one is kept by the final recovery or disposal facility. The last two copies are kept by the transporter, who has to give one copy back to the producer after the waste load has reached the final recovery or disposal plant. With the fourth copy returned, original and waste producer can prove - should compliance control take place - that waste has been dispatched and, subsequently, treated by an authorized facility.²⁶⁷

The single annual environmental declaration is a document that gives details about annual waste generation and management on the basis of the data collected in the unloading/loading register. The following waste market players are compelled to communicate to the competent chambers of commerce the annual environmental communication: collectors and transporters, brokers and traders (also if they do not take physical possession of the waste), consortia created for the recovery and recycling of specific categories of waste, companies and entities generating hazardous waste and, as pursuant to art. 184.3 lett. c), d), g), industrial facilities, artisanal and third sector activities that generate non-hazardous waste, recovery and disposal operators that treat non-hazardous waste, and non-hazardous waste operators treating sludges from water treatments, from wastewater treatments and from gas treatment (art. 189 of the Italian Environmental Code).

It is worth mentioning that there are waste operators, who do neither have to fill any of the said documents nor have to obtain permits or to register for starting their business. This is the case,

²⁶⁷ The FIR shall be in conformity with the model reported in Ministerial Decree 145/1998. Decreto Ministeriale 1 aprile 1998 n. 145 'Regolamento Recante la Definizione del modello e dei Contenuti del Formulario di Accompagnamento dei Rifiuti ai sensi degli Articoli 15, 18, comma 2, lettera e) , e comma 4, del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 145/1998) G.U. n. 109 del 13.05.1998; Circolare Ministeriale 4 agosto 1998 n. GAB/DEC/812/98 'Circolare Esplicativa sulla Compilazione dei Registri di Carico Scarico dei Rifiuti e dei Formulari di Accompagnamento dei Rifiuti Trasportati Individuati, Rispettivamente, dal Decreto Ministeriale 1 aprile 1998, n. 145, e dal Decreto Ministeriale 1 aprile 1998, n. 148' GU n. 212 del 11.09.1998; Direttiva Ministeriale 9 aprile 2002 'Indicazione per la Corretta e Piena Applicazione del Regolamento Comunitario n. 2557/2001 sulle Spedizioni di Rifiuti ed in Relazione al Nuovo Elenco dei Rifiuti' GU n. 108 del 10.05.2002, Suppl. Ord. n. 102; Commission Regulation (EC) 2557/2001 amending Annex V of Council Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community [2001] OJ L 349/1.

for instance, of waste peddling activities.²⁶⁸ According to the provisions of article 266.5 of the Italian Environmental Code, waste peddlers can purchase, transport and sale waste without having to comply with the monitoring requirements above illustrated. As a result, it becomes very difficult to monitor and, consequently, sanction economic entities that are not compelled to fill any administrative document required to trace waste movement. Moreover, allowing such activities without any type of monitoring not only create distortion of competition among market players and fuels illegal activities in the waste management sector.

3.3.1.2 REGISTRATIONS AND PERMITS

Besides the paper-based system of waste monitoring, there exist compulsory registration and permit requirements that market players, depending on the type of activity carried out, are compelled to abide by.²⁶⁹ In addition to enhancing environmental protection, these administrative requirements are of crucial importance for public authorities that have to carry out inspections and verify law compliance. There are also essential for operators who have to ascertain that the waste they are managing is given to authorized persons or legal entities in order to avoid responsibility.

3.3.1.2.1 REGISTRATION TO THE NATIONAL ENVIRONMENTAL REGISTER

Individuals and legal entities performing transport and collection activities, but also brokers and traders (including those who do not take physical possession of the waste), have to be recorded in a national register called National Environmental Managers Register (*Albo Nazionale dei Gestori Ambientali*), as pursuant to art. 212.5 of the Italian Environmental Code and Ministerial Decree no. 406 of 28.04.1998.²⁷⁰ Since waste transport, collection, brokering and trading are not

²⁶⁸ As pursuant to article 266.5 of the Italian Environmental Code, waste paddlers have to obtain a municipal licence for 'non-food' commerce to start their activity.

²⁶⁹ Also see European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3, art. 23- 26.

²⁷⁰ Decreto 28 aprile 1998 n. 406 'Regolamento recante norme di attuazione di direttive dell'Unione europea, avente ad oggetto la disciplina dell'Albo nazionale delle imprese che effettuano la gestione dei rifiuti' GU n. 276 del 25.11.1998.

subject to authorization/permit, the National Environmental Managers Register becomes an essential tool for verifying whether an economic entity is allowed to transport or commerce a specific typology of waste.²⁷¹ Indeed, the National Environmental Managers Register provides details about the economic entity enrolled (ie name, location of company's registered office by province) and, what is more, specifies the type of waste that the economic entity is allowed to collect and transport or trade.²⁷²

3.3.1.2.2 PERMITS UNDER SIMPLIFIED AND ORDINARY PROCEDURE

To ensure environmental protection, undertakings that perform waste recovery or disposal operations have to obtain a permit to start their activity.²⁷³ Waste management permits have the

It is worth noting that registration to the National Environmental Managers Register shall be accompanied by the issuance of a financial guarantee in favour of the National Environmental Managers Committee.

²⁷¹ Luigi Carbone and Luciana Lo Meo, 'Necessità dell' Iscrizione all'Albo delle Imprese Esercenti Servizi di Gestione di Rifiuti' [2008] 12 *Giornale Dir. Amm.* 1268. With regard to registration requirements, the CJEU has ruled that waste management companies should not start their activities before their eligibility criteria have been verified Case C-270/2003 *Commission of the Italian Republic v Italian Republic* [2005] ECR I-05233.

²⁷² There exist different categories within the National Environmental Managers Register under which operators shall register: Category no. 5: collection and transport of dangerous waste; Category no. 8: brokerage and trading of waste without physical possession of the waste. There are two additional types of enrolment: (i) transport of own waste self-generated; (ii) transboundary transport, with sole reference to transports carried out within Italy; (iii) management of waste from electronic and electrical equipment (WEEE). *Albo Nazionale dei Gestori Ambientali, Categorie e Altre Tipologie di Iscrizioni* <<http://www.albogestoririfiuti.it/iscrizioneecategorie.aspx>> accessed 4 April 2013.

²⁷³ Before illustrating such authorisation regime, it is necessary to provide the definition of waste recovery and disposal operations. As pursuant to article 183.1 lett. t) of the Italian Environmental Code, which has provided for the direct transposition of the definition enshrined in Directive (EC) 2008/98, recovery means "any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy. Annex C to part IV sets out a non-exhaustive list of recovery operations." The list of recovery operation provided for by Annex C to Part IV of the Italian Environmental Code corresponds to the list enshrined in Annex II of Directive (EC) 2008/98. According to article 183.1 lett. z) of the Italian Environmental Code, which corresponds to the definition given by Directive (EC) 2008/98, the term disposal means "any operation which is not recovery even where the operation has, as a secondary consequence, substances or energy reclamation. Annex B to part IV sets out a non-exhaustive list of disposal operations." The list of disposal operation provided for by Annex B to Part IV of the Italian Environmental Code corresponds to the list enshrined in Annex I of Directive (EC) 2008/98. European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3, art. 3, Annex II. See Stefano Maglia e Alfieri Di Girolamo, 'Recupero Rifiuti: Definizione e Prospettive' [2011] 8-9 *Ambiente e Sviluppo* 705; Giuseppe Garzia, 'La Nozione Giuridica del Recupero di Rifiuti: il Quadro Vigente e le Prospettive di Riforma' [2008] 1 *Ambiente e Sviluppo* 35.

aim to put under monitoring authorised facilities and activities with the purpose of preventing that such activities can lead to environmental pollution and harm to human health.²⁷⁴

In order to operate in the waste management sector, waste market players have to obtain the necessary permit. Permits are of two types. They are issued after a simplified (art. 214 and 216 of the Italian Environmental Code and Ministerial Decrees 5.02.1998 and 5.04.2006 no. 186) or after an ordinary (art. 208 of the Italian Environmental Code) procedure has taken place. The ordinary procedure, which has been introduced for granting the so-called Single Permit, is to be carried out before the entitled region (ie the region where the facility will be located). It is a lengthy and complex administrative procedure as it can necessitate one year or more before the Single Permit is issued.²⁷⁵

The simplified procedure, which has been introduced for issuing the so-called Simplified Permit, is to be carried out before the entitled province (ie the province where the facility will be located). The Simplified Permit, which can only be granted to recovery operations and to disposal operations of self-produced non-hazardous waste disposed of at the place where waste is generated, benefits of a more expeditious procedure.²⁷⁶ The activity can initiate after ninety days from forwarding the communication of start of activity to the competent province, which means that, even though controls are not performed, the facility can start operating after such period.²⁷⁷ After the communication of start of activities has been submitted, the entitled province carries out

²⁷⁴ cf Stefano Maglia e Alfieri Di Girolamo (n 273).

²⁷⁵ In order to obtain the Simplified Permit from the Region, the applicant shall provide for the following documentation: the request, the building plan, technical documents for the building plan concerning environmental protection, urban, and health and safety at work regulatory provisions. If the applicant has to conduct an environmental impact assessment (EIA) for the plant to operate, the relevant authorities shall receive the communication that the project has been forwarded. The terms for the approval of the project are suspended until environmental compatibility is granted pursuant to Part II of the Italian Environmental Code (it being understood that national provisions implementing Directive (EC) 96/61, as amended by Directive (EC) 2008/1 concerning integrated pollution and prevention control - Legislative Decree 59/2005 - are applied). Decreto Legislativo 18 febbraio 2005 n. 59 'Attuazione integrale della direttiva (CE) 96/61 relativa alla prevenzione e riduzione integrate dell'inquinamento' GU n. 93 del 22.04.2005, Suppl.Ord. n. 72; European Parliament and Council Directive (EC) 2008/1 concerning integrated pollution prevention and control (Codified version) [2008] OJ L 24/8; Stefano Maglia and Monica Taina, 'Adempimenti Amministrativi della Gestione dei Rifiuti: le Novità Introdotte dal Decreto n. 205/2010' [2011] 1 *Ambiente e Sviluppo* 5.

²⁷⁶ See cf Rosalba Martino (n 227) 99.

²⁷⁷ Such procedure is governed by the administrative principle of consent by silence, which means that if the entitled Public administration does not communicate to the applicant whether authorization or permit is granted, the activity can be initiated as it is assumed that the Public administration agrees to issue the Simplified Permit to the applicant.

documental inspections to verify that the activity is in conformity with the relevant legislative requirements. Among the documents to be forwarded to the entitled province, there is a report compiled by the requester that indicates: compliance with technical rules and specific requirements as pursuant to art. 215.1 of the Italian Environmental Code, compliance with subjective (ie individual) requirements of the operator, description of the waste management activities that will be performed description of the establishment, details about plant capacity and, finally, information about the type of treatments that will be performed.²⁷⁸ On site controls before a plant starts to operate, instead, are only optional. Indeed, the controls performed by the entitled province (before a plant starts to operate) to verify compliance with the above mentioned rules and with the technical provisions defined in Ministerial Decrees dated 5.02.1998 and no. 186 dated 5.04.2006 (governing non-hazardous waste recovery operations) and Ministerial Decree no. 161 dated 12.06.2002 (governing hazardous waste recovery operations) are not compulsorily required by law.²⁷⁹

Because of the inherent limit of these types of controls, it is on the Simplified Permit that attention should be focused. Indeed, as confirmed by scholars, the Simplified Permit has been a major concern for the environmental impact of waste management activities, having considered that the related procedure is one of the few examples of simplification that can be found in environmental law provisions in the country.²⁸⁰ The reason is because the Simplified Permit and the related

²⁷⁸ As it is clarified from below, any false declaration is criminally sanctioned by article 483 of the Italian Criminal Code (cp) amounting to ideological forgery.

²⁷⁹ It should be highlighted that there have not yet promulgated the relevant decrees required by the Environmental code providing for technical rules governing recovery operations. For the moment, previous decrees still find application, as follows: Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 5.02.1998) GU n. 88 del 16.04.1998, Suppl. Ord. n. 72; Decreto 5 aprile 2006 n. 186 'Regolamento Recante Modifiche al Decreto Ministeriale 5 febbraio 1998 «Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero, ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 186/2006) GU n. 115 del 19.05.2006; Decreto Ministeriale 12 giugno 2002 n. 161 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi che è Possibile Ammettere alle Procedure Semplificate' (Ministerial Decree 161/2002) G.U. n. 177 del 30.07.2002; Decreto Ministeriale 17 novembre 2005 n. 269 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi Provenienti dalle Navi, che e' Possibile Ammettere alle Procedure Semplificate (Ministerial Decree 269/2005) GU n. 302 del 29.12.2005.

²⁸⁰ Andrea Averardi, 'Le Procedure Semplificate per il Recupero dei Rifiuti e la Tutela Ambientale' [2012] 5 *Giornale Dir. Amm.* 504.

procedure has been subject to stunning abuses. As recognised already by field research, Simplified Permits have been often issued – though the plant should not have been or should have been authorized by means of an ordinary permit – because of the lack of onsite inspections.²⁸¹ Besides this, technical provisions governing waste recovery are lacking or promulgated with considerable delay, thereby exacerbating the problem of monitoring of waste management facilities authorized as pursuant to the Simplified Permit.²⁸²

3.3.2 MARKET PLAYERS

When analyzing the waste management process, there is a need to identify not only the single phases of the process but also individuals or legal entities involved.²⁸³ These individuals and related economic entities - which have been identified with the term 'market players' - are: original and secondary waste producers, companies which perform chemical analyses, brokers and traders, collectors and transporters, recovery and disposal facilities (table n. 2). Laboratories dedicated to chemical analyses have been also included, although not expressly mentioned by law as one of the component of the waste management process. The reason for this inclusion is due to the fact that, as it will be subsequently explained, the role of chemical laboratories is crucial in waste management as it is often on the basis of the analyses performed that producers classify or may misclassify (ie attribute erroneous EWC codification) their waste in order to conceal illegal waste traffic.

With reference to the responsibility issue, it is necessary to underline an important point that has been often overlooked: waste management activities are regarded as matters of public interest,

²⁸¹ Vincenzo Paone, *La Tutela dell'Ambiente e l'Inquinamento da Rifiuti: Dal D.P.R. 915/1982 al D.lgs. 4/2008* (Giuffrè Ed., Milano 2008) 18.

²⁸² Alessandra Bianco, 'La Nuova Disciplina delle Procedure Semplificate di Recupero dei Rifiuti Non Pericolosi (D.M. 5 Aprile 2006, n. 186): Decreto Attuativo del T.U.?' [2006] 8 *Ambiente e sviluppo* 709; cf Luca Ramacci (n 255) 128.

²⁸³ According to the definition provided for by the Italian Environmental Code, waste management covers the following activities: collection, transport, brokerage, trade, recovery and disposal (art. 183.1 lett. n of the Italian Environmental Code). For the purposes of the present analysis, market players are those individuals or legal entities that perform collection, transport, brokerage, trade, recovery and disposal as defined by law and also original and secondary waste producers and laboratories that perform chemical analyses.

the performance of which requires cooperation and implies accountability of the subjects/entities that carry out such activities (art. 178 of the Italian Environmental Code).²⁸⁴ From the analysis of art. 188 and 193 of the Italian Environmental Code, it emerges, that all subjects involved (ie natural persons or legal entities) in the waste management process are responsible not only for the conduct of their own operations, but also for those operations carried out by other individuals or entities waste was conferred to. In order to avoid responsibility, waste operators must verify that the waste accepted corresponds to with what declared by the manufacturer or by the carrier in the related administrative documents (ie unloading/loading register, FIR) and/or that the facility waste was given to can perform the disposal or recovery treatments declared in the permit.²⁸⁵ Before taking into account the shared responsibility of market players, the role and activities of each person and legal entity involved in the waste management process will be subsequently discussed.

3.3.2.1 ORIGINAL AND SECONDARY WASTE PRODUCERS

The generation of waste is a crucial phase of the waste management process as it is during such stage that waste has to be correctly analysed, classified, and prepared for further delivery. As anticipated, it is a prime responsibility of producers to properly classify and subsequently provide for collection, recycling, recovery or disposal of waste. According to art. 183.1 lett. f) of the Italian Environmental Code, original waste producers are natural persons or legal entities whose activity generates waste. Secondary waste producers are individuals or legal entities that conduct pre-treatment, mixture or other operations, which modify the nature or composition of waste.

²⁸⁴ See Cass. Pen., sez. III, 10.04.2012, n. 13363.

²⁸⁵ Indeed, according to article 188 of the Italian Environmental Code, the holder of waste is responsible for the proper management of waste. It should be specified that the holder of waste is the producer of waste or the individual or legal entity, which possesses the waste (art. 183.1 lett. h) of the Italian Environmental Code). This provision has been enshrined in order to avoid that waste producers could avoid responsibility by conferring waste to third parties, including waste collectors, carriers, recovery and disposal operators, brokers and traders. These provisions are in conformity with the 'Polluter Pays' principle. With reference to the term possession, it should be clarified that possession shall be understood as it encompasses juridical (*animus possidendi*) and physical possession (*corpus*) or only juridical possession (without material detention). See Luca Ramacci, *Diritto Penale dell'Ambiente* (Cedam, Milano 2009) 293.

Before identifying the specific responsibilities of original and secondary waste producers, it is necessary to examine the concept of Extended Producer Responsibility (hereinafter referred to as 'EPR'). As enshrined by the EU law, the EPR is endeavoured to allocate to producers the responsibility to take back their products once they are discarded. The EPR has been designed to prevent waste generation, facilitate the proper use of resources and design a cradle-to-grave approach able to compel companies to internalize environmental costs. Italy has transposed but not implemented the EPR (which had to be executed by ministerial decrees) which, to date, remains only a programmatic principle (art. 178-bis the Italian Environmental Code).

Despite its importance for waste minimization, the EPR shall not be confused with the issue of producer responsibility for the proper management of waste. Producer responsibility is defined by article 188 of the Italian Environmental Code according to which original and secondary waste producers shall provide evidence of having correctly carried out waste management in order to avoid responsibility.²⁸⁶ Specifically, original and secondary waste producers shall first correctly classify and, if necessary, characterize their waste. Second, they shall dispatch it to authorized entities and ascertain that proper (ie legally authorized) waste treatment will take place. In order to guarantee that waste movement is carried out in conformity with the law, original and secondary waste producers shall receive the fourth copy of FIR in return within a time-limit of three months from when the waste generated exited industrial premises and was given to carriers (art. 193 of the Italian Environmental Code). The FIR shall return signed by the receiving entity (recovery or disposal facility) and shall report the date of arrival to the recovery/disposal facility (art. 188.4 of the Italian Environmental Code).

Should waste be sent to a disposal plant, original and secondary waste producers shall additionally receive the certificate of final disposal by the disposal facility. As confirmed by case-law, producers shall not only verify that the receiving entity is lawfully registered. or authorized to recover or dispose of waste but shall also ascertain that such authorization/registration covers

²⁸⁶ These requirements shall be, however, considered as minimum requirements that producers/holders shall comply with in order to achieve compliance with the law. Besides, producers/holders shall avoid imprudent and/or negligent behaviours which may lead to criminal negligence. Pasquale Fimiani, 'Responsabilità Ambientale: per la Prova delle Condotte (Omissive o Commissive) la P.A. si Può Avvalere di Presunzioni Semplici (2012) 198 *Rifiuti* 6.

both the correct typology of waste and the treatment that the waste should be subject to.²⁸⁷ This is the reason why the choice on part of waste producers of the operator waste is of crucial importance for both complying with the legislative requirements and for avoiding the enforcement of sanctions. Indeed, as it will be seen from below, a producer's negligent conduct could result in criminal or administrative sanctioning according to the terms of joint accountability defined by Italian law, if the waste generated is given to a non authorized entity.

3.3.2.1.1 *WASTE PRODUCERS AND TEMPORARY DEPOSIT*

A critical issue in waste law with reference to the role of waste producers is the regulation of temporary deposit.²⁸⁸ Temporary deposit is a provisional waste accumulation that can take place before waste collection and can exclusively be located at the premises where waste is generated (Art. 183.1 lett. bb) of the Italian Environmental Code). Temporary deposit can be considered as an exception to the rules governing waste management because it does not require any authorization. Indeed, temporary deposit is only subject to time, quantity and typology requirements. The legislation requires that temporary deposit is performed for homogenous categories of waste and complies with existing technical requirements and rules on deposit of hazardous substances (art. 183.1 lett. bb) n. 3 of the Italian Environmental Code). Waste producers can opt for two types of temporary deposit. They can opt for a three months deposit (irrespective of the quantity accumulated) or opt for a 30 m³ quantity limit (of which 10 m³ maximum quantities of hazardous waste) of waste accumulated for a period that cannot be longer than one year (art. 183.1 lett. bb) n. 2 of the Italian Environmental Code). This allows waste producers to accumulate the waste generated at their premises and opt for collection on a time/quantity basis.

²⁸⁷ cf Luca Ramacci (n 255) 55.

²⁸⁸ See European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3, Recitals 15- 16.

Despite its usefulness for waste producers in terms of time and cost savings, scholars have claimed that temporary deposit is particularly vulnerable to abuses because it has been found very difficult for public authorities to verify the respect of the requirements imposed by law.²⁸⁹

3.3.2.2 CHEMICAL ANALYSES

Although not expressly mentioned in the Italian Environmental Code as one of the waste management activities, the role of chemical laboratories is central to the correct characterization and subsequent classification of waste. Indeed, it is also on the basis of chemical analyses, carried out on behalf of waste producers, that waste can be correctly handed and recovered or disposed of.²⁹⁰

Waste analyses are compulsorily requested in case of waste conferred to disposal plants (Ministerial Decrees 3.08.2005 and 27.09.2010 as pursuant to art. 11 of Legislative Decree 36/2003), to incinerators (art. 7 of Legislative Decree 133/2005) and to recovery plants authorized by means of simplified procedure (art. 8.4 of Ministerial Decree 5.02.1998 and art. 7.3 of Ministerial Decree 161/2002).²⁹¹ Indeed, waste management, storage, treatment or

²⁸⁹ In this regard, it shall be observed that the length of a deposit and, consequently, compliance with the said requirements, can only be verified by means of the loading/unloading register where waste generated shall be recorded. cf Luca Ramacci (n 255) 59.

²⁹⁰ Waste characterization can be defined as the process through which all information about chemical and physical characteristics of waste are obtained in order to provide for the proper disposal, incineration or recovery of waste. There is not a general definition of characterization of waste in the legislation but references can be find in: Decreto Legislativo 11 maggio 2005 n. 133 'Attuazione della direttiva 2000/76/CE, in Materia di Incenerimento dei Rifiuti' (Legislative Decree 133/2005) GU n. 163 del 15.07.2005, Suppl. Ord. n. 122; Decreto Ministeriale 3 agosto 2005 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica' GU n. 201 del 30-8-2005; and Decreto Ministeriale 27 settembre 2010 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica, in Sostituzione di quelli Contenuti nel Decreto del Ministro dell'Ambiente e della Tutela del Territorio 3 agosto 2005' (Ministerial Decree 27.09.2010) GU n. 281 del 1.12.2010.

²⁹¹ Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 5.02.1998) GU n. 88 del 16.04.1998, Suppl. Ord. n. 72; Decreto Ministeriale 12 giugno 2002 n. 161 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi che è Possibile Ammettere alle Procedure Semplificate' (Ministerial Decree 161/2002) G.U. n. 177 del 30.07.2002; Decreto Legislativo 13 gennaio 2003 n. 36 'Attuazione della Direttiva 1999/31/CE Relativa alle Discariche di Rifiuti' (Legislative Decree 36/2003) GU n. 59 del 12.03.2003, Suppl. Ord. n. 40; Decreto Legislativo 11 maggio 2005 n. 133 'Attuazione della direttiva 2000/76/CE, in Materia di Incenerimento dei Rifiuti' (Legislative Decree 133/2005) GU n. 163 del 15.07.2005, Suppl. Ord. n. 122; Decreto Ministeriale 3 agosto 2005 'Definizione dei

incinerator/disposal facilities can receive waste only when accompanied by an analysis certificate. As expressly required by each of the above mentioned legislative provisions, waste analyses have to be performed at the first waste conferral, at any time there is a change in the industrial process and at each expiration date (approximately every one or two years).

Except for when required (as above mentioned) or expressly excluded by law (ie Ministerial Decree 27.09.2010 Annex 1 para. 4 and for waste assimilated to urban waste) the choice of whether or not to carry out waste analyses is left to waste producers. Still, it remains to be said that waste analyses are recommended to waste producers, who are responsible for the correct characterization²⁹² and classification of waste.²⁹³ Chemical analyses are also indispensable in the waste management process for the correct classification of mirror entry wastes. Indeed, mirror entry wastes, depending of the quantity of hazardous substances contained, could be classified as hazardous or non-hazardous and, on the basis of the results obtained, assigned the correct EWC code.

Though there do not exist general legislative provisions governing waste classification (including previous waste characterization), waste producers have an obligation of ends, that is to say a responsibility for the correct classification and management of waste. In order to comply with the requirements imposed by law, waste producers shall first correctly identify the industrial process waste is originated from. Second, they shall provide for the correct waste characterization by entrusting waste sampling and analyses to official chemical laboratories. Yet, it remains to be said that chemical analysis laboratories have been not comprehensively regulated in the country. In this regard, field research has argued that activities related to chemical analyses and

Criteri di Ammissibilità dei Rifiuti in Discarica' GU n. 201 del 30-8-2005; Decreto Ministeriale 27 settembre 2010 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica, in Sostituzione di quelli Contenuti nel Decreto del Ministro dell'Ambiente e della Tutela del Territorio 3 agosto 2005' (Ministerial Decree 27.09.2010) GU n. 281 del 1.12.2010.

²⁹² Waste characterization is the process through which physical properties and chemical composition of waste are determined. It is waste producers' responsibility to properly characterize each waste stream and to make sure each waste stream is being recovered or disposed of legally.

²⁹³ The legislation requires that waste is correctly classified by providing accurate data.

associated responsibilities are not clearly identified by the law, thus, analyses are often carried out by laboratories that lack adequate appliances or are willing to forge chemical analyses.²⁹⁴

3.3.2.3 BROKERS AND TRADERS

Despite being understood as having a marginal role, waste brokers and traders have been playing an increasingly important part in waste management. They can be defined as the point of interconnection in the waste market sector because their job is that of identifying on behalf of waste producers the best suitable carrier, recovery or disposal plant and organizing waste transfer from generation premises to final recovery and/or disposal facilities.

The role and function of waste brokers and traders is substantially similar. The main difference between the two is that traders buy waste for selling it afterwards. Also traders who do not take physical possession of the waste are included in the definition provided for by the Italian Environmental Code (as transposed by Directive (EC) 2008/98). The reason is because ownership transfer, with the civil law meaning, arises after consent between vendor and purchaser and physical transfer of the good (ie waste) is not an essential element of the sale agreement. This means that traders carrying out their commercial activities with or without taking physical possession of the waste purchased are subject to the requirements imposed by the Italian Environmental Code.²⁹⁵

Brokers do not buy waste but could act as mediators, that is to say, bring producers, carriers and recovery or disposal operators together to conclude the contract for the waste management and,

²⁹⁴ Paola Ficco and Claudio Rispoli, *Produttori, Come Gestire i Rifiuti Speciali: Vademecum per le Imprese* (Edizioni Ambiente, Milano 2011) 76; Claudio Rispoli, 'Rifiuti Pericolosi o Non Pericolosi? Tra il Serio e il Faceto le Peripezie del Quotidiano' (2012) 200/201 *Rifiuti* 29.

²⁹⁵ Traders who do not take physical possession of waste are included in the definition because ownership transfer, within the civil law meaning, arises after consent between vendor and purchaser since physical transfer of the purchased goods (eg waste) is not an essential element of sale agreements.

at times, provide also for collection and waste transport.²⁹⁶ In this latter case, brokers carry out waste collection and transport by taking physical possession of the waste.

To guarantee compliance with waste pollution laws, waste brokers and traders are compelled to fill loading and unloading registers (art. 190 of the Italian Environmental Code) and the annual environmental declaration (art. 189 of the Italian Environmental Code). Because of their increasingly important role, the rules on registration to the National Environmental Managers Register have been recently amended in order to include the compulsory registration requirements also of brokers and traders who do not take physical possession of the waste.²⁹⁷ Before such amendments, brokers and traders were not obliged to register so that it was not possible for operators to ascertain whether a company was entitled to carry out waste brokerage and trade activities, with all the consequences resulting therefrom in terms of controls and compliance.

Due to the crucial role played, their knowledge about the waste management sector and, more specifically, about the prices charged by disposal and recovery plants combined with the lack of their monitoring, brokers and traders have been powerful players in the rapid increase of illegal waste diversion activities.²⁹⁸

3.3.2.4 COLLECTION AND TRANSPORT OF WASTE

Waste collection and transport can be defined as those activities that take place in between generation and waste treatment, which are carried out for the collection (including preliminary sorting and storage) and transportation of waste to treatment facilities (art. 183 lett. o) and art.193

²⁹⁶ Mediators, within the civil law meaning (art. 1754 Italian Civil Code), are professionals (individuals or legal entities) who, having received commission fees, put into contact two or more parties to enter into an agreement.

²⁹⁷ Ruling no. 2/2010 of the National Committee of Environmental Managers defining the criteria for the enrolment to the Register in the category no. 8: waste brokerage and trade. *Albo Nazionale Gestori Ambientali, Deliberazione 15 dicembre 2010 Criteri per l'iscrizione all'Albo nella categoria 8: intermediazione e commercio dei rifiuti* <http://www.albogestoririfiuti.it/Download/it/DelibereComitatoNazionale/042-Del02_15.12.2010.pdf> accessed 20 September 2012.

²⁹⁸ cf Claudio Rispoli (n 294).

of the Italian Environmental Code).²⁹⁹ Waste collection and transport are often performed by the same person or legal entity.

Waste transport is subject to two administrative requirements. Firstly, to date and until the entry into force of the electronic-based control and surveillance system (SISTRI), transporters shall carry out waste movement in conformity with the waste identification requirements by filling and keeping the FIR during transportation. Thus, the information reported to the FIR could enable control authorities to verify whether what declared is in conformity with what has been transported.³⁰⁰ With regard to the FIR requirements, it should be underlined that the copies of FIR accompanying waste transportation shall indicate name and address of original, secondary waste producers and holders, origin, typology and quantity of waste transported, name and treatment facility (ie information about recovery or disposal plant), delivery location, date and transport route to be followed (art. 193 of the Italian Environmental Code).³⁰¹ In sum, waste transport shall comply with the waste monitoring requirements and, depending on the type of waste, also with the legislative provisions on packaging and labelling of hazardous substances.

Secondly, individuals or legal entities that perform waste collection and transport shall register to the National Environmental Managers Register as required by article 212.5 of the Italian

²⁹⁹ It should be mentioned that there is no legal definition of waste transportation. The definition can however be derived from article 193.9 and article 74.1 lett. f) of the Italian Environmental Code. Accordingly, any waste transfer, except for waste movement within private areas and discharge of waste waters through a direct connection system, shall be considered waste transportation.

³⁰⁰ There are six specific exemptions from the current FIR requirements. Waste identification documents do not have to accompany: (i) municipal waste transported by public services, (ii) transport of non-dangerous waste occasionally carried out by its waste producer (if below 30 kg or litres), (iii) transport of waste generated by agricultural and agro-industrial activities occasionally carried out by its same waste producer and given to urban waste public services after a specific convention has been signed (and if below 30 kg or litres), (iv) waste paddling, (v) animal by-products as pursuant to Regulation (EC) 1069/2009 and (vi) transboundary movement of waste. With regard to the latter, it should be specified that waste identification documents are substituted with the documents required by Regulation (EC) 1013/2006 on transboundary waste movement. The documents required by Regulation (EC) 1013/2006 shall accompany waste movement from generation premises to its final destination also within national territory that is to say before waste crosses national borders. Articles 193.4, 193.4-bis and 266.5 of the Italian Environmental Code; European Parliament and Council Regulation (EC) 1069/2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) [2009] OJ L 300/1; Article 194 of the Italian Environmental Code with reference to: European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste [2006] OJ L 190/1.

³⁰¹ It should be mentioned that the quantity of waste shall be reported (also if approximately) at the departure and shall be compulsorily verified at destination if the exact quantity was not reported. cf Paola Ficco and Claudio Rispoli (n 294) 40.

Environmental Code. Individuals or legal entities that do not professionally transport waste but only transport their own waste are registered in a separate list of the National Environmental Managers Register.

Despite these specific requirements, illegal waste diversion activities during transportation have been a common practice. Because of the possibility to divert waste during such phase outside legal trade routes, that is to say, outside those itineraries formally reported in the waste identification documents (FIR) and avoid controls by public authorities by documents falsification, waste collection and transport have been a major concern in recent years. In this regard, it has been argued that the paper-based monitoring system has not been able to trace waste transfer from generation premises to treatment locations.

3.3.2.5 WASTE RECOVERY

Recovery can be defined as ‘any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy’.³⁰² Annex C to part IV of the Italian Environmental Code sets out a non-exhaustive list of recovery operations’ (art. 183 lett. t) of the Italian Environmental Code). This definition is the result of a recent revision carried out at the EU level in order to adopt the principles developed by the CJEU, which has ruled that the purpose of Annexes I and II of Directive (EC) 2008/98 (transposed by Annexes B and C to part IV of the Italian Environmental Code), is to ‘list the most common disposal and recovery operations and not precisely and exhaustively to specify all the disposal and recovery operations covered by the Directive’.³⁰³ The rationale for such ruling is that an exhaustive list of recovery and disposal operations would be essentially limited and necessarily

³⁰² Art. 3.15 of European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3.

³⁰³ The definition enshrined in Directive (EC) 2008/98 and, subsequently by the Italian Environmental Code as amended by Legislative Decree 205/2010, has been revised in order to adopt the juridical notion given by the CJEU in Case C-6/00. Case C-6/00 *Abfall Service AG (ASA) v Bundesminister für Umwelt, Jugend und Familie* [2002] ECR I-1961, para 60 and 69; Giuseppe Garzia, ‘La Nozione Giuridica del Recupero di Rifiuti: il Quadro Vigente e le Prospettive di Riforma’ [2008] 1 *Ambiente e Sviluppo* 35.

be subject to frequent amendments to keep pace with the technological development in waste treatment. Annex C to part IV of the Italian Environmental Code contains a provisional list of reference for current recovery operations, such as energy generation (where waste is used as fuel), recycling, and land reclamation (ie the operations are listed from R 1 to R 13).³⁰⁴

Waste recovery plays a crucial role in waste management as it helps diminishing depletion of natural resources and, more generally, reducing the impact of waste generation. Indeed, waste recovery operations are intended to, for instance, create materials that can be used in industrial processes or fuels that can be used to generate energy, thus encouraging the use of waste as a resource rather than discarding it. This is the reason why national legislature (implementing EU law) has given priority to recovery over disposal and, in order to facilitate and improve recovery operations, has required the separate collection of waste and banned the mixing of waste or other materials having different properties (art. 181.4 of the Italian Environmental Code).

Waste recovery operations are governed by articles 214 to 216 of the Italian Environmental Code, according to which recovery installations can operate after a Simplified Permit is obtained. The Italian Environmental Code additionally identifies the specific recovery requirements for hazardous and non-hazardous waste treatment (ie origin, quantities, specific prescriptions for health and environmental protection). Technical rules and provisions on the recovery of hazardous and non-hazardous waste per each of the existing waste recovery treatments (including waste sampling and chemical analyses) are instead provided for by ministerial decrees.³⁰⁵

³⁰⁴ It is necessary to specify that the operation numbered under R 13 (ie storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where the waste is produced) and the operation numbered under D 15 (Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced) do not change the nature of waste. See Annex C, Recovery Operations and Annex B, Disposal Operations, to Fourth Part of the Italian Environmental Code.

³⁰⁵ Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 5.02.1998) GU n. 88 del 16.04.1998, Suppl. Ord. n. 72; Decreto 5 aprile 2006 n. 186 "Regolamento Recante Modifiche al Decreto Ministeriale 5 febbraio 1998 «Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero, ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 186/2006) GU n. 115 del 19.05.2006; Decreto Ministeriale 12 giugno 2002 n. 161 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi che è Possibile Ammettere alle Procedure Semplificate' (Ministerial Decree 161/2002) G.U. n. 177 del 30.07.2002;

3.3.2.6 WASTE DISPOSAL

According to article 183.1 lett. z) which transposes the definition provided for by Directive (EC) 2008/98, the term disposal means 'any operation which is not recovery even where the operation has, as a secondary consequence, substances or energy reclamation. Annex B to part IV sets out a non-exhaustive list of disposal operations'.³⁰⁶ Annex B to part IV of the Italian Environmental Code provides a list of reference for current disposal operations, among which are landfill and incineration (ie the possible operations are listed from D1 to D15).³⁰⁷ Each of the specific requirements for waste disposal activities and related installations are instead included in sector legislation, such as Legislative Decree 36/2003 on landfill and Legislative Decree 133/2005 on waste incineration, which integrates and complements the legal provisions provided for by the Italian Environmental Code.³⁰⁸

Decreto Ministeriale 17 novembre 2005 n. 269 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi Provenienti dalle Navi, che e' Possibile Ammettere alle Procedure Semplificate (Ministerial Decree 269/2005) GU n. 302 del 29.12.2005. Particular mention should be made of case C-103/02, where the Court of Justice of the European Union (CJEU) ruled that Ministerial Decree 5.02.1998 did breach Directive (EEC) 75/442. First, the CJEU ruled that Ministerial Decree 5.02.1998 does not specify quantities of non-hazardous waste recovery facilities (exempted from Single Permit requirements) are allowed to treat (para. 35), thus contravening article 10 and 11(1) of Directive (EEC) 75/442. Second, the CJEU stated that Ministerial Decree 5.02.1998 does not 'define precisely the types of waste relating to technical standards 5.9 and 7.8 in Annex 1 to the Decree, the Italian Republic has failed to fulfil its obligations under Article 11(1) of Directive 75/442 and Article 3 of Directive 91/689' (para. 51). See Case C-103/02 *Commission of the European Communities v Italian Republic* [2004] ECR I-09127.

³⁰⁶ The list of disposal operation provided for by Annex D to Part IV of the Italian Environmental Code corresponds to the list enshrined in Annex I of Directive (EC) 2008/98.

³⁰⁷ Landfill is a (also underground) deposit site of waste where waste is definitely stored. Legislative Decree 36/2003 and Ministerial Decree 27.09.2010 regulate locations, procedures, and control requirements for the management of landfills including chemical analyses, closing phase management and sanctions. They also establish three different types of landfills: A landfills (for inert waste), B landfills (for non-hazardous waste) and C landfills (for hazardous waste). Decreto Legislativo 13 gennaio 2003 n. 36 'Attuazione della Direttiva 1999/31/CE Relativa alle Discariche di Rifiuti' (Legislative Decree 36/2003) GU n. 59 del 12.03.2003, Suppl. Ord. n. 40; Decreto Ministeriale 27 settembre 2010 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica, in Sostituzione di quelli Contenuti nel Decreto del Ministro dell'Ambiente e della Tutela del Territorio 3 agosto 2005' (Ministerial Decree 27.09.2010) GU n. 281 del 1.12.2010. Legislative Decree 133/2005 defines emissions compliance and controls requirements, technical procedures and conditions for the incineration of waste, including related sanctions. Decreto Legislativo 11 maggio 2005 n. 133 'Attuazione della direttiva 2000/76/CE, in Materia di Incenerimento dei Rifiuti' (Legislative Decree 133/2005) GU n. 163 del 15.07.2005, Suppl. Ord. n. 122.

³⁰⁸ Decreto Legislativo 13 gennaio 2003 n. 36 'Attuazione della Direttiva 1999/31/CE Relativa alle Discariche di Rifiuti' (Legislative Decree 36/2003) GU n. 59 del 12.03.2003, Suppl. Ord. n. 40; Decreto Legislativo 11 maggio 2005 n. 133

Waste disposal is considered as a last resort method in waste management. The reason lies on the fact that, first, waste disposal depletes natural resources. Second, waste disposal plants constitute a potential threat to human health and the environment. Third, waste disposal increases waste volumes and generates side effects. For example, landfills can be used until the end of their useful life. Incineration generates emission and ash and other residues that necessitate being disposed too. Fourth, waste disposal creates significant and increasing costs for the industry. This is the reason why national legislature, implementing EU legal provisions, identifies disposal as the least preferable option to be employed in waste management to the degree that is technically, economically and environmentally practicable.

3.4 PENALTIES IN WASTE LAW

By and large, waste crimes are not considered a serious crime in any society. This is firstly due to the fact that environmental issues have not been properly addressed in the past. Over the years, and especially in recent years, this attitude has changed and the issue of juridical protection of the environment has achieved considerable importance. The following chapter describes the sanction regime that has been introduced in Italy to minimize infringements and prevent waste pollution. The focus is on administrative and criminal punitive sanctions. This is done in order to explain nature and scope of liability in waste law with a view to provide the basis for discussing the theoretical framework, which informs the present study. Specific attention is also given to the crime enforced against illegal traffic of waste (under art. 260 of the Italian Environmental Code), which can be considered among those penalties established by the Italian Environmental Code the most structured, all embracing and serious criminal offence that may be committed in waste management. The analysis provides a rationale for the choice of taking into consideration this specific criminal offence and cases prosecuted or convicted under art. 260 of the Italian Environmental Code.

¹Attuazione della direttiva 2000/76/CE, in Materia di Incenerimento dei Rifiuti' (Legislative Decree 133/2005) GU n. 163 del 15.07.2005, Suppl. Ord. n. 122; Council Directive (EC) 1999/31 on the landfill of waste [1999] OJ L 182/1.

3.4.1 ADMINISTRATIVE AND CRIMINAL SANCTIONS

To illustrate the principle of environmental control and compliance in Italy, it is necessary to mention, in the first place, that Italian law is a code-based juridical system stemming from civil law tradition where sanctions are set down in codes and special laws.³⁰⁹ The sanctions that may be enforced to prevent pollution and protect the environment are mainly contained in special laws, more specifically, in the Italian Environmental Code. Environmental compliance is guaranteed by means of administrative law and regulations and the sanctions imposed are mainly administrative while criminal sanctions play a marginal role.³¹⁰ Also in waste law, administrative punitive sanctions are generally the most common employed forms of penalty. They are mainly of pecuniary nature and can be imposed against natural persons and legal entities, while criminal sanctions can be either monetary or require incarceration and are exclusively enforced against natural persons, apart for the noteworthy exception of administrative liability of legal persons which is discussed below. Additionally, the enforcement of administrative sanctions differs significantly from the enforcement of criminal sanctions. Administrative sanctions, indeed, are not assigned to judicial authorities but are imposed by the Public Administration and the judicial phase may only start if an appeal (against the sanction imposed) is filed by the natural person or legal entity, which was sanctioned.

Unlike the situation with conventional crimes, environmental criminal law sanctions in Italy generally depend on administrative substantive law.³¹¹ What is more important to note is that in environmental law, administrative and criminal law are very much intermingled, since criminal sanctions are mainly enforced after failure to comply with administrative law obligations.³¹² Also

³⁰⁹ According to the principle of legality in Italian criminal law (also enshrined in the Constitution), no one can be punished for an act that is not expressly considered an offence by law, nor can sanctions be imposed if not established by law. See cf Beniamino Caravita (n 23).

³¹⁰ Hans-Jörg Albrecht and Seppo Leppä (eds), *Criminal Law and the Environment: Proceedings of the European Seminar held in Lauchhammer, Land Brandenburg, Germany, 26 - 29 April 1992* (Publication Series no. 22 Helsinki Institute for Crime Prevention and Control, Helsinki 1992) 242; cf Luca Ramacci (n 285) 25.

³¹¹ cf Beniamino Caravita (n 23) 244.

³¹² Mauro Catenacci, *La tutela Penale dell'Ambiente: Contributo all'Analisi delle Norme Penali a Struttura «Sanzionatoria»* (Cedam, Padova 1996) 119; Alberto Gargani, 'Reati contro l'incolumità: Parte Generale, Volume IX' in C.F. Grosso, T. Padovani and A. Pagliaro (eds) *Trattato di Diritto Penale* (Giuffrè Editore, Milano 2008), 481; Michael Faure and Maartje Visser, 'How to Punish Environmental Pollution? Some Reflections on Various Models of Criminalization of Environmental Harm' (1995) 4 *European Journal of Crime, Criminal law and Criminal Justice* 316.

within the waste management sector, polluting is not an offence per se. Most of the criminal law offences are committed when standards are infringed. For instance, criminal responsibility arises when waste is managed without having obtained the required permits (ie the Single or Simplified Permit) to operate.³¹³ This is the reason why amendments to administrative provisions may have an impact in terms of the sanction regime imposed.

To understand the issue more fully, it is first necessary to explain what types of criminal sanctions may be imposed in the field of waste management. Criminal liability, as envisaged in the Italian Criminal Code, can result in misdemeanours (*contravvenzione*) or crimes (*delitto*).³¹⁴ Misdemeanours are less serious forms of criminal offences and the sanctions envisaged are less severe than the sanctions imposed to crimes.³¹⁵ Environmental criminal law - and, specifically, waste law violations - relies predominantly on misdemeanours, with all the implications that this entails in terms of effective protection under criminal law.³¹⁶ The reason is because there is a meaningful difference between misdemeanours and crimes, which has important repercussions on the enforcement of waste law.³¹⁷ First, attempted crime is only foreseeable for crimes and not for misdemeanours, which implies that in many instances sanctions cannot be enforced. Secondly, the period foreseen as statute of limitations for misdemeanours is very short in respect to crimes; as a consequence, misdemeanours cannot be prosecuted after a short time limit (established by the statute of limitations) and, therefore, often left unpunished.³¹⁸ Third, the accused/defendant of a misdemeanour (but not of a crime) can pay a modest sum of money to

³¹³ Art. 256 of the Italian Environmental Code.

³¹⁴ The Italian Criminal Code distinguishes misdemeanours from crimes on the basis of the different types of penalties applied: crimes are sanctioned with life sentence, imprisonment and heavy fines; misdemeanours are sanctioned with arrest and minor fines.

³¹⁵ It is worth of mentioning that the subjective (mental) element required for the attribution of a criminal conduct differs depending on whether the allegedly committed offence is a crime or a misdemeanour. For qualifying an act as a misdemeanour it is required either criminal intent or criminal negligence. Crimes, instead, require criminal intent unless otherwise specified. Art. 42.4, 42.2 and art. 43 of the Italian Criminal Code.

³¹⁶ Christoph Ringelmann, 'European Trends in Environmental Criminal Legislation' [1997] 5 *European Journal of Crime Criminal law and Criminal Justice* 393, 394.

³¹⁷ Luca Pietrini, 'L'Ambito di Applicazione della Disciplina sui Rifiuti' (2010) 9 *Diritto Penale e Processo* 29.

³¹⁸ As established by article 157 of the Italian Criminal Code, criminal offences can be prosecuted only within a time-period (statute of limitations) after their perpetration. Time limits vary, depending on the type of violation, from twenty years (ie crimes for which imprisonment of not less than 24 years is charged), to two years for misdemeanours (ie fines), with possible suspension or interruption as pursuant to articles 159 and 160 of the Italian Criminal Code. See cf Alberto Gargani (n 312) 481.

settle the case instead of going to trial, which means that criminal punishment is rarely imposed and, as a consequence, misdemeanours may not act as deterrents.³¹⁹ Fourth, wiretapping during investigations and pre-trial interim measures cannot find applications in case of misdemeanours.³²⁰

In waste law, the only crime is the one foreseen in article 260 of the Italian Environmental Code, ie the so-called organized activity for the illegal traffic of waste (hereinafter referred to as 'illegal traffic of waste'). This sanction was introduced in 2001 (within Legislative Decree 22/1997), after it became clear that misdemeanours - as criminal penalties in waste law - were not sufficient to prevent and punish illegal waste diversion activities.³²¹ The crime of illegal traffic of waste could be defined as the most severe, structured and all comprehensive form of offence, which can be enforced against illegal waste diversion activities. It is the most severe because it is the only crime envisaged in the Italian Environmental Code. It is the most structured because it may involve different market players. Finally, it is the most comprehensive because it can be performed through the commission of one or more of the following activities – activities that, if singularly perpetrated, would be subject to the administrative sanctions and/or misdemeanours enshrined in articles 256 to 259 of the Italian Environmental Code -: granting, receiving, transporting, exporting and importing and, generally, managing waste (ie recovery or disposal) illegally (activities which are singularly sanctioned, if not in compliance with the law).

Before discussing the criminal sanction enforceable against the illegal traffic of waste, it seems necessary to briefly identify administrative and criminal violations foreseen in the Italian Environmental Code (articles from 255 to 259 of the Italian Environmental Code). As previously noted, administrative punitive sanctions are enforced against less serious forms of environmental violations: no proof of the mental element is required as a breach of environmental law gives automatically rise to administrative sanctions. Specifically, administrative sanctions are imposed

³¹⁹ Salvatore Panagia, *La Tutela dell'Ambiente Naturale nel Diritto Penale d'Impresa* (Cedam, Padova 1993) 140; cf Alberto Gargani (n 312) 481; Articles 162, 162-bis of the Italian Criminal Code and article 141 Implementation Rules to the Italian Code of Criminal Procedure.

³²⁰ Pasquale Fimiani, 'I Reati in Materia di Rifiuti nel Codice Ambientale: le Prospettive di Modifica' (2012) 200/201 *Rifiuti* 14.

³²¹ Angelo Vita, 'Delitto di "Attività Organizzate per il Traffico Illecito di Rifiuti": Elementi Costitutivi' [2011] 5 *Rivista Penale* 475.

in the following cases: waste abandonment (eg littering) and violation of administrative law concerning waste identification document, loading and unloading register and related compulsory requirements. Misdemeanours are enforced in the following cases: (i) waste management carried out during collection, transport, brokerage, trading, recovery and disposal without the required permits and/or enrolments or against the requirements prescribed by such permits and enrolments (art. 256.1 and art. 256.4), (ii) opening or management of a landfill in violation with the requirements established in Legislative Decree 36/2003 (art. 256.2), (iii) mixing of hazardous waste (art. 256.5), (iv) temporary deposit of hazardous medical waste at waste generation premises (art. 256.6), and (v) transboundary delivery of waste in breach of the EU law provisions on waste shipment (art. 259).³²²

3.4.2 THE CRIME OF ILLEGAL TRAFFIC OF WASTE: AN OVERVIEW

In the last years, the criminal sanction foreseen in article 260 of the Italian Environmental Code has constituted a powerful instrument for the repression of illegal waste diversion activities. Despite doctrinal and jurisprudential concerns about concepts and terms employed in its wording, this penalty has demonstrated its effectiveness in a number of cases as it is also one of the few crimes, which could be enforced in case of waste law violations, pollution and threats to the natural environment.³²³ Before proceeding further, it is necessary to address the meaning of article 260 of the Italian Environmental Code and identify: protected values, objective and psychological (subjective) elements required for the attribution of the criminal conduct, natural

³²² With reference to the misdemeanour of unlawful transboundary movement of waste (sanctioned by art. 259 of the Italian Environmental Code), it should be clarified that art. 259 is enforced when waste is delivered against the provisions of (EEC) Regulation 259/1993 (subsequently repealed by (EC) Regulation 2013/2006), eg the delivery contravenes the requirements and/or, limits established by EU and/or by international law provisions. Council Regulation (EEC) 259/93 on the supervision and control of shipments of waste within, into and out of the European Community [1993] OJ L 030/1; European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste [2006] OJ L 190/1.

³²³ Gianfranco Amendola, 'Attività Organizzate per il Traffico Illecito di Rifiuti: Introdotto il Primo Delitto contro l'Ambiente (commento a L. 23 marzo 2001, n. 93)' [2001] 6 *Diritto Penale e Processo* 708; Sergio Rossetti, 'Rassegna Giurisprudenziale in Materia di Attività Organizzata per il Traffico Illecito di Rifiuti (Nota a Trib. Milano sez. X pen. 17 luglio 2008, n. 8821)' [2009] 2 *Rivista Giuridica dell'Ambiente* 384.

persons responsibility, legal entities' related criminal liability, individual liability and liability of natural persons for aiding and abetting.

According to article 260 of the Italian Environmental Code, the crime of illegal waste traffic is identified as follows: 'anybody who, for the purposes of gaining unlawful profits, with more operations and by setting up means and continuous organized activities, gives, receives, transports, exports and imports, or in any case unlawfully or unauthorizedly manages large quantities of waste, is imprisoned from one to six years'.³²⁴ The definition, which corresponds to the definition firstly envisaged in article 53-bis of Legislative Decree 22/1997 as introduced by article 22 of Law 93/2001,³²⁵ has been further developed and guided by the jurisprudence of the Supreme Criminal Court, which shaped and redefined terms and elements of this crime, as illustrated from below.³²⁶ For what concerns values that the offence of illegal traffic of waste aims to protect, as some legal scholars argued, the crime has been foreseen with the intention to guarantee public safety.³²⁷ Nonetheless, since it aims to prevent potential endangerments (also known as potential or presumed endangerment offence),³²⁸ the sanction can be enforced even though no damages to the environment or human-beings have been caused.³²⁹

With reference to the objective element of the crime, illegal traffic of waste as pursuant to article 260 of Italian Environmental Code shall be perpetrated through the execution of more operations

³²⁴ Article 260 of the Italian Environmental Code.

³²⁵ Article 53-bis transposes, with amendments, the legal provisions contained in the governmental project aimed at introducing article 452 *quarter* into the Criminal Code. This was deemed necessary since the "Ministry of Environment Commission on Ecomafia" recognised that misdemeanours enshrined in Legislative Decree 22/1997 were not adequate to the damages causes to the environment by illegal traffic in waste.

³²⁶ cf Sergio Rossetti (n 324); Giovanni De Santis, 'Il Delitto di Attività Organizzate per il Traffico Illecito di Rifiuti nel Quadro dell'Annunciata Riforma dello Statuto Penale dell'Ambiente' (2008) 73(4) *Responsabilità Civile e Previdenza* 756; Legge 23 marzo 2001 n. 93 'Disposizioni in Campo Ambientale' GU n. 79 del 4.04.2001.

³²⁷ Cass. pen., sez. III, 9.06.2004, n. 25992; Pasquale Fimiani, 'Il Reato di Traffico Illecito di Rifiuti' [2001] 11 *Ambiente e Sicurezza* 18.

³²⁸ cf Hans-Jörg Albrecht and Seppo Leppä (n 310) 27; Mauro Catenacci, 'I Reati Ambientali e Il Principio di Offensività' in Mauro Catenacci e Guglielmo Marconi (eds) *Temi di Diritto Penale dell'Economia e dell'Ambiente* (Giapichelli Editore, Torino 2009) 295.

³²⁹ Cass. Pen., sez. III, 16.12.2005, n. 4503; Alberta Leonarda Vergine, 'In Tema di Reati contro l'Ambiente: Nota a Cass. sez. III pen. 16 dicembre 2005' [2006] 3 *Rivista Trimestrale di Diritto Penale dell'Economia* 843; Susan F. Mandiberg and Michael G. Faure, 'A Graduated Punishment Approach to Environmental Crimes: Beyond Vindication of Administrative Authority in the United States and Europe' (2009) 34(2) *Columbia Journal of Environmental Law* 447, 462.

and the preparation of means and continuous organized activities,³³⁰ during one or more of the following activities: handing over, acceptance, transportation, export and import or, more generally, unlawful or unauthorized management of waste.³³¹ The activities performed shall be organized, that is to say, the offender or offenders shall create a structurally organized plan - resembling a business activity – through which it is possible to commit the crime.³³² Moreover, it is required that one or more of the mentioned activities are unlawfully or unauthorizedly carried out, which means that they must be performed without, against, or beyond permit and enrolment limits and requirements (ie Single, Simplified Permits and enrolment to the National Environmental Managers Register).³³³ This includes activities that appear to be in compliance with the law but, in reality, violate waste quantity or quality requirements. In order for the crime of illegal traffic of waste to be enforced, there should be relatively large quantities of waste managed illegally. The minimum amount necessary for excluding criminal responsibility, nonetheless, shall be determined by the judiciary by taking into consideration the overall quantity of illegally managed waste.³³⁴ With regard to the psychological element of the crime, it is required specific criminal intent which means that, for the crime to be recognized as such, the offender shall act with intent and for the specific purpose maximizing profits (including savings and/or other advantages).³³⁵

With reference to natural person's liability, the crime does not have to be committed by someone who holds a specific position, ie by a waste broker or waste manager, but any physical person can be sanctioned. If the criminal act is performed within a business activity, criminal responsibility is directed against the person/s acting as company's legal representative/s. It is

³³⁰ Cass. Pen., sez. III, 20.04.2011, n. 15630; Cass. Pen., sez. III, 3.12.2009, n. 46705. With regard to the organization of activities, it should be specified that the organizational structure should not be exclusively dedicated to the commission of the illegal traffic of waste but could be inserted in an ordinary business activity which legally carries out other activities.

³³¹ As clarified by the Supreme Court, the meaning of unauthorized management shall not be deemed strictly as it aims at sanctioning any unlawful management of waste carried out by any means. See Cass. Pen., sez. III, 9.08.2006, n. 28685; Cass. Pen., sez. III, 10.11.2005, n. 40827.

³³² Cass. Pen., sez. III, 10.11.2005, n. 40827.

³³³ Cass. Pen., sez. III, 3.03.2010, n. 8299; Cass. Pen., sez. III, 12.12.2008, n. 46029, para. 4.

³³⁴ Cass. Pen., sez. III, 10.11.2005, n. 40827.

³³⁵ Cass. Pen., sez. III, 2.07.2007, n. 28158.

worth of mentioning that in 2011 national legislation has been amended in order to comply with the EU requirements, and was introduced corporate responsibility to punish companies that benefit from the perpetration of environmental crimes - including the crime of illegal traffic of waste – when committed by companies' directors, executives and/or employees (art. 25-undecies of Legislative Decree no. 231 of 8.06.2001 - hereinafter referred to as 'Legislative Decree 231/2001').³³⁶ According to the provisions of Legislative Decree 231/2001 in force, a legal entity but also an association without the status of legal entity will be administratively liable and charged a fine (and, if the relevant conditions are met, charged additional penalties)³³⁷ in case the crime of illegal traffic of waste is committed in its interests or advantage and by persons who represent, manage or direct (also *de facto*) the legal entity or association or by persons under their surveillance.³³⁸ These amendments represent a further departure from the principle of *societas delinquere non potest* that traditionally has found application in criminal law and, moreover, a potential contribution to the improvement of environmental protection in the country.³³⁹ Relatively few judicial cases, however, have been decided until now due to the recent implementation of these legal provisions.

³³⁶ Decreto Legislativo 8 giugno 2001 n. 231 'Disciplina della Responsabilità Amministrativa delle Persone Giuridiche, delle Società e delle Associazioni anche Prive di Personalità Giuridica, a Norma dell'Articolo 11 della legge 29 settembre 2000, n. 300' (Legislative Decree 231/2001) GU n. 140 del 19.06.2001; Legge 3 agosto 2009 n. 116 'Ratifica ed Esecuzione della Convenzione dell'Organizzazione delle Nazioni Unite contro la Corruzione, Adottata dalla Assemblea Generale dell'ONU il 31 ottobre 2003 con Risoluzione n. 58/4, Firmata dallo Stato Italiano il 9 dicembre 2003, nonché Norme di Adeguamento Interno e Modifiche al Codice Penale e al Codice di Procedura Penale' GU n.188 del 14.08.2009; Decreto legislativo 07 luglio 2011 n. 121 'Attuazione della direttiva 2008/99/CE sulla Tutela Penale dell'Ambiente, nonché della Direttiva 2009/123/CE che Modifica la Direttiva 2005/35/CE relativa all'Inquinamento Provocato dalle Navi e all'Introduzione di Sanzioni per Violazioni' GU Serie Generale n. 177 del 01.08.2011.

³³⁷ Among the most severe enshrined in Legislative Decree 231/2001, there could be enforced the following penalties: suspension or withdrawal of permits and licenses, prohibition to contract with the State or government agencies, prohibition to carry out the business activity, exclusion or withdrawal of financings and granting, profit seizures, prohibition of advertising goods and services.

³³⁸ In order to overcome the limitations set by article 27 of the Constitution according to which only natural persons can be subject to criminal sanctions, Legislative Decree 231/2001 introduced the so-called administrative liability of juridical persons, which is based on administrative and criminal principles altogether. Günter Heine, 'La Responsabilidad Colectiva: Una Tarea Pendiente a la Luz de la Reciente Evolución Europea' in Carlo Gómez-Jara Díez (ed), *Modelos de Acorresponsabilidad Penal Empresarial* (Universidad Externado de Colombia, Bogotá 2008) 181.

³³⁹ Luigi Guerrieri, 'La "Colpa di Organizzazione" quale Manifestazione della Colpevolezza degli Enti' in Mauro Catenacci e Guglielmo Marconi (eds) *Temi di Diritto Penale dell'Economia e dell'Ambiente* (Giapichelli Editore, Torino 2009) 212; Maurizio Riverditi, *La Responsabilità degli Enti: UN Crocevia tra Repressione e Special Prevenzione. Circolarità ed Innovazione dei Modelli Sanzionatori* (Jovene Editore, Napoli 2009) 15.

Although illegal traffic of waste could potentially involve several firms and individuals, article 260 of the Italian Environmental Code can only be enforced against a single natural person who acted for his/her own personal interest or for the superior interest of a legal entity.³⁴⁰ Indeed, this offence is not a joint crime as it does not necessitate, for the sanction to be imposed, the involvement of two or more individuals.³⁴¹ Nonetheless, according to the general principles of liability for aiding and abetting in Italian criminal law, the crime can also be enforced against two or more individuals, when each of the co-participants has given a causal contribution (moral or material contribution) to the crime commission.³⁴² Reference to criminal liability for aiding and abetting is crucial for understanding that the crime of illegal traffic of waste is often perpetrated by different market players. Indeed, as waste management necessitates coordination and sequencing of different activities, it becomes more likely that the criminal conduct will see the interaction of more than one waste operator. Similarly, criminal prosecution and sentencing may be brought against more than one individual involved in the criminal activity. This is of particular importance for a research based on qualitative data extracted from criminal cases. Criminal files do provide details about all individuals involved in the criminal offence so to facilitate an understanding of the interaction among persons and economic entities involved in the illegal traffic of waste. In sum, the crime of illegal traffic of waste can be perpetrated by any individual (operating singularly or within a legal entity) who has handled or managed waste illegally, including therefore waste brokers who do not take physical possession of the waste.

It should be mentioned that when article 260 of the Italian Environmental Code could not provide for a severe enough penalty (ie in case of severe pollution events) or when there are not present all elements for the crime to be enforced, other sanctions have been imposed against illegal waste diversion activities. Because in Italy there has not been promulgated criminal law sanctions specifically endeavoured to penalize pollution events or threats of great proportions, territorial courts (as corroborated by the Supreme Criminal Court jurisprudence) have often enforced

³⁴⁰ Cass. Pen., sez. III, 20.04.2011, n. 15630.

³⁴¹ This would be the case, for instance, of transnational organized crime which compulsorily requires, for its commission, the cooperation of three or more persons (also known as joint crime).

³⁴² Cass. Pen. sez. III, 22.07.2011, n. 29516; Cass. Pen., sez. III, 27.05.2005, n. 19955.

crimes that were not designed to protect the environment.³⁴³ Among these offences, mention should be given to the crimes enshrined in articles 434, 449 and 240 of the Criminal Code, which have also been imposed with the purpose of counteracting unlawful waste management activities. Specifically, articles 434 and 449 have been employed to sanction environmental disasters committed with wilful intention and by negligence.

It goes without saying that environmental crimes are often connected with other crimes sanctioned by the Italian Criminal Code (cp), such as corruption (art. 318, 319, 321 cp), criminal association (416 cp), environmental disaster (434 cp), ideological forgery of public deeds (art. 483 cp), fraud (art. 640 cp), and money laundering or handling or stolen goods (art. 648 cp). For example, the use of a false chemical analysis certificate (reporting false details about sampled waste) during waste transportation or data falsification on FIR are sanctioned as crime by expressed reference made to art. 483 cp.³⁴⁴ These criminal penalties can play a valuable role in preventing and contrasting environmental crime and can be a powerful instrument when compared to forms of sanctioning confined to misdemeanours, as the case is in environmental law in Italy. These criminal charges have also been taken into account when analysing the criminal cases investigated. This has been done first in order to provide a comprehensive view of the data reviewed, as article 260 of the Italian Environmental Code is often enforced together with the aforementioned criminal penalties. Second, identifying additional criminal charges was necessary in order to examine exclusively criminal cases involving apparently legitimate economic operators and not involving organized crime syndicates (ie mafia-type association) sanctioned by the Italian Criminal Code under article 416-bis cp.

³⁴³ cf Alberto Gargani (n 312) 482.

³⁴⁴ The crime enshrined in art. 483 cp punishes false declarations given by a person before a public authority (art. 357 cp) or within a public deed (art. 2699 of the Italian Civil Code), whose information are needed to prove authenticity regarding waste typology, composition and physical-chemical properties (art. 258 of the Italian Environmental Code). Moreover, art. 483 can be enforced, as expressed reference in art. 21 of Law no. 241/1990 (recalled by art. 214 para 9 of the Italian Environmental Code), if the Simplified Permit for the treatment of waste is issued to a facility, which does not have the compulsory requirements to operate.

CHAPTER FOUR: METHODOLOGY AND DATA SOURCES

Until very recently, scholars did not stress the need to explore how waste crimes unfold.³⁴⁵ Few studies examined the issue, addressing in some detail how waste crimes were committed and the related criminal opportunities, though without using exactly the term opportunity.³⁴⁶ Yet, studies have neither systematically investigated the process through which waste crimes take place nor have empirically assessed whether there exist laws that may facilitate or encourage illegal activities in the waste sector. Unravelling the complex dynamics and specificities of waste crimes is also a precondition for studying possible crime opportunities provided by the legal environment, including any possible relationship between legislative shortcomings and illegal traffic in waste.

This section presents the qualitative methodology used to explore waste crime in Italy. This includes an overview of the research design and an explanation of the reasoning behind this methodological choice. It is worth of noting that the research design was developed to address two objectives. The first was to explore and identify the specifics of the offence under scrutiny (ie crime characteristics and crime commission process), thus examining the current state of art as crimes and crime commission processes change over time.³⁴⁷ The second was to assess whether empirical evidence suggests a possible linkage between legislative shortcomings and waste crime.

The chapter is first dedicated to illustrate the data-collection and selection strategy, the types of data used and the relative sources. Then, it focuses on the approach used to manage and analyse the data collected that was developed to specifically address the two research questions above presented. In order to attempt to answer to them, a two-prong examination of the data

³⁴⁵ cf Lisa Thompson and Spencer Chainey (n 47).

³⁴⁶ Debra Elaine Ross (n 160); cf Donald J. Rebovich (n 5); cf Monica Massari and Paola Monzini (n 26).

³⁴⁷ cf Donald J. Rebovich (n 5) 107.

gathered, shaped by the theoretical framework above presented, was required. The remainder of the chapter highlights limitations and ethical issues in obtaining and managing the data used.

4.1 OVERVIEW ON THE METHOD AND RESEARCH QUESTIONS

Despite progress in understanding the mechanisms that lie behind waste crime, there are still many unexamined issues. Little is known about the dynamic process through which waste crimes unfold. In order to unravel the mechanisms that lie behind the illegal traffic of waste, knowledge of the crime characteristics are required. As already clarified, understanding its specific aspects is also a prerequisite for identifying crime opportunities provided by the legal environment. So therefore, a qualitative exploratory design was necessary if not compelling. The reason is threefold. First, an exploratory approach is needed in an area where little empirical research has so far been undertaken, data are almost non-existent and difficult barriers exist in exploring a crime that has often been neglected although causes more deaths than other crimes.³⁴⁸ Second, as addressed by scholars in the field, '[q]ualitative research seeks indepth, detailed information which, though not always completely generalizable, allows for a depth understanding of at a minimum those specific...events' and 'identify and explain patterns and theme in events'.³⁴⁹ Third, a qualitative analysis 'can contribute to our understanding of the context in which crime occurs'.³⁵⁰

The study of waste crime perpetrated by legitimate market players is a demanding task. For addressing the first research question and for the sake of being 'crime-specific'³⁵¹, the study explores qualitatively illegal traffic of waste prosecuted in Italy under article 260 of the Italian Environmental Code. This offence can be considered as a complex type of crime. This can be attributed to the fact that the illegal traffic of waste may involve an extended sequence of actions

³⁴⁸ cf Neal Shover and Aaron S. Routte (n 17) 322; W. Lawrence Neuman, Bruce Wiegand and John A. Winterdyk, *Criminal Justice Research Methods. Qualitative and Quantitative Approaches* (Pearson, Toronto 2004), 21.

³⁴⁹ Gennaro F. Vito, Julie C. Kunselman, and Richard Tewksbury, *Introduction to Criminal Justice Research Methods. An Applied Approach* (Charles C Thomas Publisher Ltd, Springfield 2008), 173, 175.

³⁵⁰ Lesley Noaks and Emma Wincup, *Criminological Research. Understanding Qualitative Methods* (Sage Publications Ltd, London 2004), 14.

³⁵¹ cf Ronald V. Clarke (n 128).

often performed by different market players at different stages of the composite waste management sector. It should also be underlined that no single waste management process can be identified for all waste streams. The reason behind such differences underlies beneath the nature of waste. Indeed, depending on the type of waste there may be necessary different management and treatment methods. Still, there are some common aspects of the crime under scrutiny that can be identified and discussed meaningfully here.

In order to do so, and to understand the offence characteristics and the criminal event as a whole, systematize and aggregate data and guide the research analysis, in addition to the first research question³⁵² the following sub-questions were answered: where, how and by whom is illegal waste traffic perpetrated? These sub-questions that were tailored to the theoretical model described in the literature review are needed in order to tease out the subtle complexities of the crime under investigation.³⁵³ Furthermore, these sub-questions provide the framework from which to proceed to further explore possible crime opportunities. Indeed, they help to highlight criminal characteristics and unfolding the crime commission as embedded within the waste management process.³⁵⁴ The sub-questions are the following.

1. How. This question is essential for exploring and understanding the techniques being used to commit the offence under scrutiny.

³⁵² As previously mentioned, the first research question is the following: How is illegal traffic in waste perpetrated by legitimate market players?

³⁵³ cf Freda Adler (n 22) 41.

³⁵⁴ In order to explore in details a specific offence, pinpoint crime patterns and further identify possible crime opportunities, situational crime prevention researchers have adopted the so-called crime-script method. As already explained in the chapter dedicated to the literature review, crime-script analysis helps 'generating, organizing and systematizing knowledge about the procedural aspects and procedural requirements of crime commission'. (cf Derek Cornish (n 137) 151). Tompson and Chainey have suggested this method also for exploring illegal waste management activities and delve into its specific crime commission process. The script method proposed by Tompson and Chainey helps dividing the criminal process into acts and identifying, for each act, scenes, casts and activities. The acts of the crime commission process are: creation, storage, collection, transport, treatment, and disposal. The scenes are the setting where the crime is perpetrated. The casts are the participants or actors for each act. Finally, the activities are the actions being taken during each act. In spite of the usefulness of the crime-scripts method proposed by Tompson and Chainey, it has deemed appropriate to explore the characteristics of illegal waste traffic by focusing on the sub-questions how, where and by whom. The reason behind this choice underlies beneath the specific characteristics of the crime under scrutiny. cf Lisa Tompson and Spencer Chainey (n 47).

2. WHERE. This question seeks to identify the place of ultimate destination of waste, that is to say where waste may end its life cycle, including waste discharge, concealment through recovery or secondary raw materials production. Recognising the end-of-life cycle not only helps to get a comprehensive view of the crime commission as inherently related to the waste management process, but also allows to identify the final setting of the crime under investigation.
3. BY WHOM. When analyzing waste crimes there is a need to identify, together with the single phases in waste management, individuals or legal entities. First, this question helps to understand which economic activities and related actors are involved and at which stages of the composite waste management sector. Second, it helps to pinpoint patterns in the crime commission process as they take place from waste generation to the end of its life cycle. For the purpose of identifying each of the economic operators accountable, attention is given to the following waste management activities and related operators: generation (waste producers), brokerage (waste brokers), chemical analysis (chemical analysis laboratories), collection and transport (waste carriers), recovery (recovery operators) and disposal (disposal operators).³⁵⁵ A review of the legal literature suggested the need to focus on these seven activities given their crucial role in both waste management and waste crimes, though some of them were neither considered by criminological research³⁵⁶ nor by the legislation.³⁵⁷

As shown in table 3, the data cases gathered are systematized and subsequently analyzed according to these questions and framework in mind.³⁵⁸

³⁵⁵ Thompson and Chainey have proposed to organize the information about illegal waste activities, by dividing the crime commission process in: creation, storage, collection, transport, treatment, and disposal. For the purposes of the present research, it has instead been chosen to explore and examine the criminal offence according to the phases identified by the legal literature (as discussed in chapter three) and corresponding to the key activities (identified by the legal literature) in both waste management and waste crime. cf Lisa Thompson and Spencer Chainey (n 47).

³⁵⁶ cf Lisa Thompson and Spencer Chainey (n 47) 188; cf Monica Massari and Paola Monzini (n 26) 291; cf Tom Vander Beken (n 7) 20.

³⁵⁷ See art. 183.1 lett. n) of the Italian Environmental Code.

³⁵⁸ Steven J. Taylor and Robert Bogdan, *Introduction to Qualitative Research Methods. The Research for Meanings* (Wiley, New York 1984), 137.

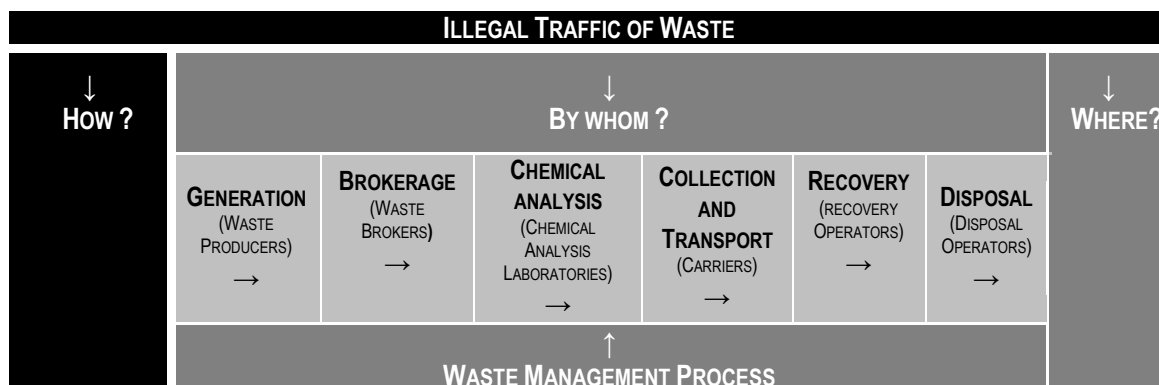


Table n. 3.

To answer the second and third research question³⁵⁹, attention is focused on the opportunity structure provided by the legal environment. More specifically, the focus is on administrative substantive law regulating the waste management sector. The aim is to empirically assess whether the analysed cases refer to existing legislative shortcomings (ie complex, ambiguous law rules or legislative loopholes³⁶⁰) in the law governing waste management, from generation to recovery or disposal of waste. The cases selected are screened and legislative shortcomings identified and categorized in terms of low quantity (ie legislative loopholes) and low quality (ie ambiguity or complexity in legal rules) following a schemata similar to the one suggested by Vander Beken.³⁶¹ This second phase allows for an inductive reasoning process that may lead to inferences about the existence of criminal opportunities unintentionally created by the legislation.³⁶²

It should be noted that one contingent opportunity factor can potentially influence the effectiveness of the legal framework: these are administrative controls. In this regard, scholarly research underlines that controls should not be overlooked within the context of opportunities created by the

³⁵⁹ As previously mentioned, the second and third research questionnaire the following: Are there legislative shortcomings (ie ambiguous, complex law rules, or legislative loopholes) in substantive administrative law? And could these legislative shortcomings facilitate or encourage illegal waste diversion activities?

³⁶⁰ As previously mentioned, ambiguous laws are legislative rules that lack in clarity, complex laws are legislation that occasions bewilderment and, lastly, legislative loopholes are law rules that leave parts unregulated.

³⁶¹ cf Tom Vander Beken (n 7).

³⁶² Jeffrey D. Senese, *Applied Research Methods in Criminal Justice* (Nelson-Hall Publishers, Chicago 1997), 302.

legal environment. Specifically, researchers argue that '[c]reating legislation is one thing, applying them is another'.³⁶³ With reference to it, it should be recognised that complying with a maze of environmental controls or be subject to no controls can adversely affect the quality of the law or generate avoidable legal rules. If controls are not effective, administrative law could virtually lose its function.

At this point, it is necessary to underline that the research design varied slightly during the research process. Many of the issues and ideas gleaned from the first data collection (ie interviews) guided the secondary data collection and analysis component. This happened since when interviewees, who were asked to talk about shortcomings in administrative substantive law, naturally and repeatedly identify a causal linkage between administrative controls and the crime under scrutiny rather than recognizing a relationship between legislative shortcomings and illegal traffic in waste. Hence, instead of focusing only on potential legislative shortcomings, it was decided to give also attention to the role of administrative controls when examining documentary sources (ie second data collection) for the cases selected. Thus, the degree of controls (ie insufficient number of controls) and/or their quality (ie lack of adequate controls) has also been considered. Unlike with low quality of the legislation, low quality of administrative controls could not be defined *ax ante*. The typology of low quality of administrative controls was unravelled from the data obtained and subsequently aggregated and analysed.

By referring to administrative controls, it should be made clear that the present analysis refers to controls carried out by provinces and regional public agencies for environmental protection (ARPA), specifically conducted at waste management facilities to monitor compliance with permits and legal requirements. The focus is not on the enforcement of pollution control laws but on preventive administrative controls exercised by these administrative bodies. The approach developed and the framework of reference for the analysis of the data gathered is summarized in Table 4.

³⁶³ cf Tom Vander Beken (n 7) 104.

ILLEGAL TRAFFIC OF WASTE			
LEGISLATIVE SHORTCOMINGS		SHORTCOMINGS IN ADMINISTRATIVE CONTROLS	
LOW QUALITY ↓	LOW QUANTITY ↓	LOW QUALITY ↓	LOW QUANTITY ↓
AMBIGUITY OR COMPLEXITY IN LEGAL RULES	LEGISLATIVE LOOPHOLES OR LACK OF LEGAL RULES	LACK OF ADEQUATE CONTROLS	INSUFFICIENT NUMBER OF CONTROLS

Table n. 4.

4.2 DATA SOURCES

The previous paragraph provided an overview of the qualitative exploratory design chosen for the present research. This paragraph illustrates more specifically the instruments used to investigate the crime problem. Two types of data were collected to address the research questions. First, the data used were derived from interviews with public district prosecutors, police officials and officials from the regional public agencies for environmental protection. Second, in order to enhance trustworthiness of the research and supplement data found in transcripts, the research relied on an additional source for the incoming data: official documents (investigation reports, pre-trial decisions, and sentencing decisions) collected in Italy of defendants prosecuted or sentenced – under article 260 of the Italian Environmental Code – for the crime of illegal traffic of waste. These data sources, although not gathered from a random sample, are as representative of the country differences as possible since both criminal cases and interviews were collected in north, centre and south of Italy.

The combination of data from these two sources could provide more reliable information about the research subject and counterbalance weaknesses of each method used.³⁶⁴ Indeed, interviews and official documents were chosen with the aim of achieving validity through a triangulation of both data sources and methods.³⁶⁵ This multiple triangulation, which combines data obtained

³⁶⁴ Ian Crow and Natasha Semmens, *Researching Criminology* (Open University Press, Maidenhead 2008), 11.

³⁶⁵ cf Lesley Noaks and Emma Wincup (n 350) 72.

from different sources and with different instruments, helps in providing a more complete picture of the phenomenon investigated and allows mutual validation of the results obtained.³⁶⁶

It should also be clarified that each data component from these two sources has its own rationale. Data from documentary sources help to understand the specific features and dynamics of the criminal offence as well as identify patterns in the crime commission process as embedded within the waste management procedures. Since documentary sources could tell anything about the second research question, as to whether there exist legislative shortcomings and such shortcomings facilitate or encourage illegal waste traffic, data extracted from interviews not only provide an overview of the criminal event and supplement textual data but, more specifically, could support or rebut themes about legislative shortcomings, which could emerge during the analysis of written sources.

The following sub-paragraphs are organized as follows. The first one presents a description of the interview procedure used in this research, including collection, interviewing techniques and interview content. Moreover, it explains the reasoning behind this sources' choice and problems encountered in collecting and completing the interviews. The second paragraph presents the types of official documents used and the techniques employed to collect and select the documents chosen. Besides, it illustrates the advantages and difficulties faced in using this typology of sources. The third and four paragraphs, respectively, provide a rationale for the limitations of each data sources, and identify the ethical considerations posed by the research in disclosing the outcome of the present study.

4.2.1 INTERVIEWS WITH EXPERTS

Data were collected through the use of semi-structured interviews with experts in the field. Much qualitative research relies on interviews, which are a well-suited data collection method when the

³⁶⁶ Joseph A. Maxwell, *Qualitative Research Design. An Interactive Approach* (Sage Publications Inc., Thousand Oaks, 2005), 94.

settings or subjects would not otherwise be accessible.³⁶⁷ Whereas interviewing criminals seemed rather difficult, it was recognised that detailed information could be obtained from persons who have come into contact with waste crime: these are prosecutors, police forces and officials from regional agencies for environmental protection. In an effort to increase validity and broaden the research perspective, it was employed source triangulation by questioning persons who have diverse perspectives on the problem being explored. This is the reason why interviews were conducted with these types of officials who, although stand on the side of the criminal justice system, may have different perspectives and background on the issue under study. Plus, it should be noted that not only are there multiple interview sources but within each source there are multiple individuals interviewed who could provide a range of perspectives on the issue investigated. As pinpointed by Polkinghorne, 'multiple participants serve as a kind of triangulation on the experience, locating its core meaning by approaching it through different accounts. Triangulation does not serve to verify a particular account but to allow the researcher to move beyond a single view of the experience'.³⁶⁸

Public prosecutors were chosen using the snowball approach, since it was not possible to draw a random sample.³⁶⁹ It was also necessary to apply the snowball approach for selecting participants because few district public prosecutors (in the country) are assigned criminal cases concerning waste crimes and have knowledge of what is taking place when the crime is perpetrated. In order to initially identifying district prosecutors' offices having investigated cases of illegal waste traffic, it was necessary to screen sentences from the Supreme Criminal Court and NGO's reports. Prosecutors were subsequently contacted by email. In the email, it was specified both the research topic and the aim of the study. In particular, it was clarified that the investigation regarded the problem of illegal waste traffic in Italy committed by legitimate economic operators (and not organized crime) and that the research focus was on the effectiveness of laws governing waste management. Once started interviews, it was asked respondents to suggest names of other

³⁶⁷ cf Steven J. Taylor and Robert Bogdan (n 358).

³⁶⁸ Donald E. Polkinghorne, 'Language and Meaning: Data Collection in Qualitative Research' (2005) 52(2) *Journal of Counseling Psychology* 137, 140.

³⁶⁹ Uwe Flick, *Designing Qualitative Research* (Sage Publications Ltd., London 2007), 28.

magistrates who have extensive knowledge about structure and dynamics of the crime under scrutiny.³⁷⁰

In order to obtain triangulation of sources, interviews were also carried out with officials from the State Forestry Corps, which is a national police unit highly specialized in environment crimes. State Forestry Corps, play a crucial role in the nation's environmental policy as they are entrusted with the control and enforcement of environmental law and, assist prosecutors in the handling of criminal investigations. Officials from regional public agencies for environmental protection were chosen for their unique insight into the issue. These agencies conduct most of the inspections and are also responsible for environmental enforcement and compliance activities. State Forestry Corps were initially chosen by purposive sampling as this selection methodology was designed to yield a sufficient number of responses. Interview request was forwarded to the central unit of the State Forestry Corps³⁷¹, which identified potential participants who investigated criminal cases involving waste crimes.³⁷² Participants from the regional public agency for environmental protection were instead selected using the snowball approach, in that as State Forestry officials were asked to recommend both officials from the State Forestry Corps and officials from regional public agencies for environmental protection who could provide valuable information about the crime problem. The snowball sampling was used to select informants among officials within regional agencies who are specialized in the waste sector, carry out inspections at waste plants or deal with waste issues. Once interviewees were completed, officials were asked to identify additional potential participants.

Despite these strategies, the snowball technique was not as productive as first thought. Officials from regional public agencies of environmental protection were unwilling to identify persons from other regional agencies. The reason, as subsequently clarified by participants, is that divergences and no sufficient communication exists among public agencies for environmental protection located

³⁷⁰ Doreen McBarnet, 'Whiter than White Collar Crime' in Simon Halliday and Patrick Schmidt (eds) *Conducting Law and Society Research. Reflections on Methods and Practices* (Cambridge University Press, Cambridge 2009), 156.

³⁷¹ ie Corpo Forestale dello Stato - Nucleo Investigativo Centrale di Polizia Ambientale e Forestale.

³⁷² I forwarded interview request also to the environmental police division of Carabinieri - (known as NOE) which, regrettably, refused to give permission to interview district police officers. As confirmed by scholars in the field, gaining access to police could be difficult. See Victor Jupp, *Methods of Criminological Research* (Routledge, London and New York 2002), 20.

in different regions. Indeed, officials from different regional agencies often do not know each other and are not able to suggest potential participants from other agencies with the requisite expertise.

In total, twenty interviews were conducted using the same interview protocol: nine interviews were held with district public prosecutors, seven with officials from the State Forestry Corps, and three with officials from the regional public agency for environmental protection. All interviews were carried out at participants' offices.³⁷³ Originally, interviews were scheduled with more participants and also with defendant's lawyers, but obtaining interviews and valuable data proved to be extremely difficult. Some interviewees were not eager to provide details about the crime, others gave very general or vague responses. This was probably due to the sensitivity of the topic and to the fact that waste crimes are rather complex, cover different activities, operators and technical issues that span from industrial processes, waste treatments, and transport regulation to chemical analysis systems.³⁷⁴ Indeed, it was difficult for participants to remember and give details about the crime problem. Second, after initial pilot interviews, interviews with defendant's lawyers were excluded due to the fact that their answers were substantially constrained by professional and ethical issues.³⁷⁵ Despite the low number of interviews no additional interviews were scheduled since the last interviews carried out did not yield any additional insights into the crime problem.³⁷⁶

The method used was face-to-face semi-structured interviews.³⁷⁷ Besides guaranteeing that all questions were addressed by participants, this interview method has the main advantage of leaving space for open dialogue. It gives the possibility to add additional information about the crime problem and allows participants to focus on the issues of greatest importance to them. The disadvantage with semi-structured interviews is that answers could be excursive and participants

³⁷³ Interviews, including pilot interviews were carried out in between the years 2010 and 2011. As discussed in the paragraph dedicated to the ethical policy, it should be recalled that names of participants and interviews' location are not disclosed for privacy reasons and for avoiding erroneous ideas about regional differences in the country.

³⁷⁴ This is confirmed by the study carried out by Benson and Cullen who interviewed public prosecutors to explore the extent of environmental crime problem in US in the late eighties. cf Michael L. Benson and Francis T. Cullen (n 57) 144.

³⁷⁵ It should be recalled that transcripts from pilot interviews have not been used for the analysis.

³⁷⁶ cf Steven J. Taylor and Robert Bogdan (n 358).

³⁷⁷ cf Gennaro F. Vito, Julie C. Kunselman, and Richard Tewksbury (n 349), 205.

could raise other issues. Interviews were conducted with the first purpose of understanding dynamics and structure of the illegal traffic of waste, ie understanding how the crime is perpetrated. Each interviewee was first asked to talk about assigned criminal cases. Thus, it was given to participants the chance to naturally describe the criminal cases investigated. This part of the interview process was crucial because it contributed to the process of triangulation of sources and perspectives.

In order to ensure that the second question was covered, participants were invited to identify potential loopholes in administrative substantive law or complex or ambiguous law provisions regulating waste management. The aim was to allow participants to talk about the domain with the least direction from the researcher and give the possibility to identify, without any constraint, potential shortcomings in administrative substantive law. If identified any, it was subsequently asked whether such law provisions could facilitate or encourage illegal waste crime. As already clarified, participants were not asked whether there existed shortcomings in administrative controls (ie low quality or quantity of controls) that could facilitate or encourage illegal waste traffic but, as aforementioned, inclusion was subsequently deemed necessary. The interviews lasted approximately forty minutes and were not tape-recorded to encourage openness.³⁷⁸ Hence, short notes were taken during the interviews and, in order to maintain contact with participants, notes were completed only at the end of the interview process. A copy of the interview instrument is in Appendix D.

4.2.2 DOCUMENTARY OFFICIAL SOURCES

Data gathered from interviews were supplemented by information retained from official documents: investigation reports, pre-trial decisions and sentencing decisions. As shown from before, traditional qualitative methods (eg interviews) could face severe limitations, in particular when applied to crimes committed within the context of legitimate economic activities.³⁷⁹ Indeed, studies about legitimate market players' involvement in waste crimes could be difficult to do as the case is

³⁷⁸ See the appendix 'Getting Interviews with Corporate Executives' in: cf John Braithwaite (n 148) 386.

³⁷⁹ cf Michael L. Benson and Sally S. Simpson (n 87) 43.

with white-collar crime research.³⁸⁰ In this regard, Shapiro's argument is significant because it recognises that, '[b]ecause of problems of access to data and the informality and low visibility of the processing of white-collar offences, most empirical studies rely on highly selected samples of official records or materials in the public domain'.³⁸¹ Official documents could be very useful to learn more about the relevant facts and circumstances surrounding a criminal act.³⁸² This is the reason why data were also gathered from documentary sources.

Investigation reports, pre-trial decisions and sentencing decisions are pivotal in providing detailed information about criminal offences.³⁸³ The literature contains some excellent examples of research that used these sources for the data collection. For instance, Wilczynski has demonstrated the usefulness of prosecution files in her study on filicide and motives in England.³⁸⁴ These documentary sources were conducive to addressing specific questions about motives and circumstances of a crime, specifically for the reason that police and prosecutors' first aim is to identify fact-findings to support an appropriate criminal charge.³⁸⁵ In order to study bankruptcy frauds in England, Levi has carried out a qualitative analysis of court records, which yielded detailed information about fraudsters and how long-firm frauds was perpetrated.³⁸⁶ Brookman's qualitative research on homicide in England has shown the value of police murder files in providing a deep insight into the crime problem.³⁸⁷ Chiu and others, using the same theoretical paradigm employed here, have studied the crime commission process in clandestine drug laboratories through an examination of court cases.³⁸⁸ Huisman and van Erp have used criminal investigation

³⁸⁰ cf Lesley Noaks and Emma Wincup (n 350) 12.

³⁸¹ Susan P. Shapiro, 'The Road Not Taken: The Elusive Path to Criminal Prosecution for White-Collar Offenders' (1985) 19(2) *Law and Society Review* 179, 184.

³⁸² Fiona Brookman, 'Accessing and Analysing Police Murder Files' in Fiona Brookman, Lesley Noaks and Emma Wincup (eds), *Qualitative Research in Criminology* (Ashgate, Aldershot 1999), 52.

³⁸³ cf Lesley Noaks and Emma Wincup (n 350) 112.

³⁸⁴ Ania Wilczynski, 'Child Killing By Parents: A Motivational Model' (1995) 4 *Child Abuse Review* 365.

³⁸⁵ cf Fiona Brookman (n 381) 48.

³⁸⁶ Michael Levi, *The Phantom Capitalists: The Organization and Control of Long-Firm Fraud* (Heinemann, London 1981).

³⁸⁷ cf Fiona Brookman (n 381) 47.

³⁸⁸ cf Yi-Ning Chiu, Benoit Leclerc and Michael Townsley (n 134).

files in order to assess situational opportunities enticing environmental crime in the Netherlands.³⁸⁹ As suggested by the preceding researches, these documentary sources contain a plethora of information about crime, offenders, victims, and circumstances in which the criminal offence was committed.

Investigation reports, pre-trial decisions and some of the collected sentencing decisions were provided by the interviewed public district prosecutors and officials from the State Forestry Corps. Once each participant completed the interview, he/she was asked to provide official documents of the criminal cases discussed during the interview process or to give documents about other investigated cases. In order to collect additional data sources, sentencing decisions were also gathered through the main legal research engines available to lawyers and legal practitioners in Italy.³⁹⁰ In order to search for criminal cases of illegal traffic of waste, the search was combined with the following terms: 'rifiuti AND illegale AND traffico'.³⁹¹ The search was limited to sentencing decisions from first and second instance courts for the time period 2001 (year in which the offence was first incorporated into Italian law) through 2013. Judgments from the Supreme Criminal Court, which is the third and last appellate court in Italy, were excluded. The reason is because Supreme Criminal Court decisions do not review the fact-findings of inferior courts but merely ascertain if the law has been correctly applied by the lower court. As a result, Supreme Criminal Court decisions

³⁸⁹ cf Wim Huisman and Judith van Erp (n 4). In situational crime prevention studies, criminal investigation files have also been used to explore organized crime. To give an example, a case studies research examined in depth four types of organized cross-border crimes: illegal smuggling of immigrants, trafficking in women exploited for sexual or economic purposes, and drug trafficking. The research was conducted in four countries in Europe taking part to the Falcone Project, and has delved into the issue of organized crime and the interface with the licit environment in order to identify opportunities and propose preventive measures against these crime risks. cf Henk van de Bunt and Cathelijne van der Schoot (n 9).

³⁹⁰ More specifically, the legal search engines used are 'Dejure' and 'Leggi d'Italia Professionale'. The search yielded a low number of documents. Specifically, the cases collected from the search engines were (before selection) only eighteen. The reason is because there is no national database, accessible for public consultation, which collects criminal sentencing decisions held by district courts in Italy. The only judicial decisions available on a national basis are Supreme Criminal Courts sentences which, as already mentioned, are not useful for the purpose of the present research. It should also be outlined that criminal files (including judicial sentences) in each district court are not easily accessible since they are not arranged or catalogued on a systematic basis. The problem is due to the fact that each case could be either recorded, as a criminal offence, under article 260 of the Italian Environmental Code or under another criminal offence. As clarified elsewhere, indeed, criminal cases involving illegal traffic of waste are frequently sanctioned, when they display the substantive criminal elements, as fraud, environmental disasters, etc. It goes without saying that data collection, on a national basis is not feasible. Moreover, if data collection was limited to a single district court, data obtained would have been geographically and numerically limited.

³⁹¹ ie 'waste AND illegal AND traffic OR management'

do not provide details about the crime, the techniques used to perpetrate it or the crime commission process.

In order to select cases prosecuted as illegal traffic in waste for inclusion in this study, approximately one hundred official documents were collected and reviewed: in total fifty-nine cases were identified and made available. Criminal cases were selected and, subsequently, cleaned out to avoid criminal diversity. The reason is twofold. First, a number of cases were lacking the necessary identifying information (eg details about the economic operators involved, etc.). Second, some of the cases collected were excluded because, although defendants did manage or discharge waste illegally, they were not prosecuted or convicted under article 260 of the Italian Environmental Code but under other crimes or downgraded to environmental misdemeanours. In total, twenty-nine cases were finally selected and analysed.

4.2.3 SOURCE LIMITATIONS

This exploratory study was endeavoured to provide some preliminary empirical insights into the research issue through the use of primary sources. Despite their importance, drawing evidence from primary sources presents some drawbacks. With reference to documentary sources, access to investigation reports, pre-trial decisions and sentencing decisions was usually restricted. There is a practical reason behind the limited availability of these documentary sources that should be taken into account here.

First, it must be clarified that there are no databases available to public that can be used to gather and select relevant criminal cases (with except to, as already mentioned, Supreme Criminal Court decisions). No methods would have been available for obtaining official documents about criminal cases other than extracting them, after authorization granted, from district courts' archives. Yet, it remains to be said that accessing archival data and selecting relevant cases from judicial archives could be extremely time consuming. This is due to the fact that criminal files in each district court are accessible but often not all judicial documents are available altogether, documents are not available in an electronic format and not all judicial cases involving illegal waste traffic could be identified since they can be recorded and archived under the headings of other economic crimes.

Different sampling strategies and approaches could have overcome some of the limitations illustrated here but the resources necessary would have been prohibitively expensive and time consuming.

Second, investigation reports, pre-trial decisions and sentencing decisions have been provided at the sole discretion of participants. In addition, some of the interviewees did not provide any document because of investigation's secrecy or because some of the documents collected regarded cases, which were punished under other criminal sanctions (ie fraud, corruption, ideological forgery of public deeds) or provided no sufficient information of the crime fact-findings. As a result, information was abundant for each of the selected cases but their number was small.

Third, the research design employed here is not able to uncover the dark figure of crime, which could be particularly high as it is the case with any other environmental crime.³⁹² As argued in the criminology literature, 'the major criticism of the offense-based approach is that in practice it misses the crimes of the powerful who simply sidestep the criminalization process'.³⁹³ Indeed, both data from the cases collected or from interviews with officials are unable to uncover unreported and underreported crimes. However, there is a counterargument that can be made to moderate this last critical remark. First, as argued by Porter, 'it is impossible to know whether a sample of offenders or offences that are selected for research purposes are indeed fully representative of the whole population of interest, since by its nature, crime is often a "hidden phenomenon"'.³⁹⁴ Second, and most important, how could we advance knowledge regarding waste crime if not with beginning from what is reported?

With specific regard to written sources, some could argue that the selected cases are not sufficient in number and, therefore, not entirely representative of the crime problem.³⁹⁵ Notwithstanding the validity of these criticisms, it must be emphasized here that data collected are not claimed to be

³⁹² Clive Coleman and Jenny Moynihan, *Understanding Crime Data: Haunted by the Dark Figure* (Open University Press, Philadelphia 1996); cf François Comte (n 10) 197.

³⁹³ cf Michael L. Benson and Sally S. Simpson (n 87) 12.

³⁹⁴ Louise E. Porter, 'Using Archival Data and Multidimensional Scaling to Explore Leadership: Examples from Group Crime' (2008) 8 *Issues in Forensic Psychology* 33.

³⁹⁵ Neal Shover and Andy Hochstetler, 'Cultural Explanation and Organizational Crime' (2002) 37 *Crime, Law and Social Change* 1, 8.

representative of all possible cases of illegal waste traffic nor intended to provide a comprehensive picture of the problem under investigation. The intention was to explore in-depth the crime, provide insights into the crime characteristics and the complex dynamics of the crime commission process and, finally, substantiate further the idea that legislative shortcomings in substantive administrative law could potentially create opportunities for lawbreaking.

With reference to the interview data, other constraints should be brought into attention here. Despite the usefulness of this additional data gathering method that helps to overcome the limitations of a single strategy, like any data sources also interviews have their limitations. First, as already mentioned some barriers existed in gaining access to sensitive information and interviewing key experts, including defendant's lawyers. Second, the snowball approach used to select participant calls into question the representativeness of the participants. Nonetheless, it should be recognised that such approach has the advantage of expanding the sample and identify persons, unknown to the researcher, with the required knowledge into the field. Third, one might question that the low number of participants and the non-uniform number for each category of interviewees could limit the generalizability of the findings. Still, it was necessary to opt for selecting participants given the fact that few are the experts in the field. Moreover, officials who did not deal with waste crimes would have little or nothing to add with respect to the crime under scrutiny.

There is a final issue that should be discussed here. It is particularly important because it concerns both written sources and interviews that could be influenced by subjective bias.³⁹⁶ It goes without saying that a research approach that draws its data mainly from the judicial system could be highly sensitive to subjective construction. Representing the perspective of the judiciary and police forces, such data may not be able to capture the economic operators' viewpoint and limit the overall results of the research. Moreover, both interviews and written sources have certain limitations that affect research design. Interviews represent subjective experiences rather than objective evaluations of a problem statement.³⁹⁷ Similarly, written sources could be highly biased by

³⁹⁶ cf Carol Gibbs and Sally S. Simpson (n 11).

³⁹⁷ cf Gennaro F. Vito, Julie C. Kunselman, and Richard Tewksbury (n 349) 202; cf Lesley Noaks and Emma Wincup (n 350) 113.

individual perspectives. In order to counter this inherent bias, the research design stressed achieving triangulation from a variety of sources. Yet, it remains to be said that interviewing economic operators who have committed waste crime in Italy or otherwise represent their viewpoint, as pilot interviews with defence lawyers unequivocally demonstrated, would be very difficult if not impossible.

4.3 DATA ANALYSIS

The previous paragraphs dealt with the selection and collection of data from the two sources identified. This paragraph is dedicated to illustrate the analysis of the data collected, which was conducted in two main stages. In a first phase, transcripts from the interviews and documentary sources were examined and analysed separately through different methods. Then, the two data sources were gathered together to discuss the findings. Briefly, the analysis proceeded as follows.

With reference to the data derived from official documentary sources, as already mentioned, the analysis was preceded by a selection phase. Before proceeding with the analysis, it was also necessary to group the documentary sources gathered because there were retrieved multiple documents (ie investigation reports, pre-trial decisions and sentencing decisions) for some of the cases selected. It was compelling to proceed as mentioned because more documents available for each case meant repetition of both data and information on the fact-findings on same criminal case. Cases were subsequently ordered on the basis of the number of documents available for each of the cases obtained. This was necessary because not only investigation reports, pre-trial decisions and sentencing decisions differ substantially in their content. It was also necessary because more documents available for each of the cases examined meant more data accessible and available for each criminal case, which could ultimately increase the reliability of the data gathered. Thus, criminal cases were ordered so that they could reflect such differences, giving priority to cases displaying the highest number of documents available.³⁹⁸ Multiple documents for

³⁹⁸ See table 5.

each of the cases retrieved, as underlined before, were cross checked to enhance reliability of the information collected. Such cross-comparison was essential for increasing the richness of the case data and counter problems of trustworthiness.

The method used to explore documentary sources was instrumental case analysis.³⁹⁹ Case studies, which have been particularly used in white-collar and corporate crime research, prove to be suitable in exploring crimes from an opportunity perspective.⁴⁰⁰ Each case was screened in order to uncover the criminal event as a whole and answer the sub-questions above presented (ie how, where, by whom). More specifically, each case was examined to identify how the crime was perpetrated and the techniques used, the final destination of the waste (ie its end-of-life cycle) and the economic operators (generators, brokers, chemical analysis laboratories, collector and transporters, recovery operators and disposal operators) potentially involved in the crime commission process. All documentary sources were reviewed and criminal cases were ordered using this standardized framework, designed to gather characteristics of the offence under scrutiny.⁴⁰¹ The how, where, and by whom framework facilitated also aggregation, analysis and cross-comparison of the data extracted from the cases collected.⁴⁰² Moreover, exploring in details the crime through this scheme helped pinpointing the most recurrent crime commission and identifying potential weaknesses within each stage of the waste management process.

The focus of the analysis subsequently shifted to potential crime opportunities provided by the legal environment in which waste crimes occur. For this purpose, attention was firstly given to the crime commission process that occurred the most in the criminal cases investigated. To furthering insights into the second question, there were identified phrases/wording in the documents, which refer to or pinpoint low quality or quantity, if any, of administrative substantive law and/or low quality or quantity of administrative controls. Specific attention was given to each of the

³⁹⁹ Robert E. Stake, 'Case Studies' in Norman K. Denzin and Yvonna S. Lincoln (eds) *Handbook of Qualitative Research* (Sage Publications Inc., Thousand Oaks 2000), 437.

⁴⁰⁰ cf Michael L. Benson and Sally S. Simpson (n 87) 42; cf Neal Shover and Andy Hochstetler (n 394).

⁴⁰¹ cf Uwe Flick (n 368) 100.

⁴⁰² Gery W. Ryan and H. Russell Bernard, 'Data Management and Analysis Methods' in Norman K. Denzin and Yvonna S. Lincoln (eds) *Handbook of Qualitative Research* (Sage Publications Inc., Thousand Oaks 2000), 786; cf Wim Huisman and Judith van Erp (n 4).

activities/operators involved in the waste management process (generators, brokers, chemical analysis laboratories, collectors and transporters, recovery and disposal operators).⁴⁰³

Given the tight linkage between administrative substantive law and controls, in a second review of the data, the analysis was endeavoured to ascertain which of the two shortcomings display a causal relationship with the crime under scrutiny. Documentary sources were first examined separately and then cross-compared with the aim of identifying differences and analogies among the cases selected.⁴⁰⁴ Finally, all data gathered were aggregated together to discuss the findings.⁴⁰⁵ The framework used to systemize, examine, and finally aggregate documentary sources is the one summarized in Table 5. In order to further systematize the data retrieved, for each case collected it was also identified the type of waste subject to the illegal traffic (with reference to the European waste code (EWC), the additional criminal sanctions imposed and the year of prosecution.

CASE NO.	
NO. OF OFFICIAL DOCUMENTARY SOURCES	
YEAR OF PROSECUTION	
EWC WASTE CODE	
ADDITIONAL CRIMINAL CHARGES	
(1) <u>How?</u>	
(2) <u>WHERE?</u>	
	<div> <div>(4) <u>LEGISLATIVE SHORTCOMINGS</u></div> <div>(5) <u>SHORTCOMINGS IN CONTROLS</u></div> </div> <div> <div>LOW QUALITY</div> <div>LOW QUANTITY</div> <div>LOW QUALITY</div> <div>LOW QUANTITY</div> </div>
(3) <u>BY WHOM ?</u>	
GENERATION	
BROKERAGE	
CHEMICAL ANALYSIS	
COLLECTION & TRANSPORT	
RECOVERY	
DISPOSAL	

Table n. 5.

⁴⁰³ David R. Thomas, ‘A General Inductive Approach for Analyzing Qualitative Evaluation Data’ (2006) 27 *American Journal of Evaluation* 237, 240.

⁴⁰⁴ cf David R. Thomas (n 402) 239.

⁴⁰⁵ cf Jeffrey D. Senese (n 361) 305.

It goes without saying that any reference specifically made in official documents to legislative shortcomings or shortcomings in administrative controls does not directly imply a causal linkage between these shortcomings and the crime under scrutiny. However, showing existing shortcomings and illustrating when and at what stage of the waste management process they played a role in the commission of the offence tells much about the opportunity structure provided by the legal environment and, more specifically, by administrative substantive law rules governing the waste management sector. To further the understanding gained through the documentary sources and confirm the findings, results were cross-compared with data extracted from transcripts.

With reference to the data derived from interviews, it should be underlined that responses were treated as giving narratives, requiring further analysis.⁴⁰⁶ First, transcripts were analysed to investigate each of the cases (described by participants), and deepen and broaden the understanding of the crime problem. The sub-questions above identified (ie how, where, and by whom) guided the analytical process.⁴⁰⁷ Then, the focus shifted to the second research questions. Thus, transcripts were examined to assess first whether participants identified potential legislative shortcomings in substantive administrative law and or shortcomings in administrative controls. Subsequently, it was assessed whether participants recognised any substantial role of shortcomings in law or controls in facilitating or encouraging the crime under scrutiny. Transcripts were first examined separately and, subsequently, gathered together through cross-case analysis to discuss the findings.⁴⁰⁸

4.4 ETHICAL ASSURANCES

In the analysis of qualitative data, there are some central issues that necessitate due recognition of the ethical considerations involved. There are two aspects that require to be discussed here.

⁴⁰⁶ David Silverman, 'Analyzing Talk and Text' in Norman K. Denzin and Yvonna S. Lincoln (eds) *Handbook of Qualitative Research* (Sage Publications Inc., Thousand Oaks 2000), 825.

⁴⁰⁷ cf Gennaro F. Vito, Julie C. Kunselman, and Richard Tewksbury (n 349) 213.

⁴⁰⁸ cf Jeffrey D. Senese (n 361) 299.

The first concerns the disclosure of the data gathered. The nature of the research, indeed, raises ethical issues that specifically concern anonymity and confidentiality.⁴⁰⁹ Anonymity and confidentiality are crucial as interviews can ultimately harm the reputation of participants. In order to avoid this to happen, it was guaranteed anonymity and secrecy when requesting participation to the interviews. For this purpose, interviewees were previously contacted by email. In the email, it was identified the institution affiliation. Then, it was specified the research focus, the aim of the investigation and, finally, clarified that the information given would have not been disclosed if not anonymously. Therefore, it was made sure that the data collected during the interview process would have not been associated with any of the participants.

For similar reasons, anonymity and confidentiality were guaranteed with deleting not only names of participants but also other potential identifying data. Moreover, it was not indicated for each of the analysed cases the district court where prosecution or conviction was granted. This choice was motivated by the fact that criminal cases could be associated with economic operators working in the waste management field in the area of competence of the district court. The reason why it is deemed important to avoid such errors is that matching criminal cases with the wrong persons or companies could not only create bias, but also harm truthful economic operators. For the same reason, the data obtained have not been correlated with the geographical location of the crime problem in order to avoid erroneous assumptions about regional differences in levels of crime or enforcement effort in the country.

The second aspect revolving around ethical obligations of the present research concerns the results obtained. In particular, it involves the ethical duty to uncover the negative findings that could be unravelled from the research. In this regard, it is worth noting that, as underlined by Maxfield and Babie, there is the mistaken belief that only positive results are worth of being reported.⁴¹⁰ This study may have revealed crucial problems concerning the legal environment that affects waste crime in Italy, specifically related to the law that governs the waste management

⁴⁰⁹ Clifford G. Christians, 'Ethics and Politics in Qualitative Research' in Norman K. Denzin and Yvonna S. Lincoln (eds) *Handbook of Qualitative Research* (Sage Publications Inc., Thousand Oaks 2000), 139.

⁴¹⁰ Michael G. Maxfield and Earl R. Babie, *Research Methods for Criminal Justice and Criminology* (Wadsworth Thomson Publishing, Belmont CA 2001).

sector. Should negative findings have been uncovered, the researcher had an ethical responsibility to disclose such results.

CHAPTER FIVE: OVERVIEW AND INTERPRETATION OF FINDINGS

This study sought to inductively explore and understand how waste crimes are perpetrated by legitimate economic operators. Giving attention to crime characteristics and pinpoint the most recurrent crime commission process in the examined cases of illegal traffic of waste, the research helped to uncover the weak points of the waste management process and ascertain whether there exist crime opportunities provided by legislative shortcomings that could facilitate or encourage illegal waste diversion activities. In keeping with this aim, this chapter presents the empirical findings garnered from the study.

The first paragraph is dedicated to answer the first research question. In order to do so, the paragraph illustrates the specific characteristics of the crime under investigation. In particular, attention is given to 'how', 'where', and 'by whom' illegal waste traffic is committed. The aim is to offer a detailed insight into the crime problem and further identify the crime commission process that recurrently emerged from the data analysed. The results drawn from the first research question lay the basis for answering to the second research questions. Hence, the subsequent paragraph identifies the administrative substantive law rules that, according to the results garnered, offered the most opportunities for lawbreaking. In addition to such findings, further results concerning the role of administrative controls and related shortcomings are presented.

5.1 OVERVIEW ON THE ILLEGAL TRAFFIC OF WASTE

The paragraph is dedicated to present the characteristics of the crime under investigation, which have been identified by contrasting and comparing the data analysed. In order to allow for deeper insights and assess the sub-questions pinpointed by the present research, particular attention is first directed to present the main mechanisms through which illegal traffic has been perpetrated. Second, attention is given to the role played by generators, brokers, chemical analysis

laboratories, collectors and transporters, recovery and disposal operators in order to identify the most recurrent activities involved in the commission of the crime under scrutiny. Third, the focus is on where waste has been at lastly discharged or concealed through transformation in secondary raw material in order to identify the most recurrent end-of-life cycle in illegal traffic of waste. Finally, the last paragraph is dedicated to illustrate the most recurrent crime commission process that emerged from the data analyzed.

5.1.1 CHARACTERISTICS OF THE ILLEGAL TRAFFIC OF WASTE

The crime of illegal waste traffic, its dynamics and structure presents unique characteristics that necessitate close scrutiny to unfold the crime event as a whole and understand the process through which this criminal offence is perpetrated. While illegal waste traffic vary according to the waste streams, industry and waste treatment, similar methods of operation are employed regardless of the type of waste and facilities involved. The available evidence demonstrates that common practices and, more specifically, key activities are used and operators are mostly involved in the illegal traffic of waste.

In order to pinpoint the specific crime characteristics, the following paragraphs are organized as follows. The first discusses the techniques used (the 'how' question) to commit the crime, including specific practices and methods employed. The second identifies economic operators and related activities involved in the crime-commission (the 'who' question). In order to complete the overview of the crime, the third sub-paragraph illustrates where waste is finally discharged or hidden, or elsewhere, reaches its final cycle (the 'where' question).

5.1.1.1 EXPLORING 'HOW'

Although entailing different waste management activities and often involving multiple waste management operators, the analyzed data suggested that the templates used to divert waste into illegal waste channels are mainly of two types: documentary and physical technique. Both types of techniques are intended to downgrade waste from hazardous to non-hazardous or from waste

to end-of-waste in order to allow cheaper waste management options. As it will be seen from below, these two techniques are (alternatively or simultaneously) used by waste producers and waste management operators for the purpose of committing the crime. They can be described as follows.

1. DOCUMENTARY TECHNIQUE. This practice is named 'documentary technique' because it is devoted to the forgery of official documents (loading and unloading registers, FIR, DDT and chemical analysis certifications). It can take place at three different stages of the waste management process, through the application of the techniques described below:
 - a. AT WASTE GENERATION PREMISES. When waste is produced, waste generators are compelled to assign the correspondent EWC code, which is a six digit code indispensable for identifying activity, process and specific types of waste generated. What may occur is that waste producers incorrectly codify waste before it exits industrial premises by reporting the incorrect EWC code on the aforementioned official documents. Once unlawfully codified, waste could easily be managed illegally as it can be transported to recovery or disposal facilities that could not have accepted it.
 - b. DURING WASTE TRANSPORT. Forging of documents through the documentary technique can alternatively take place after waste has left generation premises. During waste transfer from industrial premises to waste disposal or recovery facilities, the code assigned and reported on FIR, DDT or unloading/loading registers can indeed be substituted with the incorrect EWC code. This falsification strategy is conducted by waste carriers, who forge manifests and other official documents in order to be able to transport waste to facilities that could not have received it. To pass potential inspections, the forged transportation documents do report a EWC code that corresponds to the type of waste the identified disposal or recovery facility can receive.
 - c. AT WASTE RECOVERY FACILITIES. Before reaching final destination, waste can pass through an intermediate stage at a recovery facility. There, waste can be treated or

stored (R13) pending final treatment.⁴¹¹ What may occur is that, once delivered at the recovery facility, waste is either not treated or unlawfully treated. In the first case, waste transits through the recovery plant but no treatment is performed. Subsequently, waste cargoes exit with new (forged) documents (ie FIR, DDT, unloading/loading registers, or chemical analysis certification). Forging of documents through the use of the documentary technique is carried out with the aim of concealing illegal cargoes exiting recovery plants. So therefore, waste can be illegally transported to more convenient recovery or disposal facilities, ie facilities that could not have received such waste. In the second case, falsification of official documents (ie FIR, DDT, unloading/loading registers, or chemical analysis certification) is coupled with illegal waste treatment, which is performed for altering the physical composition of waste and enabling its reclassification as non – hazardous waste or secondary raw material.

2. PHYSICAL TECHNIQUE. This practice is named ‘physical technique’ because it is used for altering the physical properties of waste. It is performed during waste treatment and it takes place at waste recovery facilities (R 1 to R 13). More specifically, at waste recovery facilities waste is illegally mixed or diluted with other materials or substances in order to diminish its hazardous components or change the composition of waste. The mixing method is conducted using non-hazardous waste or non-waste products, which are mixed with hazardous waste in order to enable reclassification of the waste generated as non-hazardous (with the incorrect EWC code) or as secondary raw material.⁴¹² This illegal cocktailing of wastes is coupled with forging of manifests (documentary technique) in order to conceal and disguise unlawful transportation of the newly generated waste. The dilution method is conducted using water or other suitable liquids for lowering the amount of hazardous substances contained in liquid waste or for cleansing off waste and reducing its hazardous contents. So therefore, waste can be conferred to recovery or disposal plants that could not have received it or,

⁴¹¹ Annex C, Recovery Operations, to Fourth Part of the Italian Environmental Code.

⁴¹² See art. 187 of the Italian Environmental Code, prohibiting cocktailing of hazardous waste having different hazardous characteristics or cocktailing of hazardous waste with non-hazardous waste, except for when authorization is granted.

alternatively, waste ceases to be waste and illegally acquires the status of secondary raw material. These activities are made possible through the use of the aforementioned documentary technique, ie falsification of manifests and permits and falsification of chemical analyses.

5.1.1.2 IDENTIFYING 'BY WHOM'

Waste operators can perpetrate the crime of illegal traffic of waste acting alone or conspiring with others. Indeed, the most common practice shows cooperation of more than one operator. Yet, it remains to be clarified how market players act and interact together in the crime commission process along with waste management. In order to do so, it is necessary to pay attention to each of the waste market players (generators, brokers, chemical analyses laboratories, collectors and transporters, recovery and disposal facilities) and explain their role and responsibility.

Economic operators' activities require one-by-one close scrutiny before focusing on the crime commission process. The reason is because, although the crime of illegal traffic of waste is mainly performed through cooperation and collaboration of more than one market player who intervenes and operates at different stages of the waste management process, an analysis of each of the economic operators' activities is essential for understanding and assessing roles and responsibilities in illegal waste diversion activities.⁴¹³

The following part not only helps to understand how waste producers and waste operators undertake illegal entrepreneurial activities (alone or with others), but also allows to identify the most widespread illegal practises. Besides, this analysis helps to identify the most commonly involved activities and, subsequently, the most vulnerable stages of the waste management process, thus revealing patterns in crime commission. Focusing on each of the aforementioned

⁴¹³ As pursuant to art. 260 of the Italian Environmental Code, illegal traffic of waste is regarded as follows: 'anybody who, for the purposes of gaining unlawful profits, with more operations and by setting up means and continuous organized activities, gives, receives, transports, exports and imports, or in any case unlawfully or unauthorizedly manages large quantities of waste, is imprisoned from one to six years'.

economic operators, the following part summarizes the data and results obtained from the research.

1. WASTE PRODUCERS. The legislation in force requires waste producers⁴¹⁴, who are responsible for the proper management of the waste generated, to first assign to waste the correct EWC code and, second, to confer it to authorized operators (ie brokers, waste carriers, and recovery or disposal plants). Indeed, in order to avoid responsibility, waste producers not only have to assign the EWC code which corresponds to the waste generated, but also to make sure that transporters, intermediate and final destination facilities are authorized to receive and treat the type of waste generated. Additionally, waste producers have to receive the fourth copy of the FIR (the FIR should return duly compiled, signed and dated within three months from when waste was conferred) in order to offset any possible charges, including allegations of illegal traffic of waste.⁴¹⁵

At present, there is one relatively widespread practice among waste generators. Evidence confirms that waste generators at times do incorrectly code waste (unlawfully assigning convenient EWC codes through the use of the documentary technique), so that it can be subsequently conferred to facilities, which are not authorized to receive it. In order to perform such illegal activity, waste generators act alone or conspire with carriers or final destination plants, which complacently accept the illegal haulage. However, the data analyzed show that artful codification is not a very common practice among waste generators.

The available evidence indicates that the normal practice among waste producers is to correctly codify waste but to confer it to carriers and waste recovery plants, which are not authorized to receive it. In order to commit such illegal activities, carriers and waste recovery operators forge official documents (ie FIR, DDT, unloading/loading registers, or chemical analysis certification), which allows them to conceal and disguise illegal haulage. Although potentially facing charges for aiding and abetting, the data retrieved do not allow to

⁴¹⁴ Art. 183.1 lett. f of the Italian Environmental Code.

⁴¹⁵ Art. 188 of the Italian Environmental Code.

definitively establishing criminal involvement of waste generators and, consequently, prove waste generators' responsibility in the illegal traffic of waste.

2. **BROKERS.** Brokers play a substantial role in illegal traffic in waste since they act as intermediaries among producers and waste treatment or disposal plants. Because of their intermediation role, brokers have accumulated considerable knowledge about the waste management sectors and have some familiarity with the illegal activities occurring in the sector. In particular, brokers know the market players who operate illegally, that is to say who are willing to accept waste cargoes although they are not authorized to do so. As confirmed by the data retrieved, brokers' inside knowledge of illegal activities in the sector is used to suggest to waste producers existing chemical laboratories that are willing to issue false chemical analyses. What is also of particular interest is that the brokers involved in the same cases of illegal traffic were few, sometimes many. The reason for the involvement of more than one broker is that the same batch of waste can be sold and redeemed through the intermediation of more than one broker.

While criminal prosecution has almost never been brought against brokers and their direct involvement could virtually never be proven, evidence demonstrates that brokers play a substantial role of coordination in illegal waste diversion activities among waste producers and waste operators (both disposal and recovery facilities). There is another relevant aspect concerning brokers and their role in the waste management system to be taken into due consideration, though it is not directly connected to the problem of illegal traffic of waste. From the data obtained, it has been found that waste brokers exercise some control over conferral to landfilling facilities. This system of control over landfilling facilities, which is performed through a sort of quota ownership over conferral, should not be underestimated because it limits and impairs or impedes access to disposal plants by waste producers if not through the intermediation of brokers.

3. **CHEMICAL ANALYSIS.** Though chemical analyses are not required by law to producers, analyses are often essential to properly classify waste and subsequently confer it to duly authorized facilities. This is the case, for instance, of mirror entries wastes that necessitate chemical analyses to be correctly codified and managed. Chemical analyses are instead

compulsorily required before waste conferral to recovery facilities and landfilling or incinerator plants.⁴¹⁶

The evidence obtained suggests that, when analyses are required, waste operators recurrently use false chemical analyses. As aforementioned, chemical laboratories, which are willing to perform false analyses, are often suggested by waste brokers who show expertise and knowledge of the mechanisms through which waste can be diverted into illegal channels. The most common practice used by chemical laboratories is forgery of chemical analysis certifications through the documentary technique. This method is used so that the analysed waste deceptively corresponds to the waste the destination plant would be lawfully allowed to accept. False chemical certifications are subsequently used to elude controls conducted at facility premises or during waste transfer. Another widespread method used by chemists is to sample waste in selected areas within recovery or disposal premises in order to obtain non-representative samples, that is to say waste samples with low content of hazardous substances, and subsequently subject them to chemical analyses. Hence, the analyses obtained are non-representative because the sampled wastes have low content of hazards and can be classified, for instance, as non-hazardous instead of hazardous and subsequently be subject to less costly treatments.

4. COLLECTORS AND TRANSPORTERS. As was explained in Chapter III, waste collectors and carriers have the duty to deliver the waste collected and transported to authorized facilities.⁴¹⁷ Evidence shows that the most widespread practice among transporters is to forge manifests and other compulsory documents through the use of the documentary technique. In particular, during waste transfer from one premise to another, carriers substitute or alter official documents (ie FIR, DDT, and chemical analysis certificates). In order to perform this illegal practice, data show that carriers often transit through recovery (R 13) or disposal facilities (D 15) dedicated to waste storage and, subsequently, leave with new manifests which enable to illegally transport waste to selected recovery or disposal plants. This

⁴¹⁶ See art. 11 of Legislative Decree 36/2003 (landfilling), art. 7 of Legislative Decree 133/2005 (incinerators) and art. 8.4 of Ministerial Decree 5.02.1998 and art. 7.3 of Ministerial Decree 161/2002 (recovery plants authorized by means of simplified procedure).

⁴¹⁷ Art. 188.4 of the Italian Environmental Code.

counterfeiting scheme is done mainly with the aim of downgrading waste from hazardous to non-hazardous, assigning a convenient EWC code and conferring it to an apparently legitimate facility. In order to conceal illegal haulage on cargoes and deceive potential inspections, waste is often covered with a layer of waste or materials that corresponds to the typology reported on manifests.

As it will be explained in details in the part dedicated to recovery operators, it occurs quite often that the same company owns both transportation services and recovery plants. As a result, illegal entrepreneurial activities are facilitated through a constant logistic support and cooperation among carriers and recovery facilities, which are under the same ownership. Finally, it should be underlined that, as confirmed by the data obtained, transporters have been virtually always involved in the cases examined and faced criminal charges for the involvement in illegal traffic of waste.

5. RECOVERY OPERATORS. Designed to conserve natural resources, promote recycling as well as protect the overall environment, waste recovery and recycling is becoming an increasingly important commercial activity in Italy. Despite waste recovery could play an important role in environmental protection because it prioritises a pathway of increased waste reduction, data show that a large part of entrepreneurial activities revolving around illegal traffic of waste take place or involve recovery operations and related facilities. As it will be thoroughly discussed in the following paragraph, recovery facilities' involvement in illegal traffic of waste depends largely on the fact that recovery plants can be opened after a Simplified Permit is obtained, with few or no administrative controls on sites able to monitor whether such facilities have the required equipment and necessary devices specifically designed to recover or recycle waste.

The two most widespread practices in the illegal traffic of waste involving recovery operations, are the following. A first common practice is to use recovery operations, in particular R 10 recovery for land restoration or backfilling of quarries, to discharge and conceal wastes, which could not have been recovered due to the high content of hazardous materials and substances. Once discharged at recovery facilities, the waste is covered with a layer of other materials or immediately mixed in order to conceal illegal conferrals and avoid detection. The danger of such activity lies in the fact that illegal cargoes of waste are discharged at facilities (as, for instance, it is the case of recovery facilities for land

rehabilitation) that are not authorized neither built for receiving waste containing hazardous substances above the threshold limits.

A second widespread practice that takes place at recovery premises sees cooperation and collusion of transporters, recovery operators and often chemical analysis laboratories. Data show that this illegal method is facilitated by the fact that transportation is often carried out by the same legal entity that owns the recovery facility. The method used is the following. After having collected waste at generation premises, waste carriers transit through recovery premises. At recovery facility premises, waste is either treated illegally through illegal mixing or dilution (physical technique), or not treated and assigned new EWC codes (documentary technique). Once waste is unlawfully mixed, diluted or recodified, forged manifests are employed to allow waste to exit recovery premises. It is worth noting that the recovery facilities used as intermediate stop for illegal haulage operations are mainly of two types. They are facilities that are not allowed to receive the waste conferred because permits are not granted for that type of waste or facilities that are not allowed to perform any waste treatment because exclusively authorized as R 13 storage.

6. DISPOSAL OPERATORS. According to national law provisions implementing EU rules and regulations, waste disposal along with other disposal methods should be performed in an environmentally safe manner and be employed only as a last resort. Instead, what emerges from the data analysed is not only that waste disposal is dominant but also that disposal plants are often involved in illegal traffic of waste. In particular, as the available evidence indicates, the normal practice is to use disposal plants authorized to receive non-hazardous wastes (ie landfills that can accept only non-hazardous waste, such as inert waste) for the conferral of hazardous waste.⁴¹⁸

Another widespread practice is to use waste storages (D 15) to illegally conceal waste or mix it before final destination is reached. It should also be mentioned that there exists the practice of using industrial buildings, which are authorized neither as waste storages (this is the case of, for instance, phantom storages) nor as treatment facilities, to illegally conceal waste for

⁴¹⁸ Decreto Ministeriale 3 agosto 2005 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica' (Ministerial Decree 3.08.2005) GU n. 201 del 30-8-2005.

indefinite periods of time, with the purpose of expanding market demand of certain types of waste (ie metal scrap) and increasing raw material prices. Despite of the importance of this information, the use of phantom storages is not documented as a common practice on the basis of the data obtained.

Finally, it should be added that evidence was obtained indicating that waste disposal operators rely on the cooperation and collusion of waste carriers. In order to traffic waste illegally, waste is transported at disposal facilities using forged manifests and false chemical analysis certificates and concealing waste in trucks with layers of other materials on the top. As it was previously shown, disposal facilities that are willing to accept illegal haulage are identified and suggested by brokers who operate in the illegal market of waste.

5.1.1.3 PINPOINTING 'WHERE'

The previous part was dedicated to describe waste operators involvement in the illegal traffic of waste and discuss common practices and techniques used by each market player. Yet, in order to have a complete picture of the crime commission process, it remains to be shown where waste ends its life cycle. In this regard, it is worth of noticing that the prevalent final destinations for the waste trafficked illegally are apparently legitimate and ordinary final treatment options. From the analysis of the data obtained, it was indeed possible to identify three main illegal paths or destinations at the point in which waste ends its life cycle. They can be summarized as follows.

1. The first main destination for the waste traffic illegally is its discharge at disposal or recovery plants, which are not authorized to receive that type of waste. More specifically, the facilities that have been mainly used to dump waste illegally are landfills for non-hazardous waste, incinerators and recovery plants for land restoration (R 10, eg backfilling of quarries). Evidence shows that both recovery and disposal plants for non-hazardous waste are used to discharge hazardous waste because of the lower costs than disposal at facilities for hazardous waste landfilling. The typology of waste that is most commonly discharged at such premises is hazardous waste, which is mixed with inert waste or other materials in order to downgrade the hazardous substances contained in.

2. The second prevalent end-of-life or final destination for waste in the crime under investigation is reprocessing of waste into secondary raw materials. The problem associated with this practice is that the waste used in reprocessing should not be transformed into secondary raw materials because it contained hazardous substances above the threshold level. The data obtained show, indeed, that secondary raw materials illegally produced through this practice were contaminated with hazardous substances and not adapt for reuse. This practice mainly takes place at recovery facilities that not only do not have the appliances and instruments for performing waste treatment and reprocessing but are also not authorized to conduct such activities.

It is worth of note that, as shown by evidence, a type of secondary raw materials originating from waste reprocessing is conglomerate for construction works. The waste used for this purpose is most of the time waste that could not be recycled because, for instance, it was contaminated with hazardous substances or should have been subject to additional treatments before being recovered. It goes without saying that the conglomerate originating from transformation of waste into secondary raw material has not the required performance characteristics.

3. The third main final location or end-of-life for the waste illegally trafficked is its spread on lands as compost for agricultural purposes. According to the legislation in force, such activity is classified as a recovery operation (R 10) if it results in benefit to agriculture or ecological improvement and it is used to generate compost. The available evidence shows instead that the compost generated from waste recovery operations (R 10) and spread on cultivation fields has not been subject to the necessary composting treatments or is not suitable for such use because of the hazardous substances contained in it. In practice, the method used for unlawfully generating compost is the subsequent. Before waste is spread on lands, it transits through a recovery facility where, instead of being treated, it is illegally mixed or diluted with materials or substances. The data obtained show that the type of waste that is most commonly used for producing illegal compost is waste sludge. This is because waste sludge can easily be mixed or diluted with other materials and can be rapidly absorbed into the soil.

5.1.2 ASSESSING ILLEGAL PATTERNS

Waste streams and related handling operations differ so widely that it is neither possible to isolate a single waste management procedure for all types of waste nor to identify one process that could include all operations (and operators) from generation to final recovery or disposal of waste. This is due to the fact that each type of waste needs to be managed differently depending on its composition and the available techniques to treat it. For the same reasons, it has proven difficult to identify a common pattern of crime commission that could virtually involve every operators revolving around the waste management sector and be identical for any type of waste illegally managed. To give an example, since metal waste can undergo recycling and, therefore, be treated at recovery facilities, illegal traffic of metal waste virtually never involves disposal facilities.

Notwithstanding that existing differences in both waste management procedures and waste streams strictly affect the process through which illegal waste traffic takes place, it should be underlined that the data analyzed yielded fairly consistent results about the key role played by certain waste operators and their related activities. What calls for attention here is that, even though the crime commission process in the illegal traffic of waste can differ depending on the type of waste, some operators have been consistently involved in the perpetration of the crime under investigation. Such operators and related activities correspond to a diversion point from which waste is diverted to illegal channels. From the data obtained, it has also been possible to unravel a prevalent pattern in the crime commission process that can be discussed meaningfully here. In order to facilitate its understanding, the identified pattern in the crime commission process is clustered in three main phases, as follows. For each of the three phases, it is specified when operators' involvement in the crime under investigation was intelligible and validated by criminal prosecution (ie involved operators) or was not identified though their presence was still apparent (ie operators present). The data and results obtained are summarized in table n. 6.

I PHASE. This phase starts from waste generation, ie from the moment in which the waste generated is coded in order to ensure its proper and legally correct management, and ends when waste exits waste generation premises. The phase shows the presence of waste producers and brokers, though their direct involvement could not be assessed. The role of waste brokers can be summarized as follows. Once waste is generated at industrial premises, brokers suggest to waste producers whether there are facilities willing to accept the type of waste generated and able to

treat the waste at the lowest costs in the market. What occurs in sequence during this phase is what follows. Waste exits industrial premises with the correct EWC code assigned by the producer. Subsequently, waste is directed to premises that are not authorized to receive or treat such specific typology of waste. Illegal transportation is made possible through falsification of documents (documentary technique) and camouflage of waste on cargoes with other materials or inert waste (physical technique).

II PHASE. The second phase starts from first transport (after collection at waste generation premises) and goes until waste reaches its final destination. The evidence shows the direct involvement of carriers and recovery operators, who conspire to commit the crime under investigation. Brokers and chemical analysis laboratories are present and provide substantial aid and comfort to the illegal entrepreneurial activities. As it was previously reported, it has been found that brokers recommend to producers specific recovery plants so to direct waste to illegal waste treatment facilities or plants willing to unlawfully treat the waste. Chemical analysis laboratories, instead, provide false analyses so to guarantee that, if controls are undertaken, waste appears suitable for the treatment facility indicated in manifests. Still, their direct involvement could not be assessed since chemists and brokers present in the cases investigated did not face criminal prosecution and charges.

What occurs in sequence during the second phase is what follows. First, waste is collected from industrial premises. Second, carriers deliver it to the selected recovery facility. If necessary, manifests are forged (in order to change the EWC code) so that data on FIR or DDT correspond to the type of waste that could be delivered at that specific recovery premise (documentary technique). Apparently legitimate recovery plants (ie plants which are granted permits) play a crucial role in illegal waste management activities. Recovery facilities are illegally used either to allow truck transit and subsequent substitution of manifests (documentary technique) or to ensure illegal waste treatment (physical technique). In this latter case, waste is subject to treatment (eg cocktailing) in order to downgrade the hazardous content or is illegally transformed into secondary raw materials. It goes without saying that the waste treated is unlikely to be appropriate for recovery or recycling treatments because of its composition or because of the hazardous substances contained in above the maximum permissible limit. Once mixed or diluted so to alter its composition, waste cannot be traced anymore. After illegal treatment or substitution

of DDT or FIR, waste exits recovery premises and departs with a new EWC code and forged manifests to its final destination (documentary technique). Waste transportation after transit through recovery premises is, virtually always, carried out by the same transport service company that was employed to collect and deliver waste at the unlawful recovery facility.

III PHASE. The third and final phase corresponds to the end of life cycle and starts once waste reaches its final destination. At this point, the crime-commission follows three different main paths. Indeed, as previously mentioned, there could be three different final destinations for the waste trafficked illegally, depending on the type of waste generated, the available treatment options and the most accessible locations/facilities.

What occurs in sequence during this phase, having considered the three possible final destinations for the waste trafficked illegally, is what follows.

- a. The first end-of-life cycle or final destination for the waste that is diverted into illegal channels is at disposal or recovery plants. The waste generated and managed illegally is discharged and subsequently mixed or hidden with other materials (physical technique) at recovery or disposal facilities, which are not authorized to receive such typology of waste. The evidence indicates the involvement and complicity of carriers and recovery and/or disposal operators who agree to accept the waste.
- b. The second possible end-of-life cycle is transformation of waste into secondary raw materials. Waste is illegally reprocessed at recovery premises (physical technique). There, waste is mixed, diluted or otherwise illegally treated in order to obtain secondary raw materials such as conglomerate or metals.
- c. The last potential final destination for the waste illegally managed is its spread onto cultivated fields as compost. Compost is obtained through the illegal mixing, crushing or dilution of waste with other materials (physical technique). Data show the indirect involvement of farmers or land owners who are paid to accept the discharge although the normal practice should be that farmers buy compost to enhance crops.

In order to provide an overall view of the crime under investigation, the three phases above illustrated are summarized in table n. 6, which identifies the involved or present economic

operators, the prevalent pattern in the crime-commission, and the three final destinations (or end-of-life) for the waste trafficked illegally .

ILLEGAL TRAFFIC OF WASTE					
↓ CRIME COMMISSION PROCESS					
	I PHASE ↓	II PHASE ↓			III PHASE ↓
OPERATORS AND THIRD SUBJECTS PRESENT (NOT ESTABLISHED INVOLVEMENT)	- WASTE PRODUCERS - BROKERS	- BROKERS - CHEMICAL ANALYSIS			- FARMERS OR LAND OWNERS
OPERATORS INVOLVED		- CARRIERS - RECOVERY OPERATORS			- RECOVERY OPERATORS - DISPOSAL OPERATORS
	WASTE IS GENERATED →	WASTE IS COLLECTED AND TRANSPORTED →	WASTE IS TREATED AT RECOVERY FACILITIES →	WASTE EXITS RECOVERY PREMISES AND IS TRANSPORTED TO FINAL DESTINATION →	WASTE REACHES IS END-OF-LIFE CYCLE ↓
TECHNIQUES USED	NONE	DOCUMENTARY TECHNIQUE	PHYSICAL TECHNIQUE	DOCUMENTARY TECHNIQUE	PHYSICAL TECHNIQUE
					1. DISCHARGE AT DISPOSAL OR RECOVERY PLANTS A. NON-HAZARDOUS LANDFILLS B. INCINERATORS C. RECOVERY PREMISES FOR LAND RESTORATION 2. TRANSFORMATION INTO RAW MATERIALS 3. SPREAD ON LAND AS COMPOST

Table n. 6.

The cross-comparison of the data gathered has served to show that a key role in the crime commission process in illegal waste traffic is played by recovery facilities and related operators. Although final destinations for the waste trafficked illegally can be different (ie discharge at disposal or recovery plants, transformation into raw materials, or spread on land as agricultural compost), it has been found that the waste trafficked illegally has virtually always transited through unauthorized recovery premises. Indeed, it is at recovery facilities where waste is mixed, diluted, recodified or transformed. The following paragraph leaves room for further discussion about the crucial role of recovery facilities in waste crime.

5.2 OVERVIEW ON CRIME OPPORTUNITIES IN THE LEGAL ENVIRONMENT

Opportunities to traffic waste illegally may vary substantially as they are related to several factors that markedly influence criminal activities, such as the type of waste managed, the cost of waste disposal and the treatments required to recycle waste or meet disposal and recovery regulations. By virtually any crime opportunity should be taken into account, as it potentially affects criminal behaviour. Notwithstanding that the possible opportunities that may influence criminal choices in the waste sector are not a single one but rather a plurality, it is worth of focusing on crime opportunities provided by the legal environment. The reason behind this choice underlies beneath the fact that the legal environment provides a plethora of crime opportunities that are often ignored or dismissed as unimportant because hidden behind the shield of apparent lawfulness.

Crime opportunities within the legal environment are situated in both administrative substantive law and administrative controls. It should be recalled that administrative substantive law rules shape and regulate the legal environment in which waste management takes place. Administrative controls, instead, contribute to the proper functioning and implementation of rules and regulations. However, if of low quality or insufficient in quantity, administrative substantive law and administrative controls may adversely influence the waste management process, thus fostering illegal waste diversion activities.

First, the present part discusses possible crime opportunities created by administrative substantive law rules. Second, it examines potential shortcomings that may affect administrative controls. The reason for focusing on the role played by administrative controls is that administrative controls represent a contingent opportunity factor that can potentially limit or reduce the effectiveness of the legal framework.

5.2.1 LEGISLATIVE SHORTCOMINGS

Before delving into the issue of legislative shortcomings, it should be clarified that the results obtained could not fit into the template – low quantity/ low quality – chosen to aggregate the data

retrieved. The reason is threefold. First, the findings about potential loopholes in the legislation (ie low quantity) did not yield significant results. In particular, there could not be identified existing loopholes that may directly or overtly facilitate or encourage lawbreaking. To give an example, it has been found that secondary law rules that regulate chemical analysis procedure for waste destined to recovery operators leave too much room for interpretation and disguise as they do not provide a comprehensive list of all hazardous substances to be reported on chemical certificates.⁴¹⁹ There is, however, not enough evidence to prove that these or other legislative loopholes have encouraged or facilitated illegal waste traffic.

Second, the problem of ambiguity or complexity in the legislation (ie low quality) could not be referred to specific legislative provisions, but only associated with the general body of laws that govern the waste management sector. Third, a specific legislative instrument seems to have played a crucial role in the crime of illegal waste traffic. This is the legislation that regulates the Simplified Permit procedure, which issues the permit required to start and operate waste recovery facilities. It should be clarified that crime opportunities created by this legislative instrument are arising out of a legislature choice rather than been caused by ambiguity, complexity (ie low quality) or loopholes (ie low quantity) in waste law rules. Hence, these shortcomings could not fit into the initial template and, moreover, exhibits a considerable degree of heterogeneity and specificity.

The remainder of the paragraph discusses more specifically these two last issues. First, it presents the legislative shortcomings that are generated by ambiguity or complexity (ie low quality) of the waste law in general. Second, it gives attention to the rules that govern waste recovery, with a particular focus on the previously mentioned legislation that regulates the Simplified Permit procedure.

5.2.1.1 GENERAL LEGISLATIVE SHORTCOMINGS

⁴¹⁹ Decreto 5 aprile 2006 n. 186 Regolamento Recante Modifiche al Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero, ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 186/2006) GU n. 115 del 19.05.2006.

With regard to the general body of laws, the results obtained from the research support the idea that existing administrative law rules are ambiguous and complex (ie low quality). The problem of ambiguity and complexity could however not be associated to a specific legislative provision but referred and attributable to an inadequacy of the entire legislative framework that governs waste management. Therefore, the issue requires a broad discussion of the results obtained from this study.

First, it should be clarified what causes complexity and ambiguity in waste law. The problem of complexity of the legislation can be gauged by the fact that administrative law rules and regulations governing the waste management sector have developed piecemeal: instead of being concentrated into a single legal instrument, waste related rules and regulations have been spread through primary and secondary legislation (ie Ministerial Decrees). The problem of ambiguity in waste law is essentially compounded by the fact that waste laws and regulations have been subject to puzzling amendments and, what is more, have been always issued at different times and often amended in delay. More specifically, secondary regulations have been constantly issued years after the relevant legislation was promulgated, thus leaving a gap in the regulation of the sector and obliging operators to refer to obsolete and often incomplete regulations. This situation often causes discomfort and confusion among operators who could not rely on a single comprehensive and coherent legal framework.

As it was previously mentioned, the problem of complexity and ambiguity of the legal framework governing waste management could however not directly be associated with the crime under investigation. Despite the fact that such weaknesses could adversely affect the proper functioning of the waste market sector and increase the likelihood that misdemeanours and administrative law violations are committed, there is not enough evidence to prove that these legislative shortcomings can encourage or facilitate illegal waste traffic.

Yet, the findings revealed that the problem of ambiguity and complexity in waste laws affects economic operators' capacity to remain in compliance with the law, thus increasing the risk of unintentional law violations. This has been noted to be particularly true for small operators. Small operators are indeed unable to afford paying external consultancy services and, daunted and confused by the complexity of waste laws, may tend to overlook or ignore the potential legal consequences of violating waste law and regulations. Instead, large companies are less

negatively affected by low quality laws because they can afford the costs of legal and technical counselling and, consequently, avoid unintentional law violations. It can therefore be concluded that the problem of low quality laws affects, to a different degree, small and large economic operators.

In sum, there is enough room to suggest that there exist complexities and ambiguities in waste law in Italy, which could however not be directly associated with the crime under investigation. Nonetheless, it has to be said that ambiguous and complex law rules may still create uncertainty among operators, thus increasing the likelihood of accidental law violations and of illegal practices in the waste management sector.

5.2.1.2 SPECIFIC LEGISLATIVE SHORTCOMINGS

Before focusing on the legislation that governs waste recovery, it becomes compelling to consider the results garnered from the first research question, whose purpose was to investigate how the crime of illegal traffic of waste is perpetrated. The results obtained have shown that the recovery phase can be viewed as a weakness within the waste management process. Surprisingly enough, it has been found that the last two research questions have produced fairly consistent and similar results. More precisely, it has not only been demonstrated that waste recovery activities play a substantial role in the commission of the crime under investigation but has also been found that the same legislation on waste recovery revealed some shortcomings that need to be taken into account here.

The empirical data available suggest that the legislation on waste recovery, though not complex, ambiguous, or with loopholes, is still a catalyst of crime opportunities. The reason for this is to be found in the legislature choice to opt for a regulation that contains an exemption from permit requirements. Before proceeding further, it should be mentioned that the backbone of waste law in Italy is command and control regulation. Still, as previously explained, there is an exception within the procedure for obtaining permits. This is the authorization procedure that allows to obtain the Simplified Permit and start up a recovery facility. It should be recalled that, in respect to the ordinary authorization, the Simplified Permit procedure relies primarily on a voluntary mechanism of regulation. This legal regime has been adopted in the country since the entry into

force of the EU Waste Directive, which has specifically included provisions for exemptions from permit requirements (ie ordinary permit).⁴²⁰ As illustrated previously, undertakings that intend to perform waste recovery (as subject to Simplified Permit) can initiate to operate after ninety days from forwarding the communication of start of activity to the competent province. Once the ninety days are elapsed and the entitled province has not replied to the applicant (as to whether permit is granted), then the facility can start to operate.⁴²¹

The results obtained have demonstrated that the main problem associated with the Simplified Permit procedure is the lack of onsite inspections. The legislation does not require provinces to perform on site inspections before a Simplified Permit is granted and a plant starts to operate. Hence, officials from provinces do not have to verify (on site) whether the newly opened plant has the required appliances or pieces of equipment to effectively perform one of the recovery operations allowed by law and declared by the operator to public authorities.⁴²² There is an additional remark to be made here: controls over the fulfilment of the Simplified Permit requirements are placed on documents and formalities that are far removed from what happens in reality on site, also because the documents required for obtaining the Simplified Permit (ie the documentation attached to the communication of start of activity) primarily rely on self-certification of requirements.⁴²³ The problem of the absence of onsite inspections (ie physical inspections) will

⁴²⁰ Art. 24, European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives [2008] OJ L 312/3.

⁴²¹ Indeed, Simplified Permit's procedure is governed by the administrative principle of consent by silence.

⁴²² Annex C, Recovery Operations, to Fourth Part of the Italian Environmental Code.

⁴²³ Communication of start of activity shall be forwarded together with a report, which shall contain details about operators' compliance with subjective (ie individual), technical rules and specific requirements (as pursuant to Ministerial Decrees dated 5.02.1998 and no. 186 dated 5.04.2006 governing non-hazardous waste recovery operations and Ministerial Decree no. 161 dated 12.06.2002 governing hazardous waste recovery operations, plus a description of the activities, plant site, capacity and treatment cycle, use of movable plants, characteristics of the products generated from waste treatment. Art. 16.3 of the Italian Environmental Code. Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 5.02.1998) GU n. 88 del 16.04.1998, Suppl. Ord. n. 72; Decreto 5 aprile 2006 n. 186 'Regolamento Recante Modifiche al Decreto Ministeriale 5 febbraio 1998 Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero, ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' (Ministerial Decree 186/2006) GU n. 115 del 19.05.2006; Decreto Ministeriale 12 giugno 2002 n. 161 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi che è Possibile Ammettere alle Procedure Semplificate' (Ministerial Decree 161/2002) G.U. n. 177 del 30.07.2002; Decreto Ministeriale 17 novembre 2005 n. 269 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo

be discussed in the subparagraph dedicated to administrative controls. At this point, it is compelling to focus on the Simplified Permit procedure.

The issue of major concern that needs to be addressed here regards the self-certification of subjective requisites. What occurs in practice is that, since facilities granted Simplified Permit are not subject to onsite inspections but only to documentary controls, may formally appear to be in compliance with the law but, in reality, infringe technical and legislative requirements. The reason is mainly due to the fact that the system of self-certification does not ensure that the company, which operates a recovery plant, fulfils the relevant requirements because of the risk of false statements or errors in the self-certification documents. The data obtained prove conclusively that recovery facilities granted Simplified Permit and involved in the examined cases of illegal traffic did not meet the declared requirements. Some plants did not have the necessary devices for waste treatment nor had any equipment. What is more, plants which were classified as storages pending recovery (R 13) were found performing waste treatment. These illegal activities were carried out to transform waste into secondary raw materials or select and separate different types of waste for subsequently delivering it to selected recovery or disposal operations.

Moreover, the available evidence has shown that the Simplified Permit procedure has been subject to stunning abuses. The reason for this may be twofold. First, as previously indicated, the Simplified Permit procedure relies primarily on a system of self-certification of requirements that can be easily misused. Second, since plants are not subject to onsite inspections before they can start to operate, there are no tools to verify whether or not the certifications contained in the submitted documents correspond to reality. In addition, from the analysis of the data retrieved, it was recognised that waste recovery has been the most frequently present and regularly involved in illegal traffic, waste management activity. These results may require a consideration of whether to employ or not a system of exemptions from permit requirements combined with the self-certification of requirements, as was the case until now. Indeed, it should be noted that the legislation on the Simplified Permit procedure may not be able to guarantee that a high level of environmental protection can be achieved.

all'Individuazione dei Rifiuti Pericolosi Provenienti dalle Navi, che e' Possibile Ammettere alle Procedure Semplificate (Ministerial Decree 269/2005) GU n. 302 del 29.12.2005.

5.2.2 SHORTCOMINGS IN ADMINISTRATIVE CONTROLS

When addressing the issue of legal shortcomings, it is compelling to consider the crucial role played by administrative controls which, as mentioned previously, facilitate and complement the legislative mandate to thwart environmental misconduct. What needs to be recalled here is that administrative controls are a key component of any regulatory regime. The present sub-paragraph first is dedicated to illustrate shortcomings in administrative controls. In particular, the focus is on administrative controls both in terms of lack of adequate controls (ie low quality) and in terms of insufficient number of controls (ie low quantity). Second, it gives primary attention to the pivotal issue of administrative controls at waste recovery facilities.

Before addressing the issue in more detail, it should be recalled that administrative controls over the fulfilment of legal and technical requirements can be conducted at waste management facilities (on site) or, if on site controls are not required, on the submitted documents. Administrative controls are conducted by provinces which are assisted, for the execution of such activities, by regional public agencies for environmental protection (ARPA). Two are the types of administrative controls that can be carried out. The first type of controls is conducted before waste management facilities start to operate, and is designed to verify the fulfilment of permit requirements (ie ex ante controls). Ex ante controls can be conducted on site or on submitted documents. The second type of controls, which should be conducted at regular intervals, is performed after facilities have started to operate and is designed to verify compliance with the laws governing waste management activities (ie ex post controls).

5.2.2.1 GENERAL SHORTCOMINGS IN ADMINISTRATIVE CONTROLS

This sub-paragraph delves into the issue of administrative controls. The subject is approached from a general perspective because the data obtained have not revealed specific shortcomings in administrative. The analysis proceeds as follows. First, attention is given to low quality in administrative controls. Then, the focus shifts to low quantity in controls.

With reference to low quality in controls, the available evidence indicates that both types of administrative controls (ie ex ante and ex post) suffer from serious inadequacies, which affect their strength and effectiveness and ultimately contribute to worsen the quality level of controls (ie low quality). The reason behind such inadequacies is threefold. First, it has been found that administrative officers, who are entitled by provinces to conduct on site verifications, are often not adequately skilled and, therefore, not able to properly fulfil their mandate. Second, it was ascertained that administrative controls in the country lack in consistency and leap to arbitrariness and subjectivity since they vary from region to region and from district office to district office. Not only this situation produces uncertainty among economic operators but affects also the effectiveness of the legislation governing the waste management sector. Third, the data analysed have shown that public officers from both provinces and regional public agencies for environmental protection have been often willing not to report violations and bypass laws and regulations or not to conduct inspections at facilities.⁴²⁴ Behind such shortcomings in administrative controls, it can safely be said that there are bribe payments or other corrupt agreements among public officials and private economic operators.

With reference to the number of inspections carried out at facility premises (ie ex post controls), the available evidence shows that administrative controls are insufficient in quantity (ie low quantity). Though ex post inspections should be carried out at regular intervals in a year, in reality they are insufficient in number and, therefore, unable to control the increasing number of facilities operating in the waste management sector in Italy. At this juncture, it should be noted that onsite inspections can also be conducted before a facility starts to operate (ex ante controls). The ordinary permit procedure compulsorily requires on site verifications before an ordinary permit can be issued. Instead, as previously discussed, onsite inspections prior to a recovery facility's start up (authorized by means of Simplified Permit) are not required by law. Hence, given the low number of controls conducted ex post and the absence of controls conducted ex ante, there could be the case that recovery plants could operate for years with virtually no controls conducted at facility premises. It goes without saying that this lack of controls facilitates illegal waste diversion activities at recovery plants. Because controls are almost absent, recovery facilities can appear to

⁴²⁴ It should be mentioned that not only bribery practices are costly but also exposed economic operators to the risk of future criminal prosecution.

be in compliance with legislative requirements and permit prescriptions but, in reality conceal and obscure unauthorized and unlawful activities.

5.2.2.2 SPECIFIC SHORTCOMINGS IN ADMINISTRATIVE CONTROLS

The research findings suggest that specific attention should be paid to administrative controls of waste recovery facilities. As previously illustrated, onsite inspections can be performed before or after a facility starts to operate. In case of recovery plants that are subject to the Simplified Permit procedure, onsite inspections at recovery facility premises do not have to be performed ex ante. Indeed, the Simplified Permit procedure exclusively demands for ex ante documentary controls. Such controls have to be conducted on the documents (eg plans, project and reports of activities) that shall be attached to the communication of start of activities. As already explained in Chapter III, the communication of start of activities and the above mentioned documentation are forwarded to the entitled province before a facility starts to operate. The entitled province should subsequently verify whether plans, project and described activities comply with the relevant legislative and technical requirements.

Documentary controls are therefore essential because they guarantee that only compliant facilities are allowed to operate. The available evidence instead indicates that documentary controls have experienced severe shortages. From the analysis of the data retrieved, it was not possible to ascertain whether the documents submitted by economic operators were either not inspected (ie low quantity of controls) or documentary controls suffered from other limitations (ie low quality of controls). It can however be proven that in several instances recovery plants involved in illegal waste traffic should have never been allowed to operate. The reason is because the documents submitted (as pursuant to the Simplified Permit procedure) by private entrepreneurs contained false statements or were manifestly incomplete for opening and operating a recovery plant according to the Simplified Permit procedure. Since the high number of criminal cases in which evidence has accumulated showing these and the previously reported shortcomings in administrative controls, it seems reasonable to suggest that the current system and level of administrative controls may be reconsidered.

CHAPTER SIX: LIMITATIONS, RECOMMENDATIONS AND CONCLUSIONS

In recent years, there has been a surge of interest in waste crimes. Few works have investigated how waste crimes are perpetrated and, to a lesser extent, have examined the relationship between waste crimes and crime opportunities. Recent findings have suggested the existence of legislative shortcomings that may create opportunities to lawbreaking. Despite their usefulness, these studies have been hampered by the lack of an empirical analysis of whether existing laws may provide opportunities for legitimate market players to engage in illegal waste diversion activities.

This exploratory research attempted to offer insights into the problem of waste crimes, focusing on the crime of illegal traffic of waste, which is punishable under article 260 of the Italian Environmental Code. This was done in order to firstly explore the offence characteristics, investigate the crime commission process and, secondly, to identify possible crime opportunities provided by the legal environment in which waste management activities take place. More specifically, the objective was to qualitatively assess whether legislative shortcomings facilitate or encourage the offence under scrutiny.

Before outlining the main conclusions of the research, the following paragraph summarizes the results obtained. As with any research study, there are also limitations and recommendations that should be discussed meaningfully here. Hence, the subsequent paragraphs are respectively dedicated to present limitations, and recommendation of the present study.

6.1 SUMMARY OF RESULTS

This paragraph briefly summarizes the results obtained from the qualitative analysis. As will be more comprehensively discussed in the subsequent part, none of the findings reported here claim to be representative of all aspects of the crime of illegal waste traffic. Still, it could be countered

that the results obtained provide valuable insights into the crime problem and allow for a better understanding of potential crime commission processes and crime opportunities embedded within the legal environment. For this reason, attention is given to these two issues more extensively discussed previously.

From generation to the end-of-life cycle or final destination of waste, the most recurrent crime commission process that has been uncovered, while examining the cases of illegal waste traffic and its specific crime characteristics, proceeds as follows:

- I. After exiting waste production premises, carriers transport waste to complicit recovery facilities. To conceal and disguise illegal cargoes, carriers forge manifests and other compulsory documents and cover waste in cargoes with layers of other materials.
- II. Waste is then delivered to recovery premises authorized by means of Simplified Permit. There, waste is illegally mixed, diluted, or otherwise improperly treated.
- III. Subsequently, trucks are loaded with the illegally treated waste to leave recovery premises and deliver waste to its final destination. At this point, waste can be sent to different destinations depending on the typology of the waste managed and the closest available destinations. The data have revealed that there are three major possible illegal end-of-life cycles, as follows: a) waste is recovered or disposed of at plants that are not authorized to handle the type of waste conferred; b) waste is unlawfully transformed into secondary raw materials; or c) waste is spread as compost on agricultural fields.

The data accumulated have shown that the economic operators and related activities involved the most in the investigated cases of illegal waste traffic are waste recovery operators and carriers. It should be said that these market players have been however aided and assisted by other operators (in particular, brokers and chemical analysis laboratories), who, although not directly involved or held criminally responsible, have played an increasing important role in the crime under scrutiny.

The study of the crime of illegal waste traffic not only has demonstrated the involvement of apparently legitimate economic operators in illegal waste diversion activities. It has also uncovered revealed possible crime opportunities within the legal environment, which are hidden

behind the shield of apparent lawfulness. The identified crime opportunities, which have been caused by legislative shortcomings and shortcomings in administrative controls, can be summarized as follows.

- I. Legislative shortcomings: The data retrieved have shown that legislative shortcomings are in particular situated within the legislation that introduces exemptions from permit requirements for operating waste recovery facilities. Illegal diversion activities take place at recovery plants because facilitated by the authorization regime, which virtually guarantees that there will be no onsite inspections before a plant starts to operate. More specifically, this is due to the fact that the Simplified Permit procedure allows opening a recovery plant after a communication is forwarded to the entitled province, which does only have to perform documentary controls.
- II. Shortcomings in administrative controls: In the course of the research process, it has emerged that crime opportunities are also provided by shortcomings in administrative controls. Administrative controls should guarantee that waste management plants, before starting to operate (ex ante controls), are in compliance with both permit requirements and legislative provisions. Once waste plants are operating, on site controls should verify that waste treatments are carried out as pursuant to the relevant law provisions (ex post controls). Regrettably, both ex ante and ex post controls suffer from severe shortcomings due to their inadequacy (low quality) and scarcity in number (low quantity). For what concerns low quality in controls, the research has revealed that onsite inspections are often inconsistent across regions and different among district offices (both throughout ex ante and ex post controls). In particular, it has been found that entitled officers are frequently not sufficiently skilled. It has additionally demonstrated that public officers (from provinces and from the regional public agencies for environmental protection) are increasingly willing to demand or accept bribe not to perform inspections or not to report violations. For what concerns low quantity of controls, it has been found that onsite inspections conducted throughout waste management facilities' life period (ex post controls) are not sufficient in number to monitor facilities across the country. As previously

explained, the problem of low quantity of controls is aggravated by the fact that recovery plants under Simplified Permit are not subject to onsite inspections before starting to operate (ex ante controls). Because of a lack of ex ante onsite inspections and the absence of ex post onsite inspections, there could be the case that, in certain circumstances, recovery plants under Simplified Permit may operate for years with virtually no controls (either ex ante or ex post) conducted at facility premises.

The results obtained have demonstrated that both legislative shortcomings and shortcomings in administrative controls provide unique opportunities to traffic waste illegally. The subsequent paragraph is dedicated to explicating the limitations of this qualitative analysis.

6.2 LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Chapter IV, dedicated to the methodology, discussed the limits of the research design used in this study. The present paragraph is devoted to a discussion of the limitations of the present findings, followed by recommendations for future research. Before doing so, some overarching points need to be advanced here. It should firstly be clarified that, from the analysis of the data obtained, patterns emerged in the data so that it was possible to pinpoint crime characteristics, identify a template of illegal waste traffic that recurred the most, and revealed weaknesses within the waste management process, which can potentially facilitate or encourage illegal waste traffic. In particular, the results garnered confirm that the crime under investigation is patterned by crime opportunities provided by both the legislation providing exemptions from permit requirements and administrative controls. Still, the results obtained leave more questions than answers.

First, it should be noted that the research is limited in scope and cannot be generalized. It contributes to understanding a crime problem that has been virtually unexplored but it is unable to provide a full picture of the problem of waste crimes perpetrated by legitimate economic operators. This shortening is due to the fact that data sources have been very rich in details and of great interests but not sufficient in number.⁴²⁵ In particular, the data cases collected and

⁴²⁵ cf Neal Shover and Andy Hochstetler (n 394) 8.

analysed have not been enough in number to recognise and accommodate differences within the crime-commission processes, which characterize different waste streams and waste treatments. For this reason, it is believed that future research should address the issue of waste crimes focusing on a specific waste stream (eg sewage sludge to be used in agriculture, end-of-life vehicles etc.). Furthermore, it is deemed important that the data to be gathered should not focus on a specific crime such as the crime prosecuted and sanctioned in Italy under article 260 of the Italian Environmental Code but incorporate waste crimes sanctioned under different criminal or administrative penalties, in order to accumulate more data. Yet, it remains to be said that, if such a specific study would be conducted on Italian sources, the research could not rely exclusively on primary data derived from court cases and interviews with key informants because of the difficulty to retrieve such sources in the country.

Second, the approach used does not provide meaningful results about the existence of legislative shortcomings in waste law. More specifically, the findings garnered could not adequately fit into the template 'low quality/low quantity' chosen. For what concerns low quality in laws, it could be said that waste laws in general suffer of ambiguity and complexity but such shortcomings seem to cause unintentional law violations rather than encouraging or facilitating illegal waste traffic. For what concerns low quantity of laws, the analysis of potential loopholes in the legislation has not yielded satisfactory results. In sum, both legislative shortcomings could not be directly associated with the crime under investigation.

Despite these limitations and some unanswered questions, it is important to take a step back and assess the policy implications of this work. Even if the results were not as expected, the study has still generated some important findings. Firstly, it has uncovered that waste recovery is a key component in the crime of illegal waste traffic. Secondly, it has proved that the regime of exemptions from permit requirements (ie the Simplified Permit procedure) for waste recovery facilities provides unique crime opportunities. Hence, the results obtained suggest that the legislature choice to introduce exemptions from permit requirements in waste management activities may be reconsidered. Thirdly, the research has demonstrated that a study of legislative shortcomings in waste law cannot run separately from the study of shortcomings within administrative controls. The reason is that, as discussed previously, administrative substantive law rules are closely related to administrative controls. Hence, in order to explore meaningfully

crime opportunities created by the legal environment, it is compelling to explore at the same time both of these shortcomings within the legal environment. This approach may not only increase the accuracy of the results obtained but be also able to identify whether legislative shortcomings or shortcomings in administrative controls bestow more opportunities to lawbreaking. Going down this route represents a better and more reliable direction for studying potential crime opportunities within the legal environment.

In this regard, it should be observed that none of the findings accumulated within the present research can be considered alone and used to make inferences about past or present causes of waste crimes. Though the results obtained are particularly important for the present study, it must be understood that crime opportunities provided by the law that governs the Simplified Permit procedure only accounts for a part of the problem of waste crimes. This is because shortcomings within administrative controls do, together, increase the likelihood of illegal waste diversion activities. Indeed, a dearth of administrative controls at waste management facilities, or inadequate and inconsistent on site inspections conducted by untrained or accomplice officers, provide meaningful opportunities for lawbreaking. Hence, it cannot be overlooked that no one but each of the shortcomings pinpointed here facilitate the crime under scrutiny. With reference to it, it is to be noted that the results obtained from the present research have not been assessed altogether. Future research should, therefore, entail a cross-comparison of findings in order to understand what contributes the most to waste crime across the country and where policy efforts should at first be directed.

6.3 CONCLUSIONS

By and large, waste crimes have not been considered a serious crime in any society, though cause injuries to life and have the potential to damage the environment in an irreversibly way. Recent decades have witnessed an increase in waste crimes, including crimes committed in the course of everyday business activities. Despite the growing concern about this environmental crime, empirical research has narrowly focused on the infiltration of organized crime in the waste management sector and ignored the extent to which respectable economic operators are involved in illegal waste diversion activities. The criminological literature has not only failed to fully explore

the crime problem but has also underestimated the extent to which the legal environment that governs business activities provides criminal opportunities, which could facilitate or encourage profit-driven economic operators' involvement in waste crime. Among all possible crime opportunities provided by the legal environment, legislative shortcomings and shortcomings in administrative controls can play a substantial role in facilitating or encouraging illegal waste diversion activities. Regardless of the central role of administrative substantive law in regulating waste management activities, the issue has received a dearth of attention.

This exploratory study attempted to examine the issue of waste crimes committed by legitimate market players, focusing specifically on the crime of illegal traffic of waste, which is prosecuted and sanctioned in Italy under article 260 of the Italian Environmental Code. Guided by the theoretical framework of the new opportunity perspectives, the aim of the study and of its crime-specific focus was to qualitatively assess crime characteristics, identify possible crime commission processes and further pinpoint crime opportunities provided by the legal environment in which waste management activities regularly take place. More specifically, this was done in order to determine whether legislative shortcomings or shortcomings in administrative controls may provide opportunities to lawbreaking.

The results obtained showed that, complex and composited, the process through which illegal waste traffic takes place may vary substantially, depending on the waste stream and waste treatments employed. For the same reason, also at the end of its life cycle waste may be illegally diverted into different destinations. Hazardous waste can be illegally classified as non hazardous and sent to illegal waste treatment or disposal operations. Waste can be illegally discharged in nearby areas into the natural environment or mixed with other products and unlawfully used for constructor works. Still, all-in-all these illegal activities revealed considerable similarities rather than differences. Examining in detail both data extracted from the criminal cases collected and interviews' transcripts, not only helped to identify the main techniques used, the most frequent final destination for the waste illegally trafficked, and the waste operators mostly involved in illegal waste diversion activities. It also highlighted the most recurrent crime commission process and uncovered possible crime opportunities within the legal environment. More specifically, it revealed the existence of legislative shortcomings and shortcomings in administrative controls, which companies wilfully choose to exploit to traffic waste illegally.

Notwithstanding the acknowledged study limitations, this research contributed to the understanding of the complex nature of the crime under scrutiny and uncovered crime opportunities within the legal environment that governs the waste management sector. Posing obstacles to the enhancement of environmental protection, these crime opportunities may be used to divert waste into illegal channels. For instance, the results of the study indicated that the legislation introducing an exemption from permit requirements (ie the Simplified Permit procedure), as it stands in the present form, provides great opportunities for waste operators who intend to handle waste illegally. In addition, the research revealed that crime opportunities are situated within administrative controls in the waste management sector. Administrative controls (both ex ante and ex post) are indeed not sufficient in number to monitor existing facilities throughout the country and, moreover, suffer from serious inadequacies, among which the most important are their inconsistency across regions and vulnerability to corruption.

Finally, it is important to consider that the implications of the findings within this study could be useful to legislators (both at the EU and national level) for future waste law amendments and, moreover, may provide important suggestions for the government to improve administrative efficiency. It seems also important to underline that waste crimes committed by legitimate economic operators should not be underestimated or overlooked by policy makers because legitimate market players' involvement in these crimes not only has the potential to cause significant harmful effects on the environment, but also may lead to distortion of competition and increase the likelihood of organized crime infiltration in the legitimate economy. This is the reason why further research is not only desired but necessary for future crime prevention efforts. It is hoped that the results of this study will prompt further discussion and lead to future investigation in this area.

APPENDIX A

LIST OF ABBREVIATIONS

ARPA	Regional public agencies for environmental protection
Corte Cost.	Constitutional Court
C. Ct.	Court of Auditors
cp	Italian Criminal Code
Cass. Pen.	Supreme Criminal Court
Criminal	Crim
DDT	Transport Documents
D.lgs.	Legislative Decree
D.L.vo	Legislative Decree
D.m.	Ministerial Decree
DPR	Decree of the President of the Italian Republic
EC	European Community
CJEU	Court of Justice of the European Union
EEE	Electrical and Electronic Equipment
EIA	Environmental Impact Assessment
EPR	Extended Producer Responsibility
EU	European Union
Eur	European
FIR	Waste Identification Document
GU	Official Journal of the Republic of Italy
Intl	International
J	Journal
L	Law
PAH	Polycyclic aromatic hydrocarbons
Para	Paragraph
PBDE	Polybrominated diphenyl ethers
PCBs	Polychlorinated biphenyls
Quarterly	Q
Report(s)	Rep
Rev	Review
Riv. trim. dir. pubbl.	Rivista Trimestrale di Diritto Pubblico

ROHS	Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment
Sez.	Section
Trans/tr	Translated
U	University
VOC	Volatile organic compounds
WEEE	Waste Electrical and Electronic equipment
Ybk	Yearbook

APPENDIX B

TABLE OF LEGISLATION

European Union Legislation

Council Directive (EEC) 67/548 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances [1967] OJ 196/1.

Council Directive (EEC) 75/442 on waste [1975] OJ L 194/39.

Council Directive (EEC) 76/403 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls [1976] OJ L 108/41.

Council Directive (EEC) 78/319 on toxic and dangerous waste [1978] OJ L 84/43.

Resolution on the treatment of waste in the European Community [1984] OJ C 127/67.

Council Directive (EEC) 86/278 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture [1986] OJ L 181/6.

Council Directive (EEC) 91/156 amending Directive 75/442/EEC on waste [1991] OJ L 78/32.

Council Directive 91/689 on hazardous waste [1991] OJ L 377/20.

Council Regulation (EEC) 259/93 on the supervision and control of shipments of waste within, into and out of the European Community [1993] OJ L 030/1.

European Parliament and Council Directive (EC) 94/62 on packaging and packaging of waste [1994] OJ L 365/10.

Council Directive (EC) 1999/31 on the landfill of waste [1999] OJ L 182/1.

European Parliament and Council Directive (EC) 1999/45 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations [1999] OJ L 200/1.

Commission Decision (EC) 2000/532 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste [2000] OJ L 226/3.

Commission Regulation (EC) 2557/2001 amending Annex V of Council Regulation (EEC) No 259/93 on the supervision and control of shipments of waste within, into and out of the European Community [2001] OJ L 349/1.

European Parliament and Council Directive (EC) 2006/12 on waste [2006] OJ L114/9.

European Parliament and Council Regulation (EC) 1013/2006 on shipments of waste [2006] OJ L 190/1.

European Parliament and Council Directive (EC) 2008/1 concerning integrated pollution prevention and control (Codified version) [2008] OJ L 24/8.

European Parliament and Council Regulation (EC) 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance) [2008] OJ L 353/1.

European Parliament and Council Directive (EC) 2008/98 on waste and repealing certain Directives (Text with EEA relevance) [2008] OJ L 312/3.

European Parliament and Council Regulation (EC) 1069/2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation) [2009] OJ L 300/1.

Italian Legislation

Legge 20 giugno 1909 n. 364 'Che Stabilisce e Fissa Norme per l'Inalienabilità delle Antichità e delle Belle Arti' GU n. 150 del 28.06.1909 (Legislation no. 364 of 20.06.1909 'Establishing standards for the inalienability of antiques and arts').

R.D. 19 ottobre 1930 n.1398 'Codice Penale' (Criminal Code) GU n. 251 del 26.10.1930.

Legge del 29 giugno 1939 n.1497 'Protezione delle Bellezze Naturali' GU n.241 del 14-10-39 (Legislation no. 1497 of 29.06.1939 on 'protection of natural beauties').

Legge 20 marzo 1941 n. 366 'Raccolta, trasporto e Smaltimento dei Rifiuti Solidi Urbani' GU n. 120 del 23.05.1941 (Law no. 366 of 20.03.1941 'Collection, transport and disposal of municipal solid waste').

Legge 13 luglio 1966 n. 615 'Provvedimenti contro l'Inquinamento Atmosferico' GU n. 201 del 13-8-1966 (Legislation no. 615 of 13.07.1966 'Provisions on Air Pollution').

Decreto-legge 14 dicembre 1974 n. 657 'Istituzione del Ministero per i Beni Culturali e per l'Ambiente' GU n. 332 del 19.12.1974 (Decree- Law no. 657 of 14.12.1974 'Establishing of the Ministry of Cultural Heritage and the Environment').

Legge 29 gennaio 1975 n. 5 'Conversione in Legge, con Modificazioni, del Decreto-Legge 14 dicembre 1974, n. 657, Concernente la Istituzione del Ministero per i Beni culturali e Ambientali' GU n. 43 del 14.02.1975 (Law no. 5 of 29.01.1975 'Change into Law of Decree Law 14 December 1974 no 457, concerning the establishment of the Ministry of Cultural Heritage and the Environment').

Legge 10 maggio 1976 n. 319, 'Norme per la Tutela delle Acque dall'Inquinamento' GU n. 141 del 29.05.1976 (Law no. 319 of 10.05.1976 'Provisions on water protection against pollution').

Decreto del Presidente della Repubblica 10 settembre 1982 n. 915 'Attuazione delle Direttive CEE n. 75/442 Relativa ai Rifiuti, n. 76/403 Relativa allo Smaltimento dei Policlorodifenili e dei Policlorotrifenili e n. 78/319 Relativa ai Rifiuti Tossici e Nocivi' GU n. 343 del 15.12.1982 (Decree of the President of the Italian Republic (D.P.R.) no. 915 of 10 September 1982 'Implementation of Directive (EEC) 75/442 on Waste, Directive (EEC) 76/403 on the Disposal of Polychlorinated Biphenyls and Polychlorinated Terphenyls and Directive (EEC) 78/319 on Toxic and Dangerous Waste').

Deliberazione Comitato Interministeriale 27 luglio 1984 'Disposizioni per la Prima Applicazione dell'Articolo 4 del DPR 10 settembre 1982, n. 915, concernente lo Smaltimento dei Rifiuti' Suppl. Ord. GU 13.09.1984 n. 253 (Decision of the Inter-Ministerial Committee of 27.07.1984 'Provisions for the initial implementation of art. 4 of D.P.R. no. 915 of 10 September 1982 on waste disposal').

Legge 8 luglio 1986 n. 349 'Istituzione del Ministero dell'Ambiente e Norme in Materia di Danno Ambientale' GU n. 162 del 15.07.1986, Suppl. Ord. n. 59 (Law no. 349 of 8.07.1986 'Establishing the Ministry of Environment and law on civil liability for environmental damage').

D.P.R. 22 settembre 1988 n. 447 'Codice di Procedura Penale' (Code of Criminal Procedure) GU n. 250 del 24.10.1988.

Decreto Legislativo 5 febbraio 1997 n. 22 'Attuazione delle Direttive 91/156/CEE sui Rifiuti, 91/689/CEE sui Rifiuti Pericolosi e 94/62/CE sugli Imballaggi e sui Rifiuti di Imballaggio' GU n. 38 del 15.02.1997, Suppl. Ord. n. 33 (Legislative Decree no. 22 of 5.02.1997 implementing Directive 91/156/EEC on waste, Directive 91/689/EEC on hazardous waste and Directive 94/62/EC on packaging and packaging waste').

Decreto Legislativo 8 novembre 1997 n. 389 'Modifiche ed Integrazioni al Decreto Legislativo 5 febbraio 1997, n. 22, in Materia di Rifiuti, di Rifiuti Pericolosi, di Imballaggi e di Rifiuti di Imballaggio' GU n. 261 del 8.11.1997 (Legislative Decree no. 389 of 8.11.1997 'Waste, Dangerous Waste, Packaging and Waste Packaging').

Decreto Ministeriale 5 febbraio 1998 'Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' GU n. 88 del 16.04.1998, Suppl. Ord. n. 72 (Ministerial Decree of 5.02.1998 'Identification of non-hazardous wastes admitted to simplified procedure for the recovery of waste pursuant to articles 31 and 33 of Legislative Decree no. 22 of 5.02.1997').

Decreto Ministeriale 1 aprile 1998 n. 145 'Regolamento Recante la Definizione del modello e dei Contenuti del Formulario di Accompagnamento dei Rifiuti ai sensi degli Articoli 15, 18, comma 2, lettera e) , e comma 4, del Decreto Legislativo 5 febbraio 1997, n. 22' G.U. n. 109 del 13.05.1998 (Ministerial Decree no. 145 of 1.04.1998 'Model and contents of the waste identification document as pursuant to articles 15, 18.2 lett. e) and 18.4 of Legislative Decree 5.02.1997 no. 22').

Decreto 1 aprile 1998 n. 148 'Regolamento recante Approvazione del Modello dei Registri di Carico e Scarico dei Rifiuti ai sensi degli Articoli 12, 18, comma 2, lettera m), e 18, comma 4, del Decreto Legislativo 5 febbraio 1997, n. 22' GU n. 110 del 14.05.1998 (Ministerial Decree no. 148 of 1.04.1998 'Regulation approving loading and unloading model as pursuant to articles 12, 18.2 lett. m) and 18.4, of Legislative Decree 5.02.1997 no. 22').

Decreto 28 aprile 1998 n. 406 'Regolamento recante norme di attuazione di direttive dell'Unione europea, avente ad oggetto la disciplina dell'Albo nazionale delle imprese che effettuano la gestione dei rifiuti' GU n. 276 del 25.11.1998 (Ministerial Decree no 406 of 28.04.1998 'Regulation implementing European Communities Directives, concerning the national register of waste management companies')

Circolare Ministeriale 4 agosto 1998 n. GAB/DEC/812/98 'Circolare Esplicativa sulla Compilazione dei Registri di Carico Scarico dei Rifiuti e dei Formulari di Accompagnamento dei Rifiuti Trasportati Individuati, Rispettivamente, dal Decreto Ministeriale 1 aprile 1998, n. 145, e dal Decreto Ministeriale 1 aprile 1998, n. 148' GU n. 212 del 11.09.1998 (Ministerial Communication of 4.08.1998 n. GAB/DEC/812/98) 'Explanation about completion of loading and loading register and waste identification document as identified, respectively by Ministerial Decree no. 145 of 1.04.1998 and Ministerial Decree no. 148 of 1.04.1998').

Legge 9 dicembre 1998, n. 426 'Nuovi interventi in campo ambientale' GU n. 291 del 14.12.1998 (Law no. 426 of 9.12.1998 'New amendments in environmental matters');

Legge 23 marzo 2001 n. 93 'Disposizioni in Campo Ambientale' GU n. 79 del 4.04.2001 (Law no. 93 of 23.03.2001 'Provisions on environmental matters').

Decreto Legislativo 8 giugno 2001 n. 231 'Disciplina della Responsabilità Amministrativa delle Persone Giuridiche, delle Società e delle Associazioni anche Prive di Personalità Giuridica, a Norma dell'Articolo 11 della legge 29 settembre 2000, n. 300' GU n. 140 del 19.06.2001 (Legislative Decree no. 231 of 8.06.2001 'Rules governing administrative responsibility of legal persons, companies, and associations without the status of legal entity, as pursuant to article 11 of Law of 29.09.2000 no. 300').

Direttiva Ministeriale 9 aprile 2002 'Indicazione per la Corretta e Piena Applicazione del Regolamento Comunitario n. 2557/2001 sulle Spedizioni di Rifiuti ed in Relazione al Nuovo Elenco dei Rifiuti' GU n. 108 del 10.05.2002, Suppl. Ord. n. 102 (Ministerial Directive 9.04.2002 'Indications for the correct and full implementation of Regulation (EC) 2557/2001 on waste delivery in relation to the new European Waste Catalogue').

Decreto Ministeriale 12 giugno 2002 n. 161 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi che è Possibile Ammettere alle Procedure Semplificate' G.U. n. 177 del 30.07.2002 (Ministerial Decree no. 161 of

12.06.2002 'Regulation implementing articles 31 and 33 of Legislative Decree 5 February 1997, no. 22, concerning the identification of hazardous wastes admitted to simplified procedures').

Decreto Legislativo 13 gennaio 2003 n. 36 'Attuazione della Direttiva 1999/31/CE Relativa alle Discariche di Rifiuti' GU n. 59 del 12.03.2003, Suppl. Ord. n. 40 (Legislative Decree no. 36 of 13.01.2003 'Implementation of Directive 1999/31/EC on the landfill of waste').

Decreto Legislativo 14 marzo 2003 n. 65 'Attuazione delle direttive 1999/45/CE e 2001/60/CE Relative alla Classificazione, all'Imballaggio e all'Etichettatura dei Preparati Pericolosi' GU n. 87 del 14.04.2003, Suppl. Ord. n. 61 (Legislative Decree no. 65 of 14.03.2003 'Transposition of Directives 1999/45/EC and 2001/60/EC on classification, packaging and labelling of dangerous preparations').

Decreto Legislativo 18 febbraio 2005 n. 59 'Attuazione integrale della direttiva (CE) 96/61 relativa alla prevenzione e riduzione integrate dell'inquinamento' GU n. 93 del 22.04.2005, Suppl.Ord. n. 72 (Legislative Decree no.59 of 18.02.2005 'Full implementation of Directive (EC) 96/61 concerning integrated pollution prevention and control').

Decreto Legislativo 11 maggio 2005 n. 133 'Attuazione della direttiva 2000/76/CE, in Materia di Incenerimento dei Rifiuti' GU n. 163 del 15.07.2005, Suppl. Ord. n. 122 (Legislative Decree no. 133 of 11.05.2005 'Implementation of Directive 2000/76/CE on waste incineration').

Decreto Ministeriale 3 agosto 2005 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica' GU n. 201 del 30-8-2005 (Ministerial Decree of 03.08.2005 'Designation of eligibility criteria on the landfill of waste').

Decreto Ministeriale 17 novembre 2005 n. 269 'Regolamento Attuativo degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22, Relativo all'Individuazione dei Rifiuti Pericolosi Provenienti dalle Navi, che e' Possibile Ammettere alle Procedure Semplificate GU n. 302 del 29.12.2005 (Ministerial Decree no. 269 of 17.11.2005 'Designation of hazardous waste from shipping admitted to simplified procedure pursuant to articles 31 and 33 of Legislative Decree no. 22 of 5 .02.1997').

Decreto Legislativo 3 aprile 2006 n. 152 'Norme in Materia Ambientale' GU n. 88 del 14.04.2006 (Legislative Decree no. 152 of 3.04.2006 'National legal provisions on environmental matters').

Decreto 5 aprile 2006 n. 186 'Regolamento Recante Modifiche al Decreto Ministeriale 5 febbraio 1998 «Individuazione dei Rifiuti non Pericolosi Sottoposti alle Procedure Semplificate di Recupero, ai sensi degli Articoli 31 e 33 del Decreto Legislativo 5 febbraio 1997, n. 22' GU n. 115 del 19.05.2006 (Ministerial Decree no. 186 of 5.04.2006 'Regulation modifying Ministerial Decree of 5.02.1998 on identification of non-hazardous wastes admitted to simplified procedure for the recovery of waste pursuant to articles 31 and 33 of Legislative Decree no. 22 of 5.02.1997').

Decreto Legislativo 16 gennaio 2008 n. 4 'Ulteriori Disposizioni Correttive ed Integrative del Decreto Legislativo 3 aprile 2006, n. 152, Recante Norme in Materia Ambientale' GU n. 24 del 29.01.2008, Suppl. Ord. n. 24/L (Legislative Decree no. 4 of 16.01.2008 'Additional legal provisions amending and integrating legislative decree no. 152 of 3.04.2006 on national legal provisions on environmental matters').

Decreto Legislativo 28 luglio 2008 n. 145 'Attuazione della Direttiva 2006/121/CE, che Modifica la Direttiva 67/548/CEE Concernente il Ravvicinamento delle Disposizioni Legislative, Regolamentari ed Amministrative in Materia di Classificazione, Imballaggio ed Etichettatura delle Sostanze Pericolose, per Adattarle al Regolamento (CE) n. 1907/2006 Concernente la Registrazione, la Valutazione, l'Autorizzazione e la Restrizione delle Sostanze Chimiche (REACH) e Istituisce un'Agenzia Europea per le Sostanze Chimiche' GU n. 219 del 18.09.2008 (Legislative Decree no. 145 of 28.07.2008 'Implementation of Directive 2006/121/EC which modifies Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances for adapting them to Regulation (EC) no.1907/2006 concerning the registration, evaluation and authorization, restriction of chemicals').

Legge 3 agosto 2009 n. 116 'Ratifica ed Esecuzione della Convenzione dell'Organizzazione delle Nazioni Unite contro la Corruzione, Adottata dalla Assemblea Generale dell'ONU il 31 ottobre 2003 con Risoluzione n. 58/4, Firmata dallo Stato Italiano il 9 dicembre 2003, nonché Norme di Adeguamento Interno e Modifiche al Codice Penale e al Codice di Procedura Penale' GU n.188 del 14.08.2009 (Law no. 116 of 3.08.2009 'Ratification and Implementation of United Nation Convention against corruption, adopted by the UN General Assembly on 31 October 2003 by Resolution 58/4, signed by the Italian state on 9 December 2003, and legal provisions for internal compliance and amendments to the criminal code and the code of criminal procedure').

Decreto Ministeriale 27 settembre 2010 'Definizione dei Criteri di Ammissibilità dei Rifiuti in Discarica, in Sostituzione di quelli Contenuti nel Decreto del Ministro dell'Ambiente e della Tutela del Territorio 3 agosto 2005' GU n. 281 del 1.12.2010 (Ministerial Decree of 27.09.2010 'Definition of admissibility criteria for conferral to waste landfills - repealing Ministerial Decree 3.08.2005').

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APPENDIX C

TABLE OF CASES

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APPENDIX D

INTERVIEW GUIDE

The following structured questions were used to carry out the semi-structured interview process:

1. Could you tell me about the most relevant case you were assigned prosecuted for illegal traffic of waste?
2. Could you explain how was the crime perpetrated?
 - a. What type of waste was managed illegally?
 - b. What waste market operators were involved?
 - c. Where was waste finally concealed/abandoned?
3. Are there loopholes in administrative substantive law regulating was management or complex or ambiguous law provisions?
 - a. Is there any of these administrative substantive law rules that could potentially encourage or facilitate illegal waste traffic?

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