Organising Insider Dealing in Financial Markets: Scripts and Networks

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List of abbreviations

AA: Actor-Actor Network (Social network)

AIM: Alternative Investment Market

AL: Actor-Location Network (Location network)

AR: Actor-Resources Network (Capabilities network)

AT: Actor-Task Network (Task network)

BEIS: Department of Business, Energy and Industrial Strategy

BMW: Bayerische Motoren Werke AG

CC: Charitable Corporation

CCTV: Closed-Circuit Television

CDD: Customer Due Diligence

CFD: Contracts for Difference

CGT: Capital Gains Tax

CJA: Criminal Justice Act

CNBC: Consumer News and Business Channel

COBS: Conduct of Business Sourcebook

DNA: Dynamic Network Analysis

DTR: Disclosure and Transparency Rules

EEC: European Economic Community

EIC: East India Company

ELMER: Financial Intelligence Unit's suspicious activity report database

EMIR: European Market infrastructure Regulation

EU: European Union

EU MAD: European Union Market Abuse Directive

FATF: Financial Action Task Force

FBI: Federal Bureau of Investigation

FCA: Financial Conduct Authority

FCG: Financial Crime Guide

FIU: Financial Intelligence Unit

FSA: Financial Services Authority

FSMA: Financial Services and Markets Act

HMICFRS: Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services

HMRC: Her Majesty's Revenue and Customs

HoC: House of Commons

IOSCO: International Organisation of Securities Commissions

LPP: Legal Professional Privilege

LSE: London Stock Exchange

LSR: Leeds and Selby Railway

MAR: Market Abuse Regulation

MLR: Money Laundering and Terrorist Financing Regulation

MN: Meta-network

MP: Member of the Parliament

MRQAP: Multiple Regression Quadratic Assignment Procedure

NCA: National Crime Agency

OECD: Organisation for Economic Co-operation and Development

OTC: Over the counter

PAD: Personal account dealing

POCA: Proceeds of Crime Act

QAP: Quadratic Assignment Procedure

RIPA: Regulation of Investigatory Powers Act

RL: Resources-Location Network (Geographical ease)

RQ: Research question

RT: Resources-Task Network (Needs network)

SAR: Suspicious activity report

SCP: Situational crime prevention

SD: Standard Deviation

SE: Standard Error

SEC: Securities and Exchange Commission

SIM: Subscriber identity module

SMCR: Senior Managers and Certification Regime

SN: Social Network

SNA: Social Network Analysis

SOCA: Serious Organised Crime Agency

SOCPA: Serious Organised Crime and Police Act

SSC: South Sea Company

SSR: EU Short Selling Regulation

STOR: Suspicious Transaction and Order Reports Regime

SYSC: Senior Management Arrangements, Systems and Controls

TCSP: Trust and Company Service Provider

TL: Tasks-Locations Network (Hotspot network)

TT: Tasks-Tasks Network (Precedence network)

UK: United Kingdom

US: United States

USA: United States of America

YBC: York Buildings Company

YNMR: York and North Midland Railway

Abstract

Insider dealing is a form of financial market misconduct that arises when individuals abuse their privileged access to confidential and price-sensitive information to deal in financial instruments in financial markets and/or to tip information to other individuals. Previous criminological research on insider dealing has mostly highlighted the individual and occupational aspects and some organisational elements that influence insider dealing activities. However, there is a knowledge gap related to the organisation of insider dealing in financial markets, specifically its structure of activities, legitimate opportunity structures and co-offending relationships. Inspired by the theoretical foundations of environmental criminology and crime opportunity theories and the organisation of crime perspective, this thesis addresses this gap in research by using crime script analysis and multi-mode multi-link multi-time network analysis based on 43 known cases in the UK between 2000 and 2020. The data used in this thesis is recorded from official records, news media reports, semi-structured interviews conducted with lawyers and compliance officers in the UK, and policy and legal documents.

The key findings revealed through the crime script analysis are summarised as: (1) the access to insider information can be gained legitimately through occupational roles in certain organisations or illegitimately through unsupervised circumstances; (2) offenders rely on pre-existing dealing accounts and finances to carry out insider dealing, but additional accounts and finances also are acquired to leverage greater returns, and previous investment habits influence the financial products used for insider dealing; (3) tipping often occurs through pre-existing relationships between co-offenders and it involves abnormally frequent and efficient communications between co-offenders to coordinate illegal dealings; (4) concealment is achieved through the legitimate appearance of offenders, natural disguises of the legitimate and routine social and business settings, encrypted and anonymous communication channels, layers of offshore shell companies, third-party bank accounts, deception and collusion; and (5) insider dealing is generated and facilitated by the structure of legitimate financial markets. The key findings revealed through the network analysis include: (6) co-offenders cooperate to support the division of labour, flexibility and resilience to carry out the insider dealing scripts; (7) key actors in insider dealing networks can be identified not only based on their central position in the social network, but also their exclusive access to resources and activities needed for insider dealing to occur, and there are also 'emergent leaders' who coordinate day-to-day operations in the scripts; (8) aside from pre-existing social relations, offenders establish instrumental relations to execute some 'scenes' of the insider dealing scripts; (9) social networks may grow over time to strengthen the division of labour, flexibility and resilience to carry out the scripts; and (10) insider dealing involves a structure of relations not only among co-offenders but also shared resources, activities and locations, and this structure corresponds to the procedural requirements shown in the insider dealing scripts.

The main substantive conceptual and theoretical contributions of this thesis to previous criminological research are: (1) understanding insider dealing as a dynamic structure of activities: insider dealing necessitates a specific sequence of 'scenes', but the execution of scenes varies depending on the specific procedural requirements of each case, and there are differences between 'core' and 'contingent' activities; (2) understanding insider dealing as a 'market-based crime': while previous research has mostly depicted insider dealer as a behaviour of financial professionals, or white-collar criminals, this research shows how insider dealing can be committed by offenders who do not work in the financial sector, and insider dealing originates in and is facilitated by the legitimate architecture of financial markets; (3) understanding the importance of social relations among co-offenders in the execution of insider dealing scripts: co-offenders cooperate by bringing in the resources needed in the various tasks they are assigned, thus enhancing the efficiency and security necessary to commit insider dealing; (4) recommending specific actions for public and private sector organisations to disrupt the organisation of insider dealing: the findings of the script and network analysis highlight critical points where situational crime prevention measures can be developed to alter the settings that facilitate insider dealing. While results presented here are highly distinctive and original, they are not free of limitations, and future work using alternative data sources and theoretical approaches is needed.

Declaration

No portion of the work referred to in the thesis has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Acknowledgement

Chapter 1 Introduction

1.1 Grounding the research problem

Insider dealing is a form of financial market misconduct. It arises when an individual sells or buys financial instruments based on non-public and price-sensitive information in the financial markets, and/or tips such information to others[1]. Despite the ongoing philosophical debates on whether insider dealing should be prohibited (Manne, 1966; Easterbrook, 1981; Bainbridge, 1986, 2013; Seredyńska, 2012) and the inconclusive evidence on the effectiveness of insider dealing regulations (Bainbridge, 2013), national and international regulations against such market activity have emerged globally since the late twentieth century. Nearly every jurisdiction has now enacted such regulations (International Organisation of Securities Commissions (IOSCO), 2003). The regulations on insider dealing are justified based on the moral wrongness with economic effects that insider dealing lowers the public confidence in market integrity and, hence, deters potential investors from participating in the financial market, lowering market liquidity (Loss, 1970, Bainbridge, 2013). The Financial Services Authority (FSA), the regulator of the financial markets in the UK between 2000 and 2012, had traditionally been criticised for being 'soft-handed' on its enforcement against insider dealing. That is, there had not been a single prosecution of insider dealing by the FSA since its creation in 2000 up until 2008. It was in the wake of the 2008 global financial crisis that the FSA began to 'toughen' its enforcement approach as part of a wider strategy to restore the UK economy by boosting the investors' confidence in the financial market, which was mirrored by other regulators around the globe (Wilson and Wilson, 2014). Since then, criminal and civil enforcement activities against insider dealing by the FSA soared and have been maintained by its successor, the Financial Conduct Authority (FCA) that was formed in 2013, and which shapes the current regulatory landscape. Within this regulatory reform, the official policy definitions began to consider insider dealing as either a form of 'organised crime', since it poses 'the greatest threat by value of illicit gains' (e.g., National Crime Agency (NCA), 2019: 44), or as an 'opportunistic' crime (FCA, 2019a).

There are conceptual ambiguities associated with this dual definition, especially regarding the consideration of insider dealing as a form of 'serious and organised' crime. Such ambiguities may obscure the actual nature of insider dealing. Research has repeatedly pointed out the inadequacy of the official constructions of organised crime as activities isolated from the legitimate economy (i.e., the 'alien' manifestations), given that organised crime is known to be dependent and highly interconnected with the dynamics of the legitimate economy (Hobbs and Antonopoulos, 2013). This ambiguity is also found in the policy discourses on insider dealing. The involvement of prominent bankers or corporate

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[1] Insider dealing is also referred to as 'insider trading' in some legal and policy documents and research articles mainly in the US context.

directors in insider dealing is often described as an 'opportunistic' abuse, while it would perhaps be more accurate to portray their involvement as 'global organised insider dealing rings' exploiting the UK financial markets (Cole, 2009). If we roll back to the time before insider dealing was criminalised, there was also a similar tendency to downplay the role of culprits who were part of the City of London financial elites (Rider, 1978). For instance, the tippees[2] 'outside' the City were often the ones to blame for 'insider' dealing (Davies, 2015). Such dual portrayal of insider dealing as either 'opportunistic' or 'serious and organised' reflects the political agenda and the potential lack of evidence base (Friedrichs, 2012). As Rider (1983) suggests, the suspicions and investigations over insider dealing syndicates began in around the 1960-80s. Yet, insider dealing only began to feature in official narratives from 2007/8 onwards. This is an indicator that official discourses may be lagging behind actual changes in crime manifestations and empirical research or evidence (Gregory, 2003; Hobbs, 2013). As van Duyne and Levi (2005) further point out, law enforcement authorities are required to decide how best to allocate the public resources available, and putting the hat of 'seriousness' on insider dealing might be their way to 'upgrade' the attention and resources needed to enhance the enforcement strategy as part of the political need to restore the legitimacy of the regulator and financial markets (Rider, 2000).

Policy documents have not yet revealed details of the 'organised' nature of insider dealing. Yet, recent high-profile cases have revealed various complex dynamics that appear to reflect some characteristics of organised crime, such as being planned and coordinated by a group of people over a sustained period of time. This aligns with some of the 'loose' definitions of 'organised crime' developed by the UK Government (Home Office, 2013, 2018). One of the most recently concluded cases has been described as 'calculated and organised' by the FCA (2019a). The offenders include a senior compliance officer at the United Bank of Switzerland, who had access to inside information, and her accomplice, a self-employed dealer who actively executed a relatively large volume of transactions to capitalise on intraday price changes. The duo abused inside information by dealing Contracts for Difference (CFDs)[3] instead of ordinary shares. Then, transactions were diverted to accounts held by the corporate vehicles[4] registered in the British Virgin Islands and traded in Switzerland for concealment. One of the most widely known cases of insider dealing is the *Tabernula* case, described as the 'largest and most complex' investigation conducted by the FCA (2016). It revealed a sophisticated insider dealing network of alleged offenders, where financial industry professionals were passing along inside and price-sensitive information to dealers who were able to make significant profits through CFD transactions using a large number of trading accounts at multiple brokerage firms. It was described as a sophisticated and long-

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[2] By 'tippees' I describe those persons external to the relevant organisation who are 'tipped' about price-sensitive inside information and may use it to sell or buy financial products before the information is made public.
[3] CFDs are financial contracts that pay the settlement price difference between the open and closing trades. These contracts allow investors to trade securities in the short term and are common among community products.
[4] 'Corporate vehicles' are 'legal entities through which a wide variety of commercial activities are conducted and assets are held' (OECD, 2001: 12-13). These entities, which can include corporations, trusts and partnerships, have been suggested to hide the identity of those involved in insider dealing.

running insider trading network (FCA, 2016). It was also revealed that the *Tabernula* case involved strategies designed to conceal the illegal dealings from the authorities, including the use of unregistered mobile phones, encoded and encrypted records, safety deposit boxes and the transfer of benefits using cash or through offshore banks (FCA, 2016). There was also a 'linchpin', the former financial director of Topshop, who ran the whole conspiracy. These dynamics highlight the need for empirical studies.

Despite the proliferation of law enforcement activity and the prominence of this issue in official discourse, the practices, activities and social relations involved in insider dealing have been overlooked by empirical research. The limitations of the extant literature can be summarised as follows. Firstly, research on insider dealing has been mostly preoccupied with applying the constructs of 'white-collar' and 'occupational' crime to describe insider dealing as an individual trust violation and to examine how the 'powerful' elites escape legal sanctions (Shapiro, 1984; Szockyj, 1993; Reamer and Downings, 2016; Friedrichs, 2009). Analysing insider dealing based on offender characteristics neglects a wide range of potential offenders who do not have occupational access to the inside information and who are not part of social elites. Moreover, it may overlook the diverse mechanisms of cooperation between co-offenders. Secondly, empirical research on insider dealing has focused primarily on the context of the US Wall Street in the late twentieth century, and seeks to attribute insider dealing to the institutionalised 'greed' (Hansen and Movahedi, 2010; Rosoff et al., 2020). This is not surprising given that insider dealing attracted most public attention in the late twentieth century due to major scandals, such as the *Levine*, *Boesky* and *Milken* cases in the US, which revealed organised networks of connected financial professionals sharing tips. Although some studies have focused on the organisational factors of insider dealing (Reichman 1989, 1993; Reurink, 2018) and recognise the importance of opportunity structures (Hansen, 2014), in empirical terms, insider dealing activities in the UK remain overlooked. Thirdly, although there is research focusing on the UK context (e.g., Barnes, 2011), similar to several other studies on insider dealing (Szockyj and Geis, 2002), the methodological approach is purely descriptive and often quantitative in summarising the personal characteristics of offenders and cases (such as the year in which it happened and the sanctions imposed). These studies are limited because they do not provide in-depth understanding on the nature and organisation of insider dealing.

1.2 Research rationale and aims

The *exposé* of the 'organised' insider dealing cases in the UK and the proliferation of insider dealing in the official discourse highlight a major knowledge gap in criminological literature. The central aim of this research is to fill this gap in research by shifting away from the policy constructs foregrounding the opportunistic/organised manifestations of insider dealing and the sociological/criminological constructs of occupational crime and individual trust violation, towards *understanding the organisation of insider dealing in financial markets.* In these terms, the overarching research questions of this thesis are:

> **RQ1.** *How can we better understand the organisation of insider dealing in financial markets?*
> **RQ2.** *What are the procedural requirements in the insider dealing commission process?*

RQ3. What are the facilitative situational and distal conditions in the insider dealing commission process?

RQ4. How is insider dealing associated with the structure of financial markets?

RQ5. How are social relations among co-offenders in insider dealing structured?

RQ6. How do social relational structures among co-offenders in insider dealing contribute to the insider dealing commission process?

RQ7. From a dynamic standpoint, are there changes in the relational structures of insider dealing over time?

At its core, this research argues that beyond obtaining information about the characteristics of 'who' are involved in insider dealing (i.e., the actors), it is key to understand 'how' insider dealing is committed and organised. In asking the question(s) of 'how', this research further argues that, instead of presenting insider dealing as a phenomenon alienated from the financial markets without conceptual clarity and empirical evidence, it is vital to understand how insider dealing is related to the financial markets in which it develops and operates. To facilitate this analytical focus on the insider dealing organisation, this thesis adopts an inelastic concept of 'insider dealing' which clearly delineates the key components of this activity. It is defined as *the action of dealing in financial securities in financial markets based on confidential and price-sensitive inside information, which may (or may not) involve 'tipping' defined as the transfer of such information from one individual to another*. There are three main integral dimensions in examining the organisation of insider dealing: (a) the structure of activities that make up insider dealing, (b) the structure of association among people committing insider dealing, and (c) the legitimate financial markets in which insider dealing takes place. The paragraphs below unpack each of these dimensions to highlight the rationale and originality of this research.

Insider dealing, as any other crime type, entails a structure of events and activities through which it unfolds (Cohen, 1977). At the outset, there needs to be an opportunity for insider dealing to be possible. The foundations of crime opportunity theory are described in the seminal article 'Opportunity makes the thief', by Felson and Clarke (1998). Central to this perspective is that opportunities for insider dealing may arise during legitimate everyday activities in financial markets. That is, normal and routine arrangements that underpin legitimate activities are also those in which the illegal opportunities may sprout (Cohen, 1977). Such structures of opportunities need to be examined to understand the organisation of insider dealing. Some researchers have attempted to construct a better understanding of insider dealing by framing it as an activity rooted in the delegated trust given by corporations to those with access to inside information (Shapiro, 1990). However, this approach may be too generic to understand the organisation of insider dealing, since the delegation of trust can be found in all kinds of corporations, but not all of them provide insider dealing opportunities. As Felson and Clarke (1998) suggest, crime opportunities are highly specific to each offence. Others do touch on the specific opportunities for insider dealing, but they fail to consider the wider social and organisational structures that generate these opportunities (Hansen, 2014). Benson and Simpson (2019) have shown how the

crime opportunity perspective can be applied to understand behaviours that are traditionally recognised as forms of 'white-collar crime' involving occupational/organisational trust violations. Hence, one aim of this thesis is to move beyond the study of individual characteristics of offenders by capturing the specific legitimate procedures that generate the insider dealing opportunities in the first place.

Opportunity is a prerequisite, but there needs to be a structure of step-by-step activities to actualise it to the outcome of insider dealing. This is related to the rational choice perspective, which suggests that not only the opportunity is highly offence-specific, so is the sequence (not always linear) of events through which offenders go (and make decisions) to bring about the illegal outcome (Clarke and Cornish, 1985). The chain of events that lead to the insider dealing outcome is also known as the 'crime script'. It also suggests that the immediate situational settings influence the decisions made by offenders across this sequence of events. Hence, altering these very specific situational settings can prevent crime (Clarke, 1995). Whereas existing research has considered how a low personal self-control may be associated with insider dealing behaviours (Szockyj and Geis, 2002), it does not sufficiently consider how offenders interact with specific situations and carry out the series of required actions to commit insider dealing. No empirical study has yet analysed the underlying activity sequence of insider dealing. Moreover, studies applying the rational choice perspective to 'organised crime' have highlighted the importance of considering the more distal environments that influence the decision-making process (Edwards and Levi, 2008). This is highly relevant because of the two issues mentioned earlier: the concealment strategies adopted by offenders and the escalating of law enforcement operations on insider dealing, which are related to more distal changes in societal structures and policy priorities (Edwards, 2016). Hence, at the forefront of this thesis is the attempt to analyse how insider dealing unfolds through a sequence of activities influenced by situational and distal factors. This will enable identifying areas where situational prevention strategies can be adopted to reduce insider dealing.

Alongside these considerations, this thesis suggests that insider dealing shall be understood through a market-based concept. Insider dealing, at its core, is an illegal transaction of financial products in the financial market. Hence, it is key to consider the legitimate environments that generate the opportunities for insider dealing and influence the offending decisions. One cannot forego the marketplace where these transactions occur. Suggesting that the UK financial market is chosen as a 'hub' by the global organised insider dealing networks (NCA, 2016) ostensibly oversimplifies the issue. Existing research has emphasised the importance of analysing the structure of markets that underpin the illegality and to carefully identify where legal practices end and illegal practices begin (Naylor, 2003; Beckert and Dewey, 2017). This thesis contributes to the existing literature by foregrounding the financial markets where insider dealing emerges, rather than just the financial services industry as one part of the markets (Reichman, 1993). Moreover, this research also explores how financial markets are related to the organisation of insider dealing, which has not been empirically studied in the UK context. One important implication of the opportunity perspective in criminology is that it can inform situational

crime prevention strategies (Wortley and Townsley, 2017). It is suggested that insider dealing can be plausibly and pragmatically prevented by identifying and altering the situational characteristics that enable it in financial markets. The idea is to make offenders change the course of actions through making them perceive that the surrounding environment is not beneficial for their purposive insider dealing activities. Existing research has not applied this idea to prevent insider dealing. Hence, this thesis also seeks to propose preventive strategies.

To understand the insider dealing organisation, the other important dimension is the potential presence of cooperation among co-offenders. It appears that an important manifestation of 'organised' insider dealing in the policy depictions of this activity is the cooperation among two or more co-offenders, which is typically framed as a 'conspiracy', 'network' or 'ring' (FCA, 2019a; NCA, 2019). Nonetheless, such discussions related to insider dealing 'conspiracies' often remain focused on the 'network' of closely knitted financial professionals that facilitates the sharing of tips – and research on the co-offending relations is mainly focused on Wall Street cases in the late twentieth century (Reichman, 1993; Rosoff et al., 2020). In this sense, co-offending networks can be understood as modes of social organisation that enable the flexibility and resilience of criminal activities (Campana, 2016). Previous financial research has applied an instrumentalist approach to investigate how insider dealing actors are related and interact to transfer the inside information (Ahern, 2017). However, previous research analysing the 'networks' of insider dealing has not considered how co-offending relations influence not only the transfer of inside information but also the recruitment of co-offenders, use of concealment strategies and the dynamics of each step of the aforementioned 'crime script'. Amid the increasing literature adopting the instrumentalist approach in studying organised crimes (Morselli and Roy, 2008; Campana, 2016), this thesis adopts the same approach to empirically investigate the structure of associations between co-offenders and, most importantly, how this structure supports and contributes to the insider dealing commission process. This will contribute to the wider literature on white-collar crime and financial crime about how social relations are 'organised' in activities traditionally framed through individual trust violations or organisational deviance.

1.3 Thesis structure and chapters outline

Following this introductory chapter, the thesis is structured as follows:

Chapter 2 presents the first part of the literature review to discuss the history of insider dealing. It reviews the literature on the history of financial crimes, white-collar crimes, insider dealing laws and financial markets. The chapter describes and discusses the early insider dealing activities, which date back to the seventeenth century, and how insider dealing evolved through the following centuries. It also discusses the legal development of insider dealing in the UK. Based on the review of the historical development of insider dealing, four key themes needed to understand the organisation of insider dealing emerge: a structure of opportunities, a commission process, a group of actors who cooperate (and their relation), and the interplay between individual motivations and organisational and

institutional factors. This chapter sets the scene for the empirical analysis in this research, which is focused on insider dealing activities in the twenty-first century in the UK.

Chapter 3 presents the second part of the literature review, which sets out the theoretical framework of this research. The chapter begins by discussing the main findings of previous research regarding the actors, forms, networks and broader organisational factors relevant to understand insider dealing – this is also used to highlight gaps in research. This chapter then discusses the existing criminological/sociological constructs and conceptualisations of insider dealing before moving on to suggest why a 'market-based' lens is needed to investigate insider dealing. The chapter finally moves on to present the theoretical framework that frames this thesis, which is based on the theoretical foundations of crime opportunity approaches and the organisation of crime, which includes approaches about the structure of activities and structure of associations in crime. This theoretical framework informs the analysis in the following chapters.

Chapter 4 outlines the methodology and data used in this research. The chapter introduces the analytical frameworks and methods from crime script analysis and social network analysis and discusses why they are suitable to address the research questions in this thesis. The chapter then shows how data about insider dealing cases known in the UK are collected and analysed under these two frameworks. Most prominently, it details how qualitative information in case files are coded under the crime script analysis, and further describes the procedure of imputing these codes into the multi-mode multi-link multi-time network analysis to merge the two approaches. The chapter concludes by summarising the potential limitations associated with this research approach.

Chapter 5 is the first findings chapter, which presents the comprehensive insider dealing scripts in detail. The insider dealing script analysis is based on case file and interview data. This chapter addresses the research aim of understanding insider dealing as a structure of activities and foregrounds its associated facilitators. It outlines the key stages that lead up to insider dealing and highlights the alternative routes in the procedural requirements with regards to actors, activities, resources and settings in insider dealing. Through illustrating and describing this script, this chapter shows the dynamic quality of the insider dealing commission process and gains insights on what procedural aspects and requirements distinguish the large-scale and small-scale insider dealing activities. The chapter also discusses how these procedural aspects of insider dealing are parallel to the legitimate financial markets in reinforcing the need to adopt a market-based lens to analyse insider dealing.

Chapter 6 is the second findings chapter. While Chapter 5 has already touched on the aspect of social relations between co-offenders, this chapter addresses the research aim of gaining insights into the structure of associations among co-offenders in insider dealing and how this structure contributes to insider dealing commission process. This chapter includes a brief introduction on the key concepts and strategies for the network analysis. It first presents findings on the social network structures of 10 insider

dealing cases, which are based on case file data, before moving on to present the findings from the multi-mode multi-link multi-time network analysis on different cases. This chapter shows how the organisation of insider dealing can be better understood by viewing it as a social network structure organised to promote efficiency and security to commit insider dealing.

Chapter 7 proposes situational prevention strategies to disrupt the organisation of insider dealing. The chapter draws on the findings from the script and the network analyses, and information obtained from policy documents and interview data, to present a series of pragmatic suggestions to disrupt each key stage of insider dealing. The chapter considers the main vulnerabilities identified in each scene of the insider dealing script and discusses existing measures and additional measures that can be adopted to prevent insider dealing. It also considers how the blended body of evidence from the script and the network analyses can inform law enforcement authorities in disrupting insider dealing networks. For instance, the chapter discusses good practices to identify key actors to target to maximise the disruption impact. Chapter 8 serves as the conclusion for the thesis. The chapter describes the primary contributions of this research to existing literature and concludes by recognising the limitations associated with the research process and proposing future research directions.

Chapter 2 A History of Insider Dealing

2.1 Introduction

The central aim of this chapter is to provide a history of insider dealing to 'set the scene' for the rest of the thesis. This chapter contains (1) a discussion on insider dealing activities from the late seventeenth to the twentieth century in the UK from Sections 2.2 to 2.4 (empirical chapters address insider dealing in the twenty-first century); (2) a discussion on the legal development of insider dealing in Section 2.5; and (3) Section 2.6 that concludes the chapter. Through this discussion, this chapter reflects on the definitional ambiguities associated with insider dealing and demonstrates how we arrived at the current *status quo* that is relevant for the rest of the thesis.

This chapter is based on a review of the literature on the history of financial developments, fraud, white-collar crime and financial crises (Carswell, 1960; Robb, 1992; Robins, 2012; Kosmetators, 2018) to compile the occurrences of insider dealing. It situates insider dealing in the micro-studies of the history of crime (Nash and Kilday, 2017) – using a small number of cases to reflect a larger whole – in which the central idea is the contextualisation of a phenomenon (Wilson, 2017). It is important to note that insider dealing was not yet a crime during the periods covered, but the activities would today be criminalised as 'insider dealing'. Although insider dealing was legal, social harms to businesses and financial markets were generated (Manove, 1989).

Within each case study, it elaborates on how insider dealing is organised in terms of the actors, activities and settings and in relation to social relationships between actors from a network perspective. It connects observations from case studies of insider dealing to the broader temporalities of economic, financial, corporate and technological development that 'modernise' insider dealing, seeking implications for social relations. More specifically, this chapter elaborates on the cases following the observation around the role of the state in facilitating insider dealing, following the state-corporate crime literature.

2.2 Mercantilism and insider dealing

The instances of insider dealing in the eighteenth century that I focus on were related to the East India Company, South Sea Company and the Charitable Corporation. These three cases had the commonality that involved both corporate insiders and politicians, directly or indirectly. Indirect involvement means that insider dealing was facilitated by public corruption[5], where those directly involved actually carried

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[5] 'Public corruption' refers here to a range of qualitatively diverse activities which involve an abuse of government or publicly entrusted power to obtain a private benefit. These include, but not only, embezzlement and bribery (Campbell and Lord, 2018).

out insider dealing and received privileged information either as, or not as, a result of taking bribes. Compared to contemporary cases in the twenty-first century where insider dealing is often performed only by corporate insiders and their friends and family (Szockyj and Geis, 2002), it is curious that corruption had been associated with insider dealing in the eighteenth century. In today's terms, insider dealing in this period reflected dimensions of state-corporate crime[6], and most importantly, exemplified the dynamics of state-corporate relationships that *ongoingly* produce harm and misconducts entrenched in a political economy that featured 'regimes of permission'[7] (Tombs, 2012; Whyte, 2014).

This characteristic of ongoing relationships between state and corporations was salient in an eighteenth-century UK that experienced a series of colonial, political, economic turmoil which unfolded following the 1688 Glorious Revolution where Dutch William of Orange overthrew Catholic King James II, which restrained the power of the monarchy. It was a period of warfare and colonial expansion that naturally led to the high-level demands for finance and the birth of national debt which rose from £1.2m in 1694 to around £244m in 1790. It was in this context that the UK government collaborated with corporations to gain overseas political power and trade monopoly and to finance national debt, where well-known examples included the Bank of England. In the following discussion of three case studies, I will demonstrate different processes through which state-corporate symbiosis produce insider dealing.

2.2.1 East India Company

East India Company (EIC) was initially formed as a foreign trading corporation operating in East and Southeast Asia in 1599. Starting as a trading body, from mid-seventeenth century onward, it evolved to a public-private partnership with the British government. EIC made large loans to finance national debt and warfare and, in return, received governmental support in consolidating its foreign trade monopoly. EIC was not only a monopolist commercial concession supported by the government, but it became an agent for the British empire and started to engage in autonomous territorial and political acquisitions in Asia since the eighteenth century, marking the beginning of the British Empire's colonisation and imperialism in today's Asia (Evans, 1908). As Ciepley (2013) argues, trading corporations in the seventeenth century transgressed the distinctions between public and private, between political and economic, between the market and the state.

During its nearly three decades of corporate history, EIC became the most powerful corporation around the world, complete with its own army, territory and trade monopoly. However, such constitutional privileges also paved to the way for a series of misconducts by its directors that were closely associated with public corruption and financial malfeasance by dishonest businessmen and bankers. Amongst these,

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[6] Kramer et al. (2002: 263) define 'state-corporate crime' as "criminal acts that occur when one or more institutions of political governance pursue a goal in direct cooperation with one or more institutions of economic production and distribution".

[7] 'Regimes of permission' is traditionally used by critical criminologists to describe the phenomenon of legitimising harmful business practices (Whyte, 2014). Here, it is used with cautions, where the legitimate practices are not always intended to generate conditions conducive to harm.

practices of insider dealing were documented by pamphleteers and playwrights in two particular periods, notably in the post-revolution time from 1688 onwards and in the 1760s and 1770s. The first wave of insider dealing occurred in 1693 surrounding the charter renewal that would enhance EIC's corporate value. Prior to the announcement to the public, government officials and EIC's governor and other insiders acquired EIC stocks, benefiting from the rise of share price after the announcement was made (Robins, 2012).

Insider dealing and corruption went hand in hand. At the time, the general public were uncertain whether EIC would receive another charter renewal under the proclamation of the new King whose government was antagonistic towards EIC. Those who were certain about the outcome and committed insider dealing were those indicted in paying and receiving bribes to facilitate the charter grant process by the Parliament in 1697. Sir Joseph Child, Sir Thomas Cooke (Child's son-in-law), Sir Basil Firebrace paid bribes under the name of 'special service of the company' to James Cragg (£4,540), the secretary to the Duke, EIC's broker and later its director, Charles Bates (3,000 guineas), the acquaintance of several Lords, Thomas Osborne (5,000 guineas), member of Lord President of the Council that was responsible for presenting business for monarch's approval in facilitating the charter grant in 1693 (see Cobbett, 1806 [1920]).

When there is no available private information to exploit, information was fabricated to manipulate stock price. Sir Joseph Child, chairman of EIC, was involved in manipulating stock price by spreading false rumours regarding performance of trading concession and political conditions (Dalrymple, 2019). There were fake letters from oversea executives arriving in London with an account of the loss of ships or an outbreak of war with the Moguls. In reality, ships had arrived in East Indies and there was peace and victory in Bengal, according to Daniel Defoe (1719), a prominent figure in criticising the 'wrong' in early UK stock markets. These practices correspond to today's market abuse offences including 'pump and dump' and 'trash and cash' where fraudsters profit from spreading false news to push up or force down share price and buying shares at an artificially low price or selling shares at an artificially high price (Barnes, 2010).

The problem is that, similar to modern criminological research discourses on the wide-scale impunity of 'power crime', these scandals did not lead to any form of punishment aside from a motion impeaching certain politicians under the notion of 'abusing office' for taking money instead of opposing practices that exploited confidential information or using false information to manipulate stock price (Ruggiero and Welch, 2008; Robins, 2012; Wilson, 2017). This echoes one of Tombs's (2012) processes of state-corporate crime production – the "failings" in law and regulation. As in this case there was an absence of legal regimes through which the state failed to prevent and respond to insider dealing. Second, as mentioned earlier, EIC served as a default vehicle for the empire to organise trading relationships beyond Europe, signifying the second process in producing socially injurious actions as the state was

directly dependent on EIC and EIC was dependent on the state to support its monopoly; proceeded through Royal Charter (Tombs, 2012).

The second wave of insider dealing events occurred in 1760. A series of insider dealing events was documented in historical research, involving corporate directors, politicians, bankers, merchants and their friends and family. For example, Lord Clive, British military officer and EIC's chairman, was one of the few who first heard about EIC'S victory in the Battle of Buxar in 1763. Knowing that EIC's shares would soar as a result of the victory, Clive, while in Madras conducting trading business, would write to John Walsh, his attorneys in London, to buy as much company stock as possible before the news was integrated back into London's stock market. He also wrote his friends and stated 'to lose no time in purchasing all the stock you can, for I am persuaded the stock of the Company must be doubled in three years by the surplus of the country only' (Robins, 2012: 99).

The other directors who engaged in insider dealing included George Colebrooke and allegedly James Cockburne who were both merchant bankers and Members of Parliament at the same time. Colebrooke admitted that he formed his information syndicate in Paris and Amsterdam to receive the up-to-date information, which he later exploited. For example, he traded on inside information regarding the Peace of Paris that upheld parts of EIC's trade monopoly in 1963. Further, Cockburne was said to collude with Colebrooke and other Dutch associates, with whom Cockburne made connections during his study at the University of Leiden, to trade EIC's shares based on inside information (Kosmetatos, 2018).

Insider dealing related to EIC stock also involved bankers. Alexander Fordyce was a banker and a partner of the London-based banking house, Neale, James, Fordyce & Down. Fordyce and the firm obtained early intelligence related to the signing of the preliminaries to the Peace of Paris in 1763 and conducted insider dealing on EIC's stock, earning a huge profit from the substantial increase in stock price in 1764-1765 (Bowen, 1987). Politicians including Lord Shelburne, who was then Cabinet minister and afterwards Prime Minister, Lord Verney, member of the Privy Council, and William Burke, an associate and kinsman of Edmund, were also documented engaging in insider dealing related to EIC's stock (Sutherland, 1952).

The state-corporate dimensions of insider dealing persisted, but suffered several transformations during this period. The difference fell under the role of EIC shifting from a trade concession body for the empire to a corporate vehicle carrying out military activities overseas and enjoying territorial power (Robins, 2012). The enduring state-corporate symbiosis now shifted inter-dependencies to a greater extent to the area of autonomous political and territorial power, forcing state 'complicity' in insider dealing. Interestingly, the instances of insider dealing in this period all surrounded information regarding outcomes of warfare. As EIC engaged in battles, corporate insiders accessed such information through either personally being involved in war or being notified by associates.

However, it is important to recognise that the factors of legal ambiguity and uncertainty affected state-corporate relationships in producing insider dealing. In this period, it is insufficient to attribute that insider dealing was produced through the failures in not putting into place more effective legal regimes by the state. Instead, it would be fairer to say it was due to legal ambiguity inherent in the period of institutional innovations. For instance, focusing on the context of international trading in the seventeenth century, Pettigrew (2018) argued legal ambiguity during corporate innovations encouraged malfeasant behaviour. Similarly, the eighteenth century was a period where the nature of insider dealing was not recognised, clearly understood or conceptualised in law by either the public, scholars or government. Whereas the parliament sought to curb stockbrokers operating in the stock exchange since 1693, it was argued that stockjobbers (principals or wholesalers who dealt on the Stock Exchange with brokers) were indulged with negative connotations and blamed for all the wrong associated with stocks because immoral practices, such as using their personal accounts to trade, were not yet clearly understood and formulated in law (Bowen, 1993).

Tipping was salient, where information was passed to benefit friends or family. Interestingly, there existed 'information syndicates' where a group of corporate insiders, bankers, merchants and politicians colluded in sharing and exploiting information to benefit group members. Further, geographical separation between actors impacted insider dealing organisation, while the modern advancement of technology has enabled swift communication between persons based on different parts of the world. In this period, information from overseas corporate directors was often sent through letters that travelled for days to arrive in London, creating obstacles for the tempted insider dealers who could not overcome the halt in communications. However, it also facilitated market abuse whereby false information was left unchecked in an age of poor information. As Robb (1992) suggested, investors were especially vulnerable to fraudulent data when dealing in the shares of overseas companies or foreign loans.

2.2.2 South Sea Company

The South Sea Company (SSC) was established in 1711 also as a public-private partnership that aimed to help government to finance the national debt that the government do not have funds to pay back and, in return, was granted a monopoly to conduct slave trade and other commercial activities in South America. At the time, the government was heavily indebted with a total of £9 million because of the warfare and, thereby relied on private corporations – such as the Bank of England founded in 1694 to improve national finances, John Blunt's Sword Blade Company and the company of George Caswall – to give loans and sell lottery tickets to raise money. Robert Harley, the chancellor, together with other Tory creditors including John Blunt, George Caswall and Jacob Sawbridge devised a scheme where the government surrendered its debt for stock of the newly formed SCC in return for trade monopoly in Spanish colonies (Carswell, 1960).

The incorporation of SSC and the debt-to-stock scheme was the first occasion of information being exploited. Prior to its announcement, company directors including Robert Harley, John Blunt and

George Caswall, bought a large amount of debt securities. Knowing that the debt and the converted share would become more valuable following the start of the scheme, they purchased government debt at a low price of £55 and at the same time sold shares of stock exchanged at inflated prices after the announcement (Carswell, 1960). Insider dealing continued in 1720, featuring immoral practices by government officials, corporate insiders and their friends and family. Prior to the announcement of another refinancing plan by the Parliament, a group of insiders further purchased stocks of SSC to prey on the upcoming rise in share value; before the notorious South Sea Bubble collapsed later in the year, insiders released all the holdings to avoid financial loss.

In these episodes, corporate fraud[8] and corruption were interwoven with insider dealing. In just one year of SSC's incorporation, Spain and Portugal took over control of the overseas trade concession. It became clear that the trade monopoly granted to the SSC was not a solid practice anymore. Fraud followed as SSC directors were not ready to give up the corporate body that was established for their financial benefit, and hence declared rumours about the rising commerce in South America to continue taking in public funds. Corruption occurred when government officials took bribes to collude with corporate directors in defrauding the public by corroborating the fraudulently faked balance sheets; they then paid journalists to help spread rumours. Parliament members, court officials and the King's mistress were bribed to stop other market competitors and approve a further debt-to-stock conversion scheme, which ended with a financial crisis where innocent citizens suffered from great loss and a period of recession.

From the beginning to the end, it was not realistic to having international trading. SSC was essentially a pure shell corporate vehicle operating on financial premise to get public money and line the pockets of the directors. That is to say, it was incorporated to absorb public funds for the benefits of corporate directors, and simultaneously for the government who owned a debt to SSC directors. This explicitly corroborates Whyte's (2014) conceptualisation of state-corporate symbiosis in producing harm where government enabled SSC for realising capital accumulation and enhanced opportunities for financing national debt by helping to constitute capital markets for public funds. Nonetheless, the constituted capital market was inherently criminogenic as it was based on fraud and corruption, producing immoral practices including insider dealing.

This case demonstrated another dimension of state-corporate crime by having politicians serving as corporate directors. Whyte (2014) argued that there existed a revolving door which facilitates movement of people between public and private sectors and provides the social networks that are ultimately used to concentrate power in social elites during the age of neo-liberal economy (Whyte, 2014). In these terms, such revolving doors also characterised SSC and hence affected insider dealing organisation by

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[8] In general terms, 'corporate fraud' describes deceptive, illegal actions committed by a company or by an employee to benefit the company's interest.

motivating a network of information sharing that led to collusion in exploiting confidential information. A research study by Bourveau et al. (2021) similarly argues that the politically connected directors had better information about government's future, where they might be more likely to trade on inside information due to expected impunity.

2.2.3 Charitable Corporation/York Buildings Company

So far, I have illustrated how insider dealing was structured in the broad socio-economic context in the eighteenth century. I have showed how such relationships between giant foreign trade monopoly corporations and the state produced insider dealing and other malpractices. I have also illustrated how such relationships at an individual level produced insider dealing – the relational network of social elites that shared the privileged information. What about those corporations in which the institutional state-corporate inter-dependence was more subtle? Here I want to direct your attention to the domestic companies in the eighteenth-century that supplied individuals, small merchants and local infrastructure development. Foregrounding a microfinancier, the Charitable Corporation (CC), and a water supply business, York Buildings Company, I argue that insider dealing was maintained in a secret society and silenced social environment facilitated by state-corporate symbiosis at the individual level under the absence of institutional state-corporate inter-dependence, but reflected the deep architecture of the joint-stock model as the 'regime of permission'.

CC was the short name of the 'Charitable Corporation for the Relief of Industrious Poor by Assisting them with Small Sums at Legal Interests'. As shown by the name, it was a joint-stock financial institution with a charitable purpose to make credit available to the poor by setting a very low interest rate compared to other pawnbrokers. However, by 1719, such charitable purpose slowly faded and was replaced by commercial thinking. The company's business started to thrive in 1726 and engaged in fraudulent activities including insider dealing in around 1727, which followed the reshuffle of its leadership committee in 1725. The governance model in the Charitable Corporation operated with the General Court holding the highest authority and with its daily business delegated to a committee comprised of seven members from the General Court. After the re-shuffle, CC increasingly targeted profits rather than charitable ends. One of its directors even claimed, 'dame the poor…let us go into the City where we may get money' (Brealey, 2013: 716).

Insider dealing related to CC occurred in both 1727 and 1729. On both occasions, insider dealers preyed on advanced information related to the enlargement of CC's stock to £300,000 and £600,000 in 1727 and 1729, respectively, which would drive up the share price. Insider dealers were mostly corporate insiders. They included Sir Robert Sutton who was both a MP and a committee member of CC. Others included a speculation network composed of those in operational positions of CC such as John Thomson, a warehouse-keeper, William Squire, an assistant, and those in the director committee including MP Sir Archibald Grant and William Burroughs and George Robinson, who was an exception not working in CC but rather a stockbroker in the City and later a MP. With regards to insider dealing on shares of the

other company – York Buildings Company's (YBC), the advanced information was accessed due to business relationship between Sutton and Grant with the YBC. Another MP Denis Bond together with the partnership used such advanced information regarding YBC's acquiring of lead mines in Scotland in order to benefit from a rise in share price in 1730.

The insider dealing scheme related to CC was purposefully engineered through fraud facilitated by bribery. Whereas the advanced information that insider dealers preyed on were related to the enlargement of CC stocks, the licence was obtained through deceiving the General Court and Attorney General by making a fake statement that the existing capital had been exhausted. Bribery facilitated such fraud. Robert Sutton took discounted shares as bribe payment from the partnership, in return, he agreed to help the partnership in gaining the license by speaking to Lord Townshend and Sir Robert Walpole who influenced the Attorney General's approval. Although later research suggested that Sutton was unaware that he was facilitating fraud and it was the plan of the partnership (Simpson, 1965), his action involved corruption as he took bribes and motivated his parliamentary power in affecting approval for license – unwittingly facilitating fraud that enabled insider dealing.

In relation to YBC, insider dealing organisation was different in that advanced information was created in a corrupted business procedure instead of through fraud. At the outset, Archibald Grant and Robert Sutton were both involved and managing mines at Strontian in Scotland since 1729. The speculation network persuaded them that leasing these mines to YBC would create price momentum for them to benefit from. Aiming to create such price-sensitive information, the pair abused discretional power and leased the mines to YBC in 1730, enabling the partnership and another MP, Denis Bond, to gain money from insider dealing. In addition, embezzlement financed insider dealing. The finances invested in purchasing YBC shares were capital taking out from CC on false pledges (Simpson, 1965). Bookkeepers were lured by bribes into collusion altering the company accounts to shield such embezzlements.

However, the partnership faced turbulence in late 1730s. There was resistance from both within the company and from outside investors who were not able to cash in their shares. On the first two occasions related to CC, Robinson embezzled money from CC and took off with the money. The partnership hence wanted to exclude Robinson from the illicit venture in YBC's shares. However, they were forced to turn to Robinson for exchanging CC's notes for cash. Robinson then once again lied and called upon them for the stock which he then sold resulting in a £100,000 loss for the partners (Brealey, 2013). On the other hand, complaints from merchants against CC in charging high rates of interests was sent to the parliament leading to an investigation that revealed around £380,000 were misappropriated by the partnership. As a result, CC collapsed in 1731, and Grant, Sutton and Bond were expelled from the House of Commons (HoC). Interestingly, the impunity of politicians was exemplified here in that only the warehouse keeper and the stockbroker Thomson and Robinson were guilty of felony with Squire committed to prison, politicians were only condemned and asked to return the money.

The state-corporate symbiosis displayed different characteristics from that of EIC and SSC as neither CC nor YBC was based on public-private partnership, lacking a dimension of the co-dependence at institutional level. Yet as Whyte (2014) argued, focusing on the observable institutional co-dependence is limited to capture the 'priori' constitutional features of the state-corporate symbiosis in producing corporate harm. The architecture of the joint-stock model of company granted to CC and YBC by the Royal Charter from the British monarch or special Act of Parliament for capital accumulation can be viewed as the state granting privileges and infrastructural capacities for the corporation with a separate legal persona (Shannon, 1931). In other words, the state allowed directors of CC and YBC to transfer individual responsibility to the corporate veil, which has been viewed as facilitating corporate wrongdoings (Whyte, 2014).

Further, CC was a microfinancier established to supply domestic needs by giving loans to individuals, small merchants and local development. The period from late seventeenth to mid-eighteenth century of Britain was characterised by the financial revolution, which involved developments in consumer credit such as annuities and pawning (Hoppit, 1986). Based on the available evidence, CC was one of the earliest consumer credit lenders with commercial characteristics other than the Bank of England issued with a Royal Charter for lending purposes. According to Brealey (2013), the permission for the establishment was partly motivated by the mercantilists that sought to finance the 'industrious poor' in times of hardship. Instead of the direct observable fiscal-military-trade nexus as in the case of EIC and SSC, the business activity of domestic borrowing of CC reflected the state's role in structuring the joint-stock business form as the preconditions for the functioning of the financial market of credits, but also as the 'regime of permission' for corporate harm.

The state-corporate relationship was also salient at an individual level – committee members of CC were mostly politicians sitting at the House of Commons. These included Sir Robert Sutton, Sir Fisher Tench, Dennis Bond and Archibald Grant. On the one hand, this facilitated the passage of the parliamentary act in approving incorporation. On the other hand, this resulted in the impunity or expected impunity among corporate directors from the state. While Sutton was expelled from the House of Commons in 1732, it appeared Sutton's connection to the HoC successfully motivated the HoC to mitigate the charges of frauds down to merely negligence by influencing how people voted (Sedgwick, 1970). In 1734, Sutton was able to regain his seat in parliament for Great Grimsby where he owned properties. Elsewhere, Archibald Grant was only deprived of a HoC seat and retired after the collapse of CC to devote his time to taking care of his estate in Scotland.

Due to an absence of the protection of fraudulent activities shielded by a direct institutional state-corporate relationship, organisation of insider dealing related to CC and YBC can be better understood by looking at how the fraudulent activities that produced information asymmetry were kept hidden from supervising agencies, victims and bystanders (van de Bunt, 2010). In the case of insider dealing, although there was no direct victim, I need to consider how perpetrators conceal fraudulent activities

from supervisors and bystanders. The partnership can be conceptualised as controlling a 'secrecy society' and maintaining secrecy through 'selectively providing information'. For example, there was secrecy among internal members such as Sutton, which were hidden from those committee members that were not involved in insider dealing, such as operational staff and external supervisors.

Unlike SSC, on whom the state was financially reliant and so was forced to be complicit in producing insider dealing, CC needed to defraud the government and the investors regarding the true state of remaining capital. The secrecy from government was facilitated by corruption of Sir Robert Sutton and the Attorney General who both had interests in granting the licenses. Those directors who were also politicians engaged in the ordinary course of dealing with parliament affairs, making them less likely to be the target of suspicion. In relation to how illegal cooperation was concealed from investors, the partnership composed of people working or owning CC which gave them a legitimate outlook as CC was the earliest form of ethical banking. The partnership also included reputable politicians that rose above suspicion; CC was even viewed as a risk-aversion investment opportunity in an era where investment decisions were influenced by political and social affiliation as rational financial decision-making (Carruthers, 1996). Lastly, according to Brealey (2013), security measures designed to keep CC in check were deliberately dismantled, allowing the committee and employees to operate without oversight.

In addition to maintaining secrecy of the partnership, the question remains how the partnership achieved silence within their social environments. The case of Charitable Corporation reflected the elements of 'inaction in the face of knowing', 'concerted ignorance' and 'fear of retaliation' that facilitated the operation according to van de Bunt (2010) who examined investment fraud in the twentieth first century. First, Robert Sutton was aware of the true state of affairs but had no interests in breaking the silence, as other co-conspirators, which can be attributed to the shared interests among them. Other committee members and Robert Sutton would benefit from the false statement in gaining license and thereby personal financial benefits. Therefore, it was in their interest to preserve silence about the scheme. Additionally, investors buying Charitable Corporation stock would not question as they benefited from the continuation of an existing situation in which they viewed the company presenting risk-aversion investment opportunities. Lastly, those who revealed their suspicions and concerns were either fired or bribed to keep quiet by the partnership (Brealey, 2013). Other company staff maintained their silence as they were fearful of getting fired having observed the dismissals of those who disclosed the doubts to the committee.

To summarise, Section 2.2 has illustrated how state-corporate symbiosis at the institutional and individual levels affected insider dealing organisation in the eighteenth century by focusing on the main methods of insider dealing. I have showed that state-corporate inter-dependence had a direct effect on insider dealing, and state-corporate symbiosis was more salient at individual level at the absence of such inter-dependence, and such absence further entailed concealment strategies that facilitated inside

dealing opportunities. The cases shown above all had a commonality in the state-corporate symbiosis in its 'regime of permission' of insider dealing in which the architecture of the joint-stock model that issued shares had its roots back in the eighteenth century in both oversea and domestic business organisations. Such regimes may not have been intended to generate conditions conducive to insider dealing, but whether intentional or not, opportunities arose and were recognised by those in key business and political positions.

2.3 Industrial revolution and insider dealing

In the previous section, I examined insider dealing in eighteenth century Britain where the state-corporate interdependence produced corporate harm by the permitted joint-stock model, and was facilitated by the legal ambiguity in regulating corporations and the stock market during the ongoing process of corporate and financial innovation; and the director networks that shared confidential information between directors and MPs. In situations where an observable state-corporate interdependence was absent, techniques of concealment were used to protect the insider dealing network. This section addresses how insider dealing was organised in the nineteenth century. It was a century in which the wider socio-economic fabrics that incubated these dimensions of state-corporate symbiosis in producing insider dealing experienced a transformation during the age of industrial revolution. In this section, through a case of insider dealing in the railway industry, I attempt to describe the subtle and ongoing state-corporate relationship that extended insider dealing opportunities to railway companies – through the liberation of the joint-stock company incorporation – resulting from favouring economic and industrial development.

2.3.1 Railway industry

The traces of insider dealing I discuss from the nineteenth century were related to the railway industry. Nineteenth century Britain featured the industrial revolution that modernised manufacturing using the new factory system supported by innovative energy sources such as steam power, electricity, coal and petroleum. Scientific and technological development had dramatically transformed agrarian, family-based production, mercantilist society to an urban and industrialised one. In the midst of such transformation there was the emergence of an array of transportation and infrastructure projects such as water supplies, roads, and railways. The first half of the nineteenth century saw the explosion of joint-stock railway companies. By the end of 1850, railway companies dominated the London stock market, together with banks and insurance companies, accounting for 65 percent of all issues and 80 percent of market capitalisation (Casson, 2009; Odlyzko, 2010; Acheson et al., 2012).

The specific instance of insider dealing was related to the merger between two of these railway companies, the York and North Midland (YNMR) and the Leeds and Selby Railway (LSR), which was the first major railway acquisition (Robb, 1992; Casson, 2009). YNMR was incorporated in 1837 and was under the directorship of George Hudson who was a railway financier and politician controlling

multiple lines of the railway network. He was a prominent figure in accelerating railways' development in the 1840s. He engineered the 'railway politics' in which merger and partnership through an interlocking chairmanship were two specific strategies, aiming to eliminate competition and to join resources owned by independent companies in order to reduce the intensive construction costs (Hodgkins, 2002). In the ten-year time following Hudson's investment in the railway industry, he controlled 1,450 out of the 5,000 miles track in England and had opened or bought a raft of northern lines with astonishing speed by 1847. Such railway politics in merger and co-chairmanship in the railway industry gave him advantages in information asymmetry.

Insider dealing occurred under such context when the company director of YNMR, George Hudson, abused his knowledge about the merger to buy up shares of LSR at a discounted price and later sold them to the YNMR for enhanced prices. Further, he tipped such information to his friends and family to trade for profits (Chrystal, 2016 Robb, 2012). There were also traces of corruption involved in facilitating the incorporation of or merger between railway companies that produced insider dealing on other railway companies by Hudson (Chrystal, 2016). For example, the required Act of Parliament for incorporating the YNMR in 1837 was allegedly facilitated by a bribe of £3,000 from George Hudson (Chrystal, 2016). Similarly, according to the Eastern Counties' investigation into Hudson's companies, it was found that £7,600 was recorded as 'Parliamentary Expenses' on the account book for easing incorporation and merger activities, which the HoC later concluded were unsuccessful bribes for merging YNMR and London and York Railway (Robb, 1992). There was also evidence of fraud including techniques of false reporting and payment of dividends from capital in maintaining Hudson's railway monopoly (Casson, 2009).

On the surface, similar to the case of CC in the previous section, there was an absence of direct state-corporate functional interdependence as the state's capital in the railway projects was minimal. However, as Whyte (2014: 239) argued, it is insufficient to conceptualise state-corporate crime by merely foregrounding the 'moments of rupture' in the formal separation between public and private spheres that views the 'public policy making is insulated from the corrupting influence of private interests'. Instead, beyond the observable direct involvement of the state capital in private businesses, one may consider the role of state within the 'intersection of history and political economy' in enabling corporate harm (Whyte, 2014: 241). The fundamental vehicle presented in the insider dealing upon the merger between YNMR and LSE was the joint-stock enterprise model. Foregrounding the historical events behind such a regime of permission in the early nineteenth century, it appeared that the state-corporate relationship in granting privileges and infrastructural capacities to joint-stock corporations further reflects an interaction between the influence of the 'revolving door' in lobbying towards private interests of the entrepreneurs during the age of industrialisation and the legal and judicial forces that were exercised without interference of outside pressures.

Following the 1720 South Sea Bubble, the Bubble Act and associated policies were introduced, casting a shadow on the joint-stock model in organising business activities and putting its development on hold for almost a century. Joint-stock company can only be incorporated through special legislation or royal charter for almost a century. The partnership model remained as a primary form for joint business ventures with the absence of certain corporate characteristics including a separate legal personality and limited liability, and also freely transferable shares or ownership (Shannon, 1931). Industrialisation required a more liberal and market-oriented government and economic policies to liberate the joint-stock model of business organisation in order to gather the large enough amount of capital necessary to keep pace with the machinery and large-scale production and infrastructure construction, which was previously mainly offered to overseas trading enterprises. Since the late eighteenth century, the joint-stock form had been extended to various infrastructure projects such as canals through special acts, and to the railway projects in the early nineteenth century (Acheson et al., 2015).

Eventually, the Bubble Act was repealed in 1825. Scholars in political economy attribute this to the private interests in liberating incorporation of joint-stock companies. Indeed, a number of MPs held shares in private projects that required the Parliament to grant incorporation, and these private interests were behind the Bill supporting the abolishment of the Act. Whereas Harris (1997) stressed the role of legal factors where the abolishment was eventually based on the concerns over the doctrinal ambiguity in incorporation, one cannot deny the role of the 'revolving door' where politicians' private interests in joint-stock company's shares lobbying towards the regime of permission in the repeal. While the statutory prohibition was abandoned, common law judges questioned the speculative nature of corporations and exercised the judicial powers to declare illegality of certain joint-stock enterprises without interference from the parliament. This indicated that the judiciary had been independent of the interest group pressures and guarded the state-corporate nexus by curbing the regime of permission (Harris, 1997). However, the reform pressures soared, which eventually resulted in the passage of the 1844 Act that saw the emergence of the state-enabled 'regime of permission' of the joint-stock company (Shannon, 1931).

Hudson's joint-stock corporations were established through parliamentary special act in 1836, before the passage of the 1844 Act. Whereas some argue that the parliament had been acting as a guardian of the state-commerce nexus by regulating the incorporation in this way, it was suggested that the Parliament 'was not hesitant' to grant joint-stock company incorporation right to railways through its customary process of innumerable special acts, that was, through the private act procedure of parliament (Shannon, 1931; Hunt, 1935). Politicians' vested interests in the 1840s where logrolling affected parliament decisions related to railway companies (Esteves and Mesevage, 2017). Such separate legal entity granted by the parliament had been argued as facilitating wrongdoings as the individual responsibility was diffused to the corporation (Whyte, 2014). The insider dealing and the associated harms caused to other shareholders who possessed no confidential information thus indicated the

enabler role of the state despite the hostility from the judiciary during industrialisation where the Parliament was lobbied towards the private interests of merchants and financiers.

This case reflected another element of the state corporate symbiosis in producing insider dealing – the permitting and facilitating of merger activities between large public utilities firms by the state. What was distinct of this case study was that the type of information closely resembles modern mergers and acquisitions that were most associated with inside dealing according to Szockyj and Geis's (2002) analysis of cases in the U.S. between 1980-1989. Originally, the state had been guided by a belief in the efficacy of competition that would allow different operators to offer competing services. However, such policy was abandoned during the 1840s. It was suggested this was due to considerations to the safety of passengers where railway companies seeking to reduce costs in material and staff in construction (Foreman-Peck, 1987). Yet it also implied private interests of the railway financiers who sought to gain regional monopoly and reduce the level of competition. For instance, the Railway Clearing House was co-established by several railway companies to profit from early railway excursion (Major, 2012).

The amalgamation movement began, featuring the decline of competition and the formation of local or regional monopoly by dominant firms. Railway Clearing House was established in 1842, and 20 years later it joined the interconnecting railway network, which was composed of 78 companies. It was suggested that this century marked the beginning of modern merger activity (Hannah, 1974). In 1843, the 70 railway companies controlled 2,100 miles of rail track in the UK; by the late nineteenth century, concentration of railway business rose to 13 companies owning 88 percent of mileage, which was suggested as creating a regional natural monopoly in the railway industry (Foreman-Peck, 1987). The merging movement in the railway industry produced the supply of advance information owned only by a handful of corporate insiders, mostly the directors of regional monopolies, resulting in their insider dealing opportunities. Harris (2013) emphasised the role of state in regulating the consolidation of infrastructure and utilities through parliamentary acts. These acts reflected the state-corporate relationships in generating insider dealing opportunities among the corporate insiders.

The state-corporate relationship was also reflected in certain degree of the failing of law enforcement in a lax regulatory environment towards regional monopolies in railway industry and corporate insiders in producing harm associated with insider dealing. Especially, law enforcement activities were harsher in regulating labour market and actions of the workers. Law enforcement was however lax towards traders, bankers, manufacturers and brokers, and their evasion of domestic regulation was easy. There was also a lack of enforcement agencies and absence of public prosecution towards them (Harris, 2004). One could reasonably expect that insider dealing was incubated in such a relatively lax approach to regulation that rarely persisted with legislative proposals to force railway companies to work for the public good rather than self-interests and concentrated only on issues such as rating of railway infrastructures rather than issues of monopoly and competition.

Further, due to the laissez-faire theory, protection of outside shareholders from corporate directors and insiders did not emerge in the UK until mid-twentieth century. Before then, there was an absence of regulation of corporate directors over trading in corporate shares based on their advanced knowledge, or the regulation over disclosure of corporate performance to shareholders or the public. The 1890 Directors Liability Act and the 1900 Companies Act were introduced to require corporate disclosure in the corporate development. However, protection towards minority shareholders was still weak and outwitted by rights of directors and company insiders, and the common law court tended to stay outside of the corporate internal affairs if it could be resolved by the majority of shareholders (Acheson et al., 2015). In other words, the lack of legislative attempts over insider privileges can be partly associated with the laissez-faire theory of the state, where outside investors were left unprotected from insiders' attempts to profit from their advanced knowledge.

In sum, compared to government policies to the eighteenth century, there are good reasons to assume that industrial revolution empowered insider dealing opportunities in the railway industry, and even to other utilities sectors such as waterways and roads. As the government captured the need of economic development and adopting policies that facilitated industry and railway companies specifically, the nexus between government and private business entities had extended from originally within only giant oversea trade monopoly in the eighteenth century to now utilities firms and railway regional monopolies. Within such extension of the corporate model, there were also legal and political factors in place as shown previously. While I do not attempt to make the direct connection between state's role in facilitating economic development and insider dealing occurrence, I believe that such historical context helps us to understand how insider dealing opportunities had been extended.

At an individual level, the state allowed the movement of personnel between the public and private sectors, facilitating access to advance information. Anecdotal evidence showed that politicians might gain access to inside information on railway companies where they served as railways company directors (Casson, 2009). There were also politicians closely associated with railway financiers as they invested in railways, which also bridged the access to corporate information. Politicians might also provide inside information on political events to directors or exchanging inside information for shares in railways, producing insider dealing (Casson, 2009). However, despite the difficulties in measuring the real extend of insider dealing in both current time and nineteenth century, the limited available evidence suggests that insider trading was not prevalent in the Victorian era (Braggion and Moore, 2013).

2.4 Financialisation and insider dealing

This section examines the insider dealing practices in the second half of the twentieth century. The practice of insider dealing was found in a number of studies in the history of London Stock Exchange (see for example, Attard, 1994; Michie, 1999; Kynaston, 2002). I will elaborate on two instances. The first one is related to the leisure market where insider dealing was suggested to be carried out by the

corporate directors prior to the takeover bid during the 1960s. The second one is about the more general financial service industry in the City of London in the 1960s-70s. Both of these cases involved the corporate finance activities such as initial public offerings of shares and mergers and acquisitions that were arranged to raise or restructure capital. Corporate directors were the apparent group that turn to insider dealing with their privileged access to the deals; the financial intermediaries such as investment bankers who were to assist in structuring the arrangements were the other group. The more salient characteristic was the 'deal-making' network from a meso-level that was established through the legitimate business relationships organised around these arrangements. Such network appeared to function as the inside information sharing network, facilitating the necessary conditions for insider dealing to occur.

2.4.1 Leisure market

The 1960s British leisure industry expanded at scale. It was suggested to be a growth area attracting increasing financial investment, and the leisure conglomerates such as Scottish & Newcastle brewery appeared to instigate large economic power (Clarke and Critcher, 1985). This gave rise to insider dealing opportunities alongside the more and more frequent corporate finance activities. The development was often suggested to be closely associated with the economic development that percolated to the rise in disposable income, improvement in material standards of living, the fall in working hours and increase in holiday entitlements (Jones, 1986). Yet the leisure industry expansion shall not be alienated from the state as an enabler through leisure policies. For example, the Arts Council was formed in the post-war period. Gambling was legalised in 1960, which granted the first commercial channel for legal betting (Clarke and Critcher, 1985). In the absence of formal prohibition of insider dealing during this period, the increasing opportunities may have been exploited by corporate directors as the informal control via self-regulation was deemed as weak.

When discussing the career as a jobber in the leisure market of the 1960s London Stock Exchange, Jenkins (1990) suggested that the practice of insider dealing and market manipulation occurred in the mid-twentieth century and described their occurrences as rather frequent. The practices often needed no disguise as there was an absence of prohibition in addition to the unspoken acceptance among the Exchange, according to Jenkins (1990). Jenkins (1990) focused on the scenario of merger and acquisition and explained that a typical scenario would be company directors of an acquiring company manipulated the share prices prior to the acquisition of a target company for their own benefits. Alternatively, company directors of the target company of the acquisition might dispose its shares as they wished to retain certain portion of the assets. He raised an example of the Scottish Motor Traction which was the target of acquisition of Sears and whose director was disposing its assets during the ongoing bid (Jenkins, 1990). Disposing of assets of the target company can be for various reasons, but such practices clearly amount to today's criteria of insider dealing and market manipulation.

There was ambiguity regarding the permission of insider dealing and market manipulation in the City of London, according to Jenkins's (1990: 27) account: 'there was nothing to stop people putting their shares better, or manipulating the markets to their advantage…it was permissible I suppose…'. At the outset, this originated from the legal ambiguity as he suggested that there was no formal prohibition of such practice during the 1960s, and as a matter of fact, the statuary prohibition of insider dealing did not arrive until the 1980s in the UK. The ambiguity was also related to failed attempts in revising Companies Law to prohibit insider dealing prior to 1980. While the Jenkins Committee, which was set up by the Parliament, considered that insider dealing was 'improper', it merely required corporate directors to report their dealings, and its recommended revision of existing company law to explicitly prohibit insider dealing was rejected in the Parliament (Rider, 2000). The City's self-regulatory body – the City Panel on Take-overs and Mergers – also did not expressly put forward a rule against insider dealing until 1976 (Rider, 1978).

Some insider dealers disguised their transactions. Jenkins (1990) revealed that certain insider dealers might have directed the transaction to an off-London broker, for example in Manchester, where it may further be moved to banks in foreign countries such as Switzerland, as an attempt to disguise. This was interesting as it seemingly illustrated that some insider dealers had the realisation that their transactions would not be accepted at least to a certain extent and thus sought to hide them. Such realisation may be associated with the government's attempts to intervene in addition to the self-regulation of the City. For instance, the UK government set up the Cohen Committee to review Company Law and produced the report which explicitly expressed concerns over directors buying and selling shares with inside knowledge of the company (Board of Trade, 1945). It might also be associated with the City's self-regulation over insider dealing in the 1960s which was nonetheless deemed as weak, where cases triggered wide complaints would invoke internal investigation by the Exchange although the more isolated cases would be deemed unimportant (Davies, 2015).

2.4.2 Financial industry

Insider dealing was found not only in the leisure market, but also in the wider financial markets and involving financial service industries such as investment banks in the period between the 1960s and 1970s. The interview with Michael Verey (1990) substantiated this. Varey (1990) was educated in Eton and Trinity College at Cambridge, who joined an investment bank that specialised first in corporate finance and then transitioned to a pension fund during the post-war period. Verey (1990) suggested he was often in close contact with stockbrokers and occasionally jobbers to put forward the transactions. The investment decisions about where to put money were often at the hands of the partner in his firm. These decisions were partly based on familiarity and knowledge about the business, but more often the partner relied on information percolated from company directors and stockbrokers. There were close relationships between the bank and a lot of industrial companies, which were established during the initial underwriting or corporate restructuring assisted by the bank. In the pre-war period, the bank

started structuring takeovers and mergers wherein the partners would look for businesses around the UK, and thereby became familiar with industrial companies and their development. There were also frequent contacts between the stockbrokers and companies, and the stockbrokers would also leak information to the partner (Verey, 1990). From Verey's (1990) accounts about the business model of the investment bank, it was clear that there were practices of insider dealing that were entrenched in the network of relationships between stockbrokers, companies and investment banks. Investment bankers would place orders based on inside information leaked from the companies they had a business relationship with, or from the stockbrokers who bridged information from companies that they were not in contact with.

The supply of insider dealing opportunities was associated with the growth of the financial market in the post-war period that was facilitated by the state. The UK financial and banking industry acquired a prominent position in both the domestic and world economy under the liberalisation of trade and finance in the post-war period. The scale of output from the financial sector grew at a rate higher than other key sectors (Watson, 2004). There was a growth of corporate finance activities where merger and takeover featured British industrial and commercial sphere, which consistently provided a ready stream of inside information available to the financial intermediaries. The relationship between the state and the financial market has attracted lots of complex analyses. One argument made by researchers was that the British economic policy has contributed to the prosperity of the financial markets and corporate finance activities (Green, 1991). Second, there was demand for insider information by the investment bank as the rise of institutional investors such as pension funds stimulated by the state pension policy of the 1950s. Such 'institutionalisation of the equity market' began in the 1950s when pension funds, investment trusts rapidly increased their share-ownership. The overall shareholding by the institutional investor grew from around 20% to 60% of shares from 1960 to 90s (Thomas, 2004). This was suggested to be stimulated by, for example, the state pension policy where contributions to pension funds were made out of pre-tax income, and thus became a 'tax-efficient means of saving' (Thomas, 2004). Some characterised these institutional investors as short-termists, who prioritised quick profit earning over long-term growth, who therefore might demand inside information in gaining returns (Yeager, 2007).

The encounter between the supply and demand was then bridged by financial service institutions such as merchant banks that assisted the corporate finance process. In the case mentioned above, the investment bank performed both the function of corporate finance and investment, naturally enabling the information flow. The other routes were through stockbrokers who were suggested to be often in an enclosed circle with both the corporations and the institutional investors, either via the dual directorship or business relationship (Rider, 1978). There was also a cultural dimension where the financial industry in the 1960s was suggested to be an 'enclosed circle' of elites from private schools or family relationships, which facilitated the information flow (Thompson, 1997). Furthermore, as the concerns over insider dealing surrounding merger activities increased, the Department of Trade and Investment

called for legal approach. One clause was the 'Chinese wall' in separating the corporate finance and investment functions to prevent information flow and the subsequent insider dealing (Dolgopolov, 2008). However, this was rejected by the Stock Exchange who asserted insider dealing was already under their regulatory framework. These are just the few examples of how the financial sector rejected stated intervention and legal approach. Such resistance from state intervention illustrated state-corporate nexus, where the government enabled the self-regulation policy in the financial industry. This created legal ambiguity in insider dealing which was exploited by certain corporate directors and financial intermediaries when the supply and demand of inside information was encountered.

2.5 Where are we now with the insider dealing law?

Initially, insider dealing was a considered wrongdoing by the company insider against the company and its shareholders. It was viewed as a violation of fiduciary trust under the employment relationship in which the company insider used the information for his or her own personal benefit, thus contravening his or her obligations as an employee. This was reflected in the early attempt to prohibit insider dealing by the Cohen Committee (1947) in the UK, which argued that it was improper for company directors to trade on company shares based on information unavailable to shareholders, calling for legislative reform for prohibition. The same attempt was found in the Jenkins Committee report (1962) that stated a director should be prohibited from dealing in options in securities of the company based on special inside information. During the 1970s, the 'legal substance' of insider dealing started to expand after two Companies Bills were passed in 1972 and 1978, which proposed the prohibition of insider dealing. The prohibition of insider dealing was formally adopted in the subsequent legislative enactment in 1980 (i.e., the Companies Act 1980), and as a consequence insider dealing was criminalised in the UK for the first time. The Companies Act 1980 established insiders as persons 'connected' with a company via employment, and thus this legal definition included directors, managers, secretaries and those 'connected' by a business and professional relationship with the company, such as accountants, solicitors, management consultants and lastly tippees (Hull, 1979; Rider, 1983). This indicated the move away from corporate directors as the only potential defendants to include also fiduciaries in the issuer company (i.e., the company that issue shares) and other companies that established a relationship with the issuer. However, Rider (1983) argues that the extension was limited because of the additional requirement to be classified as an 'insider' (i.e., he/she must be in a position that give access to the information), and as such a junior accountant who overhears the information from colleagues' conversation and trades on the information would not constitute an insider dealing offender according to the law; neither did a stockbroker who was not employed by the issuer company.

Although the rationale of promoting and preserving public confidence in the integrity of the financial markets underpinned also the Companies Bill of 1972 and 1978, the actual legislative enactment of this approach found its way in the Criminal Justice Act (CJA) 1993 that replaced the Companies Securities Act 1985, as it effectuated the 1989 EU Directive (Council Directive 89/592/EEC) which explicitly put

forward the requirement of legislations in EU member states to foster the investors' confidence through prohibiting the use of inside information in the financial market (Loke, 2006). The central difference is that the prohibition is now justified on the basis that insider dealing is an abuse against general financial markets, which therefore requires a public sanction through criminal law, instead of a company law legislation mediating the relationship between trustee and beneficiaries that protected the company and shareholders against insider malfeasance. The changing underlying philosophy of this prohibition was in conjunction with the further expansion of the legal definition of insider dealing in order to capture a wider range of individuals that would had otherwise fallen outside of the fiduciary realm. The CJA 1993 represented a further expansion of the legal definition of insider dealing to capture a wider range of potential perpetrators. Insider was defined as either (1) being employed or being a shareholder in the company, or (2) anyone who has the information 'by virtue of an employment or office', or (3) receiving the information from either (1) or (2). The expansion of what it meant by 'insider' was achieved significantly through expanding the category (2) by, firstly, removing the requirement of being connected with the company, and secondly, the insider needed no longer to be in a position that could be expected to enable access (Wotherspoon, 1994). The activity was also further extended to include not only dealing based on inside information and disclosing the information but also encouraging others to trade in relevant securities (Wotherspoon, 1994). The CJA 1993 stipulates the current criminal law regime of insider dealing in the UK.

The legal definition of insider dealing became an even broader concept following the enactment of the civil law regime of market abuse through the Financial Services and Markets Act (FSMA) 2000 that further enhanced the regulatory power over insider dealing. The FSMA 2000 adopted a 'total market integrity' approach concerned with any behaviour that hampered the confidence in financial markets through the market integrity approach that the fiduciary approach no longer subsumed (Loke, 2006). The FSMA concept of 'insider dealing', thus, concerns any behaviour that is abusive to the financial market as a whole, and abusive behaviours of any person rather than merely corporate insiders or professional insiders as in the CJA 1993. The FSMA hence included a broad definition of the market abuse offences to cover an expanding range of behaviour, actors, markets and types of securities beyond the scope of the CJA 1993. Insider dealing was functionally equivalent to the offence of market abuse under the section 118(2(a)) of FSMA, as 'the behaviour is based on information which is not generally available to those using the market but which, if available to a regular user of the market, would be, or would be likely to be, regarded by him as relevant when deciding the terms on which transactions in qualifying investments should be effected'. Accordingly, the defining feature of insider dealing thus becomes the use of not-generally-available information, regardless of how one accesses the information, whether it is during the occupation or not. The insider is also defined in wider terms: one would be guilty of insider dealing as long as he/she knows or should have reasonably known it is inside

information. An insider is also the person who possesses the information through the exercise of his or her employment, profession, duties or shareholding, which is similar to the definition in the CJA 1993.

The expansion of potential defendants is achieved through removing the requirement of proving the 'fraudulent state of mind' of those holding the information as a result of their employment or profession, and through covering two additional classes of insiders, including the accidental discoverers of inside information (e.g., picking up a letter left in a public toilet) who know or could reasonably expect to know it is inside information, and those who obtain access to the information through criminal activities under section 118B of FSMA. Additionally, the FSMA definition of 'insider dealing' now includes trading behaviours related to qualified financial products traded in recognised exchanges that either occurred in the UK or were electronically accessible from the UK, instead of being limited to prescribed UK exchanges. This provides the extra-territorial jurisdiction for enforcement activity to regulate behaviour outside the UK (Alexander, 2013). Whereas the proscribed behaviour is the same as in the CJA to include dealing, disclosing and encouraging, the FSMA extended the scope to cover also *attempting* to engage in the activity based on inside information. An attempt is defined as a situation where the proscribed activity was initiated but not completed as a result, for instance, of failed technology or professional intermediaries not acting on the insider client's order due to suspicions. In 2016, the provisions of the FSMA 2000 in relation to insider dealing were repealed by the UK Financial Services and Markets Act 2000 (Market Abuse Regulation (MAR)) 2016 to effectuate the EU Market Abuse Directive (EU MAD) 2003. The significant change was the inclusion of the legal person as a potential offender in insider dealing (i.e., incorporated the business entity as insiders and enabled the liability of natural persons who participate in the decision engaging in the abuse). The MAR stipulates the current civil law regime in relation to insider dealing.

2.6 Conclusion

Robb (1992: 11) suggested that the transformation of finance since the early eighteenth century produced extensive opportunities for crime: 'the growth of a securities market and experiments in company organization fashioned a world of new possibilities for dishonest businessmen'. Levi (1987), in his thesis on fraud, also illustrated that fraud had never been a new phenomenon, where the development in technology in modern days only made the old kinds of crime in the eighteenth century more freely available. Such extension of opportunities for crime alongside the socio-economic-technological development similarly applied to insider dealing.

In this chapter, I have illustrated the broad socio-economic trend of mercantilism, industrialisation and financialisation in connection with insider dealing organisations. Within these broad developmental trends, the state – either directly through state-corporate inter-dependence or indirectly as a facilitator through liberal policies – affected insider dealing opportunities. From a legal perspective, insider dealing has been featuring ambiguities, where insider dealing was not criminalised until 1980. Since

then, laws on insider dealing have been expanded to include an increasingly widening scope of potential offenders and activities.

Through this historical analysis of insider dealing activities, this chapter highlights the significance of (1) an opportunity structure and, its emergence and development over time; (2) understanding the crime commission process and modus operandi (structure of activities); (3) understanding how actors collaborate (structure of associations); and (4) understanding the interaction between individual motivations, organisational contexts and the macro economic, political and legal structures in relation to insider dealing. These points set out the context in which the empirical analysis of this thesis will be situated.

Chapter 3 Literature Review

3.1 Introduction

There are two aims of this literature review. Firstly, it aims to summarise the existing research about insider dealing and its organisation, thus foregrounding the main findings of previous research and highlighting evidence gaps. Gaps identified may be due to the use of constructs such as 'white-collar crime[9]', 'occupational crime' and 'organisational crime' to frame insider dealing activities, which limit the scope of potential offenders and direct the analytical focus to actors rather than the practices and co-offending relations in insider dealing. Therefore, it is argued that using a 'market-based lens' may facilitate the empirical analysis by shifting the research focus to the activities, social relations among co-offenders and association with financial markets. Secondly, this literature review aims to establish the theoretical and analytical perspectives that will guide the empirical analysis on the organisation of insider dealing. This includes a review of the literature about the opportunity theories in environmental criminology and a review on organised and financial crime research to summarise the analytical concepts.

The remainder of this chapter is organised as follows: Section 3.2 summarises the main findings of extant literature on insider dealing, including the characteristics of offenders, activities and social relations in insider dealing, the organisational dimension in insider dealing and the regulatory environment. This will be followed by a detailed discussion about the benefits of using 'market-based lens' to understanding the organisation of insider dealing. Then, Section 3.3 will present the theoretical framework of this thesis, which includes environmental criminology approaches and the organisation of crime regarding both the structure of activities and structure of associations. The main argument of this chapter is that environmental criminology and the organisation of crime theoretical approaches provide an adequate framework for the study of insider dealing and its organisation.

3.2 Existing research on insider dealing

This section reviews the existing research on insider dealing. Sections 3.2.1 and 3.2.2 review current knowledge about insider dealing on a micro level (i.e., individuals and relations among individuals). These two sections highlight the first research gap: there is a lack of research investigating the practices and relations of actors committing insider dealing, where it remains unclear 'how' insider dealing is organised. Sections 3.2.3 and 3.2.4 discuss the organisational and structural factors related to insider dealing by financial professionals. These two sections highlight the second research gap in the study of insider dealing: there is a lack of empirical research on insider dealing in the UK context and on insider

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[9] Edwin Sutherland (1949) defines white-collar crime as 'a crime committed by a person of respectability and high social status in the course of his occupation'.

dealing by non-financial professionals who are not influenced by the financial services industry. Section 3.2.5 suggests that these research gaps are related to the lack of attempts to move beyond concepts of white-collar crime and organisational misconduct, which shows the need for a market-based lens to understand insider dealing as an activity contingent on the structure of the legitimate financial markets.

3.2.1 Characteristics of insider dealing offenders

One recurrent theme emerged from the literature review is the emphasis on defining insider dealing as a 'white-collar crime' and the predominant focus on the US context. This highlights the potential drawbacks of using an offender-based approach that does not inform about 'how' insider dealing is committed, which has been identified in research on white-collar crime (Croall, 2001). This is not surprising given that insider dealing attracted most attention in the late twentieth century when several major scandals, such as the Ivan Boesky case, were exposed in the US. In fact, the Boesky scandal even inspired the movie 'Wall Street' in 1987. Szockyj (1993) frames insider dealing as a white-collar crime, and she illustrates how Carl Karcher, a known insider dealing offender, and his family and business associates, who were also involved in the insider dealing scheme, received a lenient treatment from the civil and criminal justice systems in the US. Through describing the dynamics of the criminal trial process, she shows how the defendants were acquitted because of their non-legal characteristics, including their socioeconomic status that 'induce juror sympathy and leniency' (Szockyj, 1993: 53). Similarly, the same construct is used by Reamer and Downing (2016) to describe four famous insider dealing schemes. They describe the interesting Raj Rajaratnam insider dealing case in the U.S, which included a network of 23 defendants. The Raj Rajaratnam case was also analysed by Ahern (2017), and it will be described later in Section 3.2.2. However, their analysis excessively focuses on offenders' backgrounds and suggests that 'the striking feature of almost all inside traders is that they were either already successful or seemed poised for success' (Reamer and Downing, 2016: 187).

Similar to these studies underpinned by an offender-based lens, there is some research conducted to analyse insider dealing offenders based on their organisational positions and occupations (Szockyj and Geis, 2002; Bhattacharya and Marshall, 2011). Although these papers do not seek an in-depth understanding about the organisation of insider dealing, they provide valuable information regarding the 'opportunity' structure analysed in this thesis, which is elaborated later in Section 3.3. These studies predominantly distinguish offenders as either 'primary insiders' who work in the issuer company where such information originates from, or 'temporary insiders' who work in the financial institution on a temporary basis due to a contractual service relationship established with the issuer. Such categorisation appears to be based on the legal concepts of 'fiduciary' for the primary insider (see Chapter 2) or 'misappropriation' for the temporary insider. Examining the data presented by Szockyj and Geis (2002) from the U.S. context, it is shown that primary insiders are disproportionally found to be those in high organisational positions, such as executives and directors, while temporary insiders are often lower-level employees working on corporate financial activities. The main drawback of the occupational-

based lens is that it still relies on personal characteristics to explain insider dealing (e.g., self-control, personality, occupation; Szockyj and Geis, 2002), while it may fail to capture the mechanisms through which insider dealing takes place. However, findings are useful in highlighting how occupational and organisational positions appear to dictate the access to insider dealing opportunities, as suggested by Benson and Simpson (2019).

There are other important sociological studies that move beyond the white-collar crime construct to understand insider dealing. This includes Shapiro's (1984) seminar work 'Wayward capitalist'. Her focus also includes insider dealing offenders prosecuted by the US Securities and Exchange Commission (SEC)[10]. Although also describing offender characteristics, Shapiro (1984, 1990) seeks to establish an understanding of the social organisation of insider dealing based on offenders' occupational characteristics. She concludes that insider dealing represents a violation of trust by individual offenders. This is highly relevant as it moves away from asking 'who' the offender is to foregrounding the nature of the misconducts. Central to her conceptualisation is the agency theory, which assumes that trust is generated from the principle-agent relationships between employers and employees in organisations. Hence, insider dealing violates such trust when the employees 'steal' the employers inside information. The problem with this approach is that it is too generic, since the construct of 'trust' applies to all organisations, but not every organisation has inside information. This is related to Shapiro's (1990) attempt to use this construct to 'de-collar' (i.e., analyse the activity, not the person) not only insider dealing, but all types of misconducts in financial markets that have been framed as white-collar crime. This reflects Edwards and Gill's (2002) discussion on the elastic versus inelastic concepts used in white-collar and organised crime research. According to them, trust violation is very elastic in sufficiently encompassing a broad range of practices. However, such an approach may obscure the different characteristics of different criminal activities which involve, in one way or another, trust violations.

3.2.2 Activities and social relations in insider dealing

As signposted in Chapter 1, one of the motivations of this research is to understand how 'opportunistic' and 'organised' forms of insider dealing are organised. However, existing research provides little insight on the practices and relations among actors committing insider dealing. This is not surprising given that existing research is found to be preoccupied mostly with depicting insider dealing based on offender characteristics. This leaves a substantial knowledge gap. What we do know about the activities in relation to insider dealing is mostly related to behaviours legally considered as 'illegal' – dealing in financial instruments based on inside information and tipping the inside information to others. For example, Hansen (2014) distinguishes two types of insider dealing based on whether the inside

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[10] SEC is the American regulator of financial markets which has same enforcement responsibilities over insider dealing as the FCA in the UK.

information is 'good news' or 'bad news'. Nonetheless, it provides no further in-depth understanding on, for example, whether good news/bad news influence offending behaviour.

With regards to social relations, existing research has discussed this in relation to tipping. In Szockyj and Geis's (2002) summary of insider dealing offender characteristics, they find evidence of 'altruistic tipping'. This happens when tippers do not expect a return from the tippees, but instead it occurs due to friendship and kinships. Their understanding on tipping is limited because they see tipping as a 'by-product' of the misuse of offender's occupational duties[11] and the insider dealing behaviour is attributed to low a self-control. Moreover, Bhattacharya and Marshall (2012) examine a sample of senior management insider dealing offenders in the U.S., and their findings suggest that tipping involves two forms of exchange: monetary and intangible returns such as reputation or goodwill. The fact that their focus is on insider dealing by senior managers means that their understanding on tipping is restricted by the 'white-collar crime' framing. Whereas these two studies focus on personal relationships, Reichman (1993) and Hansen (2014) focus on the financial services industry in the U.S. Their analyses suggest that tipping occurs among professionals connected through working relationships in the financial services sector. Their studies advance in reflecting the organisational dimension of insider dealing, which will be elaborated in the next section. However, it is still limited in understanding the 'organised crime' dimension of insider dealing.

There are two further studies that examine insider dealing cases in the UK. This includes Davies (2015) and Barnes (2011). They both analyse law enforcement activity in the UK, where summary statistics on criminal and civil cases are presented. Barnes (2011) presents detailed descriptions of cases. However, while this study uses the policy construct of 'insider dealing rings/networks' to characterise the nature of insider dealing, the 'networks' are not empirically analysed. Moreover, as Edwards (2016) suggests, it is vital not to recycle current legal and policy framings in researching 'organised crime', but to instead analyse the organisation of crime without the policy framings preoccupied with actor-oriented focuses. There is one piece of empirical research, Ahern (2017), which studied the social network[12] of one insider dealing case, the aforementioned Raj Rajaratnam scandal in the U.S. This study is important as the analytical focus shifts to empirically analyse relations between co-offenders. The main finding is that the inside information first flows through strong social ties based on family and friends and then moves to weak ties among co-workers. However, this research is a financial study that does not build on relevant criminological or sociological theory. Ahern (2017) treats the network as an overt network without considering, for example, coordination problems faced by co-offenders that need to be solved to commit insider dealing (Beckert and Wehinger, 2013). This thesis will adopt a similar approach to

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[11] The term 'occupational crime' was first coined by Clinard and Quinney (1967), who defined it as the violation of the legal codes in the course of activity in a legitimate occupation. Whereas occupational crime is committed for personal benefits, it is distinguished from 'organisational crime' that is conducted in order to advance the interests of the organisation (Schrager and Short, 1978).

[12] Social network is loosely defined as actors and relations among them.

analyse social relations among co-offenders, but also consider the implications associated with illegal network (this will be reviewed in the Section 3.3.2).

3.2.3 Organisational dimensions of insider dealing

The other important studies on insider dealing include those by Reichman (1989, 1993). Whereas Shapiro's (1984) research began to reflect the organisational dimension of trust, Reichman's studies are built upon the sociological theory of organisational deviance (Vaughan, 1983). This situates Reichman's (1989, 1993) analytical focus on the organisational and structural contexts that influence insider dealing. Moreover, while Shapiro (1990) still reflected some individual dimensions in the concept of trust violation, Reichman endeavours to locate the micro-theory of trust violation into the wider structure of the financial services industry to identify the specific 'opportunities' for insider dealing. According to Reichman (1989: 192), insider dealing is embedded in the 'web of inter-organisational relationships woven around deals to merge and acquire'. In other words, the financial activities surrounding mergers and acquisitions [13] connect different financial institutions and professionals together, which creates the fertile ground for illegally sharing of inside information. This dimension is shared by Hansen (2014), who characterises the insider dealing in the Ivan Boesky case as grown from a 'network' of financial professionals engaging in merger and acquisitions. It becomes clear that financial activities and connections between financial professionals are the important context related to insider dealing. However, we still know very little about insider dealing by non-professionals or about the 'organised' form of insider dealing mentioned in Chapter 1.

Although this thesis's focus is not just on offenders from the financial services sector but any insider dealing which has occurred in the wider financial markets, it is relevant here to discuss the organisational and structural factors related to insider dealing by financial professionals that emerge from the literature. A recurrent theme in studies on insider dealing includes the factor of competitive pressures in the financial services industry (Hansen and Movahedi, 2010; Rosoff et al., 2020). Whereas Hansen and Movahedi (2010) argue that competition is part of the structural arrangements of the market economy, Reichman (1993) connects this structural competition with the specific context of the financial sector in the late 1980s in the U.S. It is suggested that the financial services industry, at that time, experienced a rise of institutional dealers/investors (see also Chapter 2 for the similar context in the UK)[14], and competition became highly intensified among financial institutions. This competitive pressure is suggested to engender criminogenic subcultures (lack of normative controls)[15] that tolerates activities 'on and beyond edge', including insider dealing, to solve the competitive pressures (Reichman,

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[13] 'Mergers and acquisitions' describe the consolidation of companies through financial transactions (i.e, buying ownership of the other corporation's stock).

[14] An 'institutional investor' is a company or organization that pools finances to invest money in financial instruments on behalf of clients. They have larger market actors, such as asset management companies (including hedge funds).

[15] In organisational studies, 'normative controls' refer to the informal control system reflected in the ethical cultural norms and values of an organisation that guide individual's behaviours (Wiener, 1982).

1989; Willott et al., 2001). This is suggested to be reflected in the rationalisation and neutralisation processes by financial professionals who commit insider dealing (Reichman, 1989). In fact, research has suggested that market pressure is one of the factors resulting in financial misconducts that led to the recent 2008 financial crisis (Reurink, 2016). These studies provide valuable insights on the organisational dimension of insider dealing by financial professionals in the U.S. context. In general terms, the studies mentioned so far indicate a literature gap, where few empirical studies have been conducted on insider dealing in the UK.

3.2.4 Regulatory environment

To begin this section, a brief review of the law enforcement strategy of insider dealing in the UK is presented here. As suggested by Edwards (2016), illegal activities are contingent on law enforcement operations. The central aim here is to illustrate the changing regulatory environment before moving on to review the literature, in order to make sense of some of the data presented in Chapters 5 and 7. In Chapter 2, I discussed the problem of legal ambiguity of insider dealing, which is rooted in the development of financial markets and neoliberal policies. It was only in the 1980s when insider dealing became criminalised. However, prosecution was not actually pursued until the aftermath of the 2008 financial crisis. Featured as the 'credible deterrence' strategy, after 2008 FSA adopted an aggressive prosecution strategy as part of the policy direction, which reflected an attempt to restore the economy by boosting investor's confidence in financial markets (Wilson and Wilson, 2014). The enhanced enforcement on insider dealing can be observed in the increase of custodial sentences. There were 22 criminal convictions of insider dealing between 2009 to 2013 under FSA's operation (Davies, 2015). Following the regulatory reform in 2012, FCA replaced FSA in 2013 as the new regulator, but the 'credible enforcement policy' remained as a key focus of action in deterring insider dealing (FCA, 2013). To date, FCA has secured 15 convictions in relation to insider dealing.

However, literature indicates uncertainty regarding the effects of the regulation in reducing insider dealing (Reichman 1989; Rider, 2000; Hansen, 2014; Barnes, 2011). Focusing on the US context, Reichman (1989, 1993) suggests that insider dealing is likely to be associated with an apparent lag in regulators' willingness and ability to monitor and detect insider dealing. Alongside this decline in law enforcement capability to detect insider dealing, there is an increase in the speculative nature of financial transactions, which has been suggested to create further obstacles to effectively monitor insider dealing (Reichman, 1989). For instance, the growth and development of derivative financial instruments[16], such as new computerised dealing strategies and stock options, create novel unusual market activities that cripple monitoring systems. The same argument is made by Alexander (2013), who focuses on the general EU context. He argues that derivative transactions create unusual market

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[16] 'Financial instruments/securities' refer to the legal claims to receive some prospective benefit that bears various level of risks on the price fluctuations. One of the most common types of financial securities is 'share of stock' (often referred to as 'stock') which entitles investor to benefits based on earnings by the issuer of the stock.

movements, which makes insider dealing easier to conceal and more difficult to detect (Alexander, 2013). In other studies, scholars point out that not only insider dealing is difficult to detect, but the problem is also that we cannot assess how effective the detection mechanisms are. For instance, Langevoort (2013: 57-58) suggests that 'The risks [of detection] are impossible to assess with rigor […] prosecutors […] make it seem like detection is commonplace, and we cannot rule out that this campaign works to inflate the perception of likelihood of detection'.

Aside from the questionable detection capability of financial regulators, the literature has further pointed out problems related to law enforcement actions by the regulators. Several studies have questioned the effectiveness of the criminal justice system in deterring insider dealing, where it is argued that jurors in criminal trials show sympathy to insider dealing defendants who often receive lenient punishments (Szockyj, 1993; Rider, 2000; Wilson and Wilson, 2014). Looking from the angle of prosecutors in the U.S., Hansen (2010) reports that a common concern among prosecutors lies in the difficulty in acquiring legal evidence to prove the defendant's 'fraudulent state of mind' to meet the burden of proof beyond a reasonable doubt. For instance, defendants may state that their suspicious transactions were not motivated by inside information, but by other legitimate considerations. That is, it is a daunting task to assert that the defendant has the intent to misuse inside information. This is suggested to impede the effect of the criminal law in deterring insider dealing (Bhattacharya and Daouk, 2002; Öberg, 2014). Other legal and criminological research casts doubt on the effect of self-regulation of the financial services sector, since competitive pressures are highly common and controls are not effective in preventing insider dealing opportunities (Dolgopolov, 2008; Rosoff et al., 2020). Nonetheless, there has been a lack of empirical studies that reflect how insider dealing may be related to the regulatory factors in the UK.

To summarise, this chapter has so far shown the limitations of existing studies due to their use of the constructs of individual trust violation, white-collar crime and occupational crime to frame the study of insider dealing. These constructs limit the analytical scope of research to questions such as 'how do elite offenders escape criminal sanctions?' and 'why financial professionals commit insider dealing?'. Some studies have begun to recognise the importance of opportunity structures and shift their scope to analysing the wider organisational and structural factors of insider dealing (Reichman, 1993; Hansen and Movahedi, 2010; Rosoff et al., 2020). However, they mainly focus on the U.S. context and the financial professionals of Wall Street. As a consequence, no research has yet analysed the activities and mechanisms of illegal cooperation in insider dealing in the UK. Moreover, in order to understand how insider dealing is organised, it is important to locate insider dealing in a conceptual framework that does not restrict the scope of offenders but focuses on its nature, associated activities and the places where it occurs (Edwards, 2016). For this purpose, the next section calls for a market-based lens for the study of insider dealing.

3.2.5 Towards a market-based lens to understand insider dealing

In reviewing the literature, this thesis adopts a market-based concept of insider dealing to inelastically define it as *the action of dealing in financial securities in financial markets based on confidential and price-sensitive inside information, which may (or may not) involve 'tipping' defined as the transfer of such information from one individual to another*. This inelastic concept of insider dealing can neatly and precisely delimit the focus on a highly specific activity (Edwards and Gill, 2002). In this way, it does not assume who the offender is, thus enabling the analytical focus to stretch beyond financial professionals. Moreover, by including the behaviour of tipping in the definition, it further enables the research to investigate social relations between co-offenders. This definition focuses on illegal activities that take place in financial markets, thus using a market-based lens to study insider dealing (Beckert and Dewey, 2017). This enables the analytical focus to foreground the insider dealing relations within the structure of financial markets, rather than simply the structure of employer-employee relationships inherent in the constructs of occupational and organisational crimes. Based on Beckert and Dewey's (2017) typology of market-based crime, the illegality of insider dealing can be understood as the violation of existing regulations during the market exchange process, where the exchange of the products is in principle legal.

In this regard, it is important to distinguish insider dealing from other similar but distinct illegal market behaviours. Existing studies appear to mix insider dealing with other the manipulative behaviours occurred in financial markets, such as pump-and-dump[17]. Insider dealing is distinct in its non-deceptiveness nature due to the use of trust and genuine information, rather than false and fictious information as in market manipulation (Kyle and Viswanathan, 2008). Moreover, by adopting a market-based concept of insider dealing, I are able to observe more complex relationships between insider dealing and legal market behaviours. In the financial research literature, there is a parallel market activity called informed-market transactions, which describes transactions by financial professionals and institutions who are more informed because they are more aware of the future prospect of the companies and their abilities in using sophisticated modelling. Such understanding from the financial literature will be used in the empirical analysis later on.

3.3 Theoretical and analytical perspectives

Having established the context for this thesis, this section outlines the theoretical perspectives that guide the empirical analysis on the organisation of insider dealing. It begins by introducing the environmental criminology perspective as the central backbone of this research. This is followed by introducing the key concepts in analysing the structure of activities and facilitative conditions, which are taken from

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[17] 'Pump-and-dump' refers to the illegal behaviour of spreading false information to financial markets to increase share prices and benefit from the increase.

the organised crime and financial crime research. It then outlines the key concepts in the illicit network literature.

3.3.1 Environmental criminology

Environmental criminology provides a useful theoretical framework for a better understanding of the organisation of insider dealing. It moves away from the research of psychological approaches focusing on offender's dispositions or pathologies (Felson and Clarke, 1998). Instead, it is grounded on a practical standpoint to intervene over the situational factors that enable crime opportunities and stimuli. What is considered truly relevant is the highly specific factors that make a specific type of crime possible in the first place – the opportunity and stimuli defined as a set of situational conditions that enable crime events (Clarke, 2008). Moreover, it is analytically useful to understand not only the immediate environment of crime but also the more distal factors including the socio-economic and technological changes that create new crime opportunities (Felson and Clarke, 1998). Hence, it allows pragmatic methods of situational crime prevention by changing the physical environment to reduce crime opportunities (Felson and Clarke, 1998).

Three main theories underpin environmental criminology: routine activity theory (originally a macro level theory but now applied at a micro level too) (Felson, 2008), meso level crime pattern theory and micro level rational choice theory. Insider dealing, according to routine activity theory, would be dependent on opportunities that occurred in settings that enable the converge or interaction between likely offenders and suitable targets in the absence of capable guardians as the necessary condition. This approach has been traditionally applied to predatory crimes with a specific physical convergence setting, while insider dealing may lack such convergence 'common place' that embroils the physical contacts between offenders and victim (Benson et al., 2009). Eck and Clarke (2003) revisited the concept of 'convergence settings' and suggested that such common places or environments can be conceptualised as 'systems' referred to more intangible spaces of interactions between offenders and victims.

By conceptualising the common place as a system where offenders and victims interact, the environment where insider dealing occurs can be understood as the financial markets of market exchange systems where offenders of insider dealing and other market participants as victims converge and interact in market transactions. Under this conceptualisation, financial markets can be understood to provide interaction spaces for insider dealing opportunities. However, routine activity theory does not tell us how offenders and victims converge in space and time; or how offenders come across the inside information necessary to commit crime. Crime pattern theory fills this gap by suggesting that the convergence occurs in places where offenders conduct non-criminal routine activities, since offenders tend to find targets in places where they are familiar with (Brantingham and Brantingham, 1993). Offenders often further expand such convergence spaces to the routine activity spaces of other people with whom they interact – the expansion of awareness space through social relations (Brantingham and Brantingham, 2008).

Whereas both routine activity theory and crime pattern theory seek to tell us what is needed for a crime to occur – likely offenders, suitable targets and absence of guardians converging in common interaction spaces embedded in routine activities and social environments – it is still uncertain of how the convergence of these elements (opportunities encountered in ordinary spaces of interaction overlapping with offenders and victims common activity spaces) would lead to a successful criminal outcome. Rational choice theory is developed by Cornish and Clarke (1986), who place the emphasis on the crime event as a decision-making process at a micro level. According to rational choice theory, insider dealing is the outcome of reasoning offenders executing insider dealing through different stages which are variously influenced by situational factors, where the successful outcome may depend on a range of contingent factors such as co-offender accessibility as one of the requirements (Clarke, 2008).

The main propositions of these three theories in the context of insider dealing can be summarised as follows: first, insider dealing is the result of the interaction between criminal motivation and situation that provides the opportunity (for both crime and criminal cooperation; Felson, 2006) and sometimes stimulus for crime to occur; second, committing insider dealing is a choice taken by offenders for their own benefit, either financial or other reasons; third, opportunity is necessary for insider dealing to occur; and lasty, crime can be induced or provoked by certain situations (Clarke, 2009). Such propositions underpinning the environmental criminology approach provide useful theoretical perspectives, and an applied and rigours analytical model, to understand the organisation of insider dealing. That is, environmental criminology places the analytical focus on the routine activities of the legal economy that provide the necessary and facilitative conditions for crime opportunities that enable the commission process of insider dealing.

3.3.2 Illegal organisation: Structure of activities

In order to research the organisation of insider dealing and its facilitative conditions, this thesis adopts the analytical framework of the 'organisation of serious (organised) and financial crimes', which has been applied previously by Levi (2007, 2008a, 2009) to study the organisation of crimes such as fraud, bribery and money laundering (see also Lord and Levi, 2017). This framework proposes that different crimes require different levels and complexities of organisation (Levi, 1998). Analysing the organisation of insider dealing entails a crime-specific analysis of 'the tasks that need to be performed to commit serious frauds (and other crimes) and the range of places where they need to be and are performed' (Levi, 2008a: 390). Such tasks typically involve seeing situations as crime opportunities which enable obtaining the criminal resources required for crime, including the finance, equipment and data, finding willing co-offenders, carrying out offences, minimising enforcement risks and concealing proceeds from crimes (e.g., money laundering) (Levi, 2008a).

The literature is unsettled on whether opportunities for crime come first (perceived by offenders and then triggered by individual motivations), or the motivation exists before seeing a situation as an opportunity. Environmental criminologists suggest the former is an interaction between the two plus

other conditions mixed into the mechanism (Clarke, 2009). Levi (2008b) develops a typology of opportunity/motivation interactions based on his analysis on fraud: (1) pre-planned frauds where the business scheme is set up for the purpose of fraud; (2) intermediate frauds where people start out obeying the law but consciously turn to a fraud later; and (3) slippery-slope frauds where the fraud is stimulated due to a change in the situation (such as profit downturn). This scheme can help distinguishing heterogeneous motivations in insider dealing schemes. However, this needs to be considered with caution as it might be that some fraudsters lie or pretend to be intermediate or slipper-slope types with little planning in order to minimise prosecution risks.

A recurring theme in relation to the criminal organisation is the resources needed for the crime. Levi (1998) suggests that the criminal opportunity is a necessary condition, but the actual criminal organisation depends on how willing offenders confront the technical difficulties in the search for various resources including the finances, equipment and data required to carry out crimes. Similarly, McIntosh (1975) suggests that the criminal organisation is shaped by the technical and instrumental requirements for crimes. Ekblom and Tilley (2000) suggest that resources can be the more intangible skills and capabilities as the 'core competences' for crime, such as the knowledge of 'know how' or capacities of leadership for co-offending; or the more tangible and physical resources as facilitators, such as tools, communication technology, weapons and transportation, which can either be brought to the crime or simply found at the crime scene. Most importantly, the 'process' dimension of resources means that different resources will be required at various stages of crime (Levi, 1998; Ekblom and Tilley, 2000; Clarke and Cornish, 2002).

Another analytical focus in relation to the organisation of insider dealing is the need for concealment and secrecy to avoid law enforcement risks, as highlighted in the literature on organised and financial crimes. Studies suggest that this entails various tasks to mobilise skills varying from using code languages to spreading criminal activities across jurisdictions to increase legal obstacles to hinder investigations (Levi, 2009). More aggressive strategies may involve bribery or attacking law enforcement authorities through blackmail or counter surveillance (van de Bunt and van der Schoot, 2003). Steiner (2017) argues that such secrecy should be studied at the frontier between legality and illegality. This relates to how secrecy functions to allows offenders moving back and forth the legal-illegal realm without attracting law enforcement attention by creating social and material frontier to disguise the true nature of illegalities. For instance, 'material frontiers', such as documents, may be needed to conceal the illegality of a financial payment in order to use it in the legal economy (Holt and Lee, 2020); and 'social frontier' includes, for example, preventing victims from realising the victimisation.

The facilitative conditions refer to the features of the immediate settings where these tasks occur that make these tasks possible and easier to accomplish. One commonly mentioned facilitative condition includes the natural concealment provided by different professional contexts. For instance, the

superficial appearance of legitimacy and respectability provided by one's occupational or professional role (Benson and Simpson, 2019), the frequently and legitimately presented financial markets and market transactions as 'edges' that create natural coverage for illegal activities that are lightly overseen by regulators or bystanders (Benson et al., 2009; Brantingham and Brantingham, 2013), and the specialised access by virtue of organisational or occupational duties (Edelhertz, 1980). Focusing on organised crime, Felson (2006) suggests that the public, private or semi-public characteristics of settings are associated with the ease to access co-offenders for crime. Hence, public space management may serve for crime reduction. Van de Bunt (2010) further suggests that the embedded social environment of concerted ignorance, inaction when knowing and fear of retaliation may allow conspiracy not only to emerge but to flourish and persist.

The review of the literature shows that another important theme is the anonymity and secrecy provided by (1) forms of proceeds, (2) enablers and facilitators, and (3) jurisdictional discrepancies. The point (1) refers to the work by Simmel (1999) that has been variously cited by criminologists on the nature of money as an abstract form of exchange that does not reveal the origin (Hansen, 2014; Steiner, 2017). That is, the 'invisibility' of money allows illegal transactions without revealing its illegal origins. Points (2) and (3) are interrelated with regards to the role of several professionals, which include accountants, lawyers and corporate vehicle providers, in assisting criminals (unwittingly or complicitly) to launder and hide criminal transactions and proceeds through offshore financial institutions and business arrangements (Shapiro, 2013; Levi and Soudijn, 2020). This often involves exploiting jurisdictional discrepancies between institutional arrangements such as bank secrecy laws and corporate laws (Lord et al., 2018). Offshore jurisdictions of financial centres have been argued to provide a legally backed veil of secrecy that facilitates the criminal organisation (Palan, 2017).

Focusing on the financial markets more specifically, Shapiro (2013) highlights that the facilitative conditions for financial crimes are entrenched in the justified secrecy and anonymity among collective investment funds in the lightly regulated regime. The facilitative conditions can also be the more distal socio-economic conditions that facilitate financial crimes (Edwards and Levi, 2008). Tillman (2017) connects the more distal conditions, such as the financialisation (referred to as the pattern of accumulation increasingly dependent on financial channels rather than trade and commodity production; Krippner, 2005), to financial frauds partly due to the influx of relatively unsophisticated investors. In a similar vein, Reurink (2018) summarises other criminogenic socio-economic conditions that are variously related to financial crimes, including deregulation and the associated intensification of competition, the incentive structures that create industrial patterns of short-term profit-making and stock price maximisation (Vaughan, 1983), and the technological and financial innovation and engineering that increase market transaction complexity.

3.3.3 Illegal organisation: Structure of associations

So far, I have discussed criminal organisation and its close association with the tasks and resources required for crimes. However, the other important dimension of criminal organisation that this thesis will analyse is the structure of relations between co-offenders (Cohen, 1977). In other words, the 'social organisation' of insider dealing. Best and Luckenbill (1980)'s typology provides a categorisation based on the social organisations' characteristics and complexity in terms of patterns of relations among direct participants (distinguished from indirect participants exploited) involved in illegal activities. From the least to most sophisticated patterns, there are (1) 'loners' who do not associate with others; (2) colleagues associated with fellow deviants; (3) peers who participate in deviance with associates, where specialised roles are uncommon; (4) mobs/crews who plan, stage and engage in the division of labour and adopt strategies to increase security; and (5) the formal organisation, which involves the division of labour which extends long periods of time and places.

This typology developed by Best and Luckenbill (1980) illustrates a diverse array of potential patterns of social organisation in illegal activities. Moreover, the category (2) appears to be what Warr (1996) describes to be a mixing of offending groups and accomplice networks, because accomplice groups involve actors participating in a case together rather than deviant actors who belong to the same social group. The existing criminological literature has sought to address the characteristics of such co-offending relations with a common focus on the size and durability of co-offending in illegal activities. Reiss (1988) suggests that accomplice relationships are more likely to be small with two or three participants, and they are often of short duration and instability (defined here as changing accomplices in short period of time – a high turnover). However, McGloin and Piquero (2010) find that co-offending stability translated into high redundancy (overlap among contacts) is more common among co-offenders in specialised offending.

An unsettled theoretical issue is whether conducive settings or the criminal association is more important for crime. Felson (2006) rejects overestimating the role of criminal associations and suggests that organised crime is structured around criminal events and their settings, rather than criminal associations that are merely the result of one of such settings of offender convergence. According to Felson (2006), "these settings allow criminal cooperation to persist even when the particular persons vary", which provides criminal structure and continuity to overcome instabilities. This is supported by Cornish and Clarke (2002), who suggest that the criminal association of personal relations is only one of the requirements that shape the criminal organisation. The social embeddedness perspective, however, suggests that crime is driven by a structure of associations. For instance, Kleemans and van de Bunt (1999) suggest that organised crime is maintained in a social environment (i.e., the settings) and hence social relations should be the central focus in understanding the phenomenon of organised crime. Kleemans (2014) suggests this could be leisure activities merging 'underworld' and the 'licit world'.

In addition, while Tremblay (1993) suggests that structural conditions can change criminal associations (for instance, the physical proximity might affect the selection of co-offenders), he also argues that the success of criminal events is in fact dependent on co-offenders' suitability. That is, settings may provide co-offenders who are unsuitable, hence, those involved would need to search further to find people with the needed skills. This is the reason why Morselli and Roy (2008) place the analytical focus on how some participants contribute in varying degrees to keep the inherent channels of criminal organisation of activities in place by pooling resources, skills, expertise and opportunities (McAndrew, 1999; Bright et al., 2015a). This approach is in line with the instrumental perspective of criminal co-offending, which suggests that criminal associations are rational decisions in order to make the execution of illegal activities easier and more rewarding, which underpins my analysis on insider dealing as a purposive market behaviour where the exchange of material services and payments or immaterial social approval cannot be obtained by solo-offending (Weerman, 2003).

Some studies focus on understanding the mechanisms for searching for suitable co-offenders and connections. Tremblay (1993) suggests that offenders search for accomplices based on two criteria of suitability. The first one is the 'trustworthiness' required to maintaining secrecy among co-offenders to insulate them against detection and prosecution. Hence, the entry into co-offending relationships often relies on strong ties for trust (defined as those interpersonal relationships of higher emotional intensity, time spent together and level of intimacy such as kinships and friendships; Granovetter, 1973; Tremblay, 1993). Second, suitable offenders also depend on their 'usefulness'. Whereas strong ties foster trust among co-offenders, entry to co-offending may depend on weak ties defined as the relationship between actors who are acquaintances but can share resources (Granovetter, 1973), which are suggested to be useful in obtaining new criminal opportunities and expanding the scope of illegal activities (Tremblay, 1993). The difference between the two lies in that the pure instrumental relationships of co-offending might be less durable and stable than those overlapping with kinships and friendships, though the former might provide more novel resources (Bruinsma and Bernasco, 2004).

The role of pre-existing bonds for trust and cooperation has been confirmed by several pieces empirical research on the entry to co-offending in illegal activities (e.g., Gambetta, 2009). Analysing pathways into smuggling, Zhang et al. (2007) find that most female smugglers begin their illegal activities through their relationships with family, mostly husbands, whereas male smugglers are mostly brought in by other types of pre-existing contacts. Similarly, Antonopoulos (2006) notes how the entry is based on previous contacts for reputation in recruiting accomplices in middle level cigarette smuggling operations. This is similar to what Kleemans and van de Bunt (1999) describe as the stabilising effect for distrust in cooperation of organised crime by finding accomplices from the existing social contacts of family and friends. In addition, Bruinsma and Bernasco (2004) and Paoli (2004) both show that organised crime often restricts memberships by relying on strong family relationships and ethnically homogenous relationships (likely reflect existing social relations) in order to promote high level of trust

in criminal groups. Research on the multiplexity of group levels has also found that illegitimate group structures are bonded by legitimate connections (Malm et al., 2010; Lauchs et al., 2011; Bright et al., 2015b).

The group level relational structure has been found to display individual clusters composed of closely linked people with similar characteristics, such as geographical proximity, social relations and similarity in activity (Kleemans, 2007) to foster trust and cooperation (Bright et al., 2019). On the one hand, such localised clustered structures have been identified among loosely/sparsely connected crime groups (where dispersed actors are not well connected with each other). In the analysis of Italian illegal drug trade by Tenti and Morselli (2014), offenders were loosely connected throughout drug smuggling operations, but participants formed individual subgroups functioning to further criminal opportunities by pooling resources. The co-offending groups of human trafficking and organised car theft in the research by Bruinsma and Bernasco (2004) also reveal similar pattern with clusters of offenders being linked 'superficially' by people maintaining instrumental relationships (temporarily active only when needed due to shared objectives). On the other hand, clusters have also been identified in the more cohesive (actors are more connected with one another) organised crime groups for heroin smuggling, which is suggested to ensure mutual trust for risky operation (Bruinsma and Bernasco, 2004). The downside of clustering is that it may be too 'redundant' to achieve sound illegal earnings (Morselli and Tremblay, 2004).

To mitigate the downside of redundancy for criminal opportunities, another feature of co-offending is the notion of 'dynamicity' and 'flexibility' on an individual level illustrated in research. Foregrounding the evolvement of relational structures, Kleemans and van de Bunt (1999) find that criminal actors in organised crime can be easily replaced and substituted regardless of their importance, reflecting overall group resilience for enduring criminal capacity (Bouchard, 2007). They refer to such fluidity and dynamic as the snowball effect – new criminal associations grow out of pre-existing social relations, but then, when they learn the skills and gain enough resources, they would turn to develop their own and new criminal associations, again, from their own social environment. Paoli (2016) shows how illicit trades with a high level of flexibility are composed of often small and ephemeral enterprises rather than large scale rigid hierarchical organisation. That is, the flattening instead of hierarchical structures of criminal association serve to adapt to changing market conditions. Bruinsma and Bernasco (2004) demonstrates how collaborative relations are composed of flexible 'free agents' on an ad hoc basis in human trafficking, manifesting purely instrumental relationships for exchanging services for payments.

Group level flexibility can also be provided by actors occupying strategic positions (i.e., the 'brokers') connecting the otherwise unconnected actors (Krebs, 2002). Burt (2005) suggests that actors who fill lots of structural holes (defined as the absence of relations between the contacts of the actor) have a better performance due to controlling the information asymmetries. Brokers achieve larger illegal monetary rewards through efficient networking (Morselli and Tremblay, 2004) or versatile offending

profiles (McGloin and Piquero, 2010). Brokers also benefit the group by bridging novel ideas and opportunities (Burt, 2005). Tenti and Morselli (2014) illustrate how the loosely connected clusters are organised around a particular central and key hub (the broker) who maintains efficient control over other clusters for various distribution activities in illegal drug trade operations. Morselli and Roy (2008) further examine the relational structure and its interaction with the procedural stages for ringing operations. Their findings provide further evidence on how the central brokers contribute to maintaining the stages of the operation, and that the removal of key brokers would disconnect the clusters of actors and impact the overall operation through eliminating alternative operative options or the whole sub-operational tasks associated with those clusters of actors.

Furthering the understanding of illegal financial management with regards to its relational structure, existing research has sought to study the positioning of money launderers in crime groups. Antonopoulos and Hall (2016) find emerging evidence of third-party launderers (professionals launderers connected for laundering purposes only); however, most illicit profits are not laundered by professional launderers but self-laundered by the criminal entrepreneurs themselves. Focusing on actors who are actually laundering money in a technical sense (hiding or transforming money rather than spending), Malm and Bichler (2013) find that self-launderers occupy important structural positions in illegal drug trade groups because they are often connected to other market activities such as drug supply and smuggling, which supports Antonopoulos and Hall's findings. On the other hand, among those connected to the group through money laundering only, there are more opportunistic launderers connected through kinship or friendship than professional launderers for service only, but both are in peripheral positions with little connections to key players (defined as central actors with lots of connections with other group member).

The structure of relations in co-offending further concerns the dilemma between secrecy and efficiency among risky illegal activities. Studying price-fixing conspiracies, Baker and Faulkner (1993) find that criminal association is organised around the need to maximise concealment to protect its members against detection and contingent on requirement for information-processing. That is, the structure of relations is more likely to operate in a decentralised manner (no co-offenders are more fully exposed to every other actor in the conspiracy) to insulate offenders from detection and prosecution, manifesting loose coupling. However, in conspiracies with high information-processing requirements, secrecy tends to be sacrificed, sometimes in the core segment (of dense connections) steering the crime group. That is, the need for efficient coordination is prioritised due to technical complexities, resulting in a structure where the top executive is placed in a more central position in order to be involved in the day-to-day activities of the conspiracy (Baker and Faulkner, 1993). Hence, there is a higher risk of detection and prosecution for the executive due to high visibility, but actors in strategic periphery positions are better insulated as they are not connected with each other but only to the core top executive.

Further, Morselli et al. (2007) suggest that the trade-off between secrecy and efficiency is dependent on the objective pursued by criminals. Comparing the structure of relations between criminal enterprises driven by monetary payoffs and ideological terrorist groups, they illustrate how the shortest possible time frames for action shape the organisation of criminal enterprises in prioritising efficiency. The efficiency needed for the flow of communication is central to the core segment of central participants. This is then balanced with secrecy brought by the peripheral segment that insulates core participants by allowing the core to operate at a greater geographic and social distance, neutralising law enforcement initiatives (Williams, 2001). Whereas the core participants are found to occupy coordination roles to centralise the actions of others, the peripheral segment includes actors who serve as investors and launderers to facilitate extensive operations. This contrasts with terrorist groups concerned primarily with security, which hence assume a loose structure organised around no obvious central actors. However, the addition of complementary participants during the action phase improves the overall group efficiency but also increases the risk of detection (Morselli et al., 2007).

Essentially, what Morselli et al. (2007) show is the mechanism of defensive relational structure (Williams, 2001) functioning to insulate the central hub at a group level, contributing to the secrecy of illegal operations. Some studies further analyse such defensive mechanisms related to the individual positioning of actors. Returning to the point discussed earlier about the positional advantages of the broker, Morselli (2010) suggests that some relational structures might encompass an overlap between the broker and central roles (especially among small relational structures), where brokers who also occupy central positions would add additional law enforcement risks as they are more visible and exposed (Morselli, 2010). One of the dynamics that implicitly illustrate group resilience in Bright and Delaney's (2013) analysis on drug trafficking operation is the shifting of the central brokerage memberships over time in response to the shift in the group objectives from manufacturing to distribution. The newcomers who take over the central brokerage roles appear not only to inherit the leadership but also assume increasing exposure and enforcement risks.

3.4 Conclusion

This chapter has presented a literature review on insider dealing and introduced theoretical perspectives underpinning this thesis. Overall, existing criminological literature on insider dealing is found to be restricted by the preoccupation of attributing characteristics of white-collar and occupational crimes to insider dealing and mainly focus on the U.S. context. Although studies begin to recognise the importance of opportunity for insider dealing and organisational and structural factors that influence insider dealing, there is a substantial gap in concerning the dynamics of insider dealing and the interaction between activities, social relationships among co-offenders and the wider contexts. It proposes a market-based concept to inelastically define insider dealing to facilitate the empirical analysis. In the meanwhile, this chapter also shows how the environmental criminology can provide a useful framework for an understanding on the organisation of insider dealing by shifting focus to the

interaction space of insider dealing occurrence, and the routine legitimate activity that shapes opportunities of insider dealing. The review also surveys the organised crime literature to summarise the relevant analytical concepts to delineate the research focus to the structure of activities and structure of associations among co-offenders. The research questions include:

RQ1. *How can we better understand the organisation of insider dealing in financial markets?*

RQ2. *What are the procedural requirements in the insider dealing commission process?*

RQ3. *What are the facilitative situational and distal conditions in the insider dealing commission process?*

RQ4. *How is insider dealing associated with the structure of financial markets?*

RQ5. *How are social relations among co-offenders in insider dealing structured?*

RQ6. *How do social relational structures among co-offenders in insider dealing contribute to the insider dealing commission process?*

RQ7. *From a dynamic standpoint, are there changes in the relational structures of insider dealing over time?*

Chapter 4 Methodology

4.1 Introduction

My thesis adopts a qualitative research strategy which is complemented by quantitative network techniques to answer the proposed research questions. The research questions concern insider dealing, which has not been studied thoroughly in previous criminological research, especially with regards to what insider dealing is (i.e., the nature), how insider dealing is carried out (the forms and dynamics of the activity and social relationships), and where insider dealing occurs (the proximal setting and distal context that are conducive to insider dealing). These entail an enquiry into a better understanding and insights of insider dealing as a social phenomenon organised around the social transactions in financial markets. As signposted before, insider dealing is composed of procedural tasks and resources for the execution of illegality and components of concealment activities. Such enquiry is best carried out utilising a qualitative research strategy tailored to seek an understanding of the phenomenon and processes within it (Bryman, 2008). A qualitative research strategy to study the social phenomenon of insider dealing is underpinned by the naturalistic inquiry, approaching the social phenomenon as it unfolds naturally in everyday circumstances, as opposed to doing laboratory experiments (Bowen, 2008). While this research will not directly observe actors in their natural environments, I will analyse secondary accounts of these behaviours that allow me to reconstruct the natural unfolding of insider dealing cases. This is chosen over quantitative analysis due to the lack of appropriate quantitative data to answer my research questions[18]. The use of qualitative research approaches is also preferred over quantitative data analysis as it generates rich accounts of the context-specific scripts and social relations structures required to answer my research questions.

My thesis incorporates a research design utilising both crime script analysis and social network analysis. The former is applied in a purely qualitative manner relying primarily on documentary data from legal complaints, Final Notices, official press releases and news articles, and is supplemented with semi-structured interviews with lawyers and compliance officers to construct 43 case studies of insider dealing. Under the crime script framework, data in each case is organised around topics including (1) procedural steps across the insider dealing commission process, and (2) procedural requirements including tools, skills, security, social relationships, locations and organisations, and (3) facilitative

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[18] The FCA produces Market Cleanliness Statistics for equity markets to measure abnormal price movement before takeover announcement, which is seen as an index of insider dealing events that make the market 'unclean'. Nonetheless, this quantitative measure is not an acute measure of insider dealing because it incorporates a range of noise (Financial Conduct Authority, 2019). It also includes no data about 'how' insider dealing occurs or the associated contextual factors. For full information on the FCA statistics, see https://www.fca.org.uk/data/market-cleanliness-statistics. Similarly, financial studies (e.g., Minenna, 2003) have sought to measure the extent of abnormal price movement to indicate insider dealing before takeover events, which bear the same problems containing no information suitable to answer my research question on the organisation of insider dealing.

conditions in proximal settings and distal context that make these procedural steps and requirements possible and easier.

The social network analysis is applied in a qualitative manner and is complemented by quantitative techniques. It uses visualisations to assess the structure of associations among co-offenders in the selected insider dealing cases of at least three co-offenders (10 out of 43 cases). Through visualising the way how nodes (representing *actors*) are connected by edges (representing *relationships*), I study insider dealing co-offending networks, which is understudied in previous insider dealing literature. My thesis is complemented with some quantitative analysis using standard network measures such as degree centrality and betweenness centrality. Further, I merge insights from scripts analysis into social network analysis by constructing multi-mode multi-link multi-time networks to explore the role of social relationships in organising insider dealing. Here, it uses subgroup detection algorithms, two-mode and multi-mode network measurers, correlation and regression models.

4.2 Research strategy and methodological theory

Regarding the relationship between theory and empirical research, I adopt the realist perspective of 'adaptive theory', where induction and deduction play an equal part towards generating scientific knowledge of insider dealing (Layder, 1998). Adaptive theory recognises the limitations of both the positivist tradition in hypothesis testing and a pure inductive approach. Hence, it combines features from both standpoints. This combination, which is central to Layder's (1998: 150) 'adaptive' approach, is based on the standpoint on the nature of theory that "is intrinsically capable of reformulating ('adapting') themselves" to accommodate the discovery of new data and findings. In other words, an adaptive theory proposes, first, a research with some theoretical understanding, which can be modified slightly or fundamentally by the inductive process. It therefore overcomes the limitations of potentially lacking theoretically sensitive insights (Layber, 1998) when analysing the data resulted from practice of a limited prior immersion in the existing research.

Although not stated explicitly, the adaptive theory has featured previous studies on insider dealing. For instance, the research by Reichman (1989) is largely driven by the organisational theory presupposing insider dealing as a behaviour situated in the financial service organisational context, which is shaped by core theoretical concepts such as violation, competition and informal control in Vaughan's (1986) organisational framework. I adopt a similar approach to Reichman in using an adaptive theory. This is based on several considerations. One is related to a practical point of view, where using a theoretical framework can avoid losing sight in data analysis (Myers, 2009). Second, at the outset of the inquiry, this research is guided by several assumptions derived from the review of the academic literature and policy documents seen in previous chapters. This knowledge – for example, the consideration of insider dealing as a white-collar crime that is somehow unmatched with the official construct of organised crime – has been of great value in refining the research focus while approaching the empirical research.

Equally, the data collection and analysis processes are inevitably inextricably interwoven with theory in mind, facilitating the development of concepts and theory. In preparing the interview questionnaire, for example, I always keep in mind the relevant organisational and industrial conditions which previous research has highlighted as conducive to insider dealing. During the data analysis, it becomes increasingly clear that the construct of market-based crime is highly relevant to situate the illegality of insider dealing, resulting in further reviewing the corporate finance literature and shaping my argument over a conceptualisation of market-based behaviour that was not previously used in criminological literature on insider dealing. In addition, my data shows the limitations of the existing market-based construct and, hence, I refine the conceptualisation specifically to address the phenomenon of insider dealing. These are just a few examples of research procedures where there has been an ongoing dialogue between theory and key concepts in executing literature and empirical research of data gathering and analysis (Bottoms, 2008).

What I have so far illustrated with regards to the procedure in obtaining knowledge – theory-driven yet interwoven with the ongoing data gathering and analysis – is the epistemology (combining induction and deduction) underpinning the adaptive theory adopted in this thesis. Such an epistemological position is benefited from the ontological approach of adaptive theory that embraces both ontological subjectivism and objectivism. It subscribes a single reality of a pre-existing social structure that reproduces and transforms social actions (Giddens, 1976), where the social structure is stratified into multiple layers with unequally distributed resources. Hence, the likely differential accounts of individuals are in fact the projection of different aspects (layers) of the one single reality of social structure (Bhaskar, 1979). In this thesis, by analysing the known cases of insider dealing qualitatively, and exploring how they are manifested in particular contexts, I aim to illuminate different projections of the same phenomenon and its association with the wider, generative social structures where these 'layers' emerge. Adopting an adaptive theory is my attempt to maintain what Layder (1998) describes as a scientific attitude towards social science research while recognising the importance of individual meaning ascribed by the subject matter, seeking to creates a link between insider dealing as the individual human behaviour and the wider social structures and settings (Layder, 1998).

4.3 Research design

This section presents the research design crafted after the development of the theoretical framework and research questions and before the decision on research methods. It describes the process where I seek answers to "what kinds of data would I need to collect in order to provide maximum possible leverage in answering the research question" on the organisation of insider dealing with regards to structure of activities and associations (King and Wincup, 2008: 23). King and Wincup (2008) make an analogy of the research design as a military strategy determined at headquarters, and methods as the tactics in which these strategies are executed in the field, capturing the way in which my research is progressed at the early stage. In this thesis, I follow a 'cross-sectional' research design, which aims to

gain insights into the organisation of insider dealing at particular snapshots in time, combined with a 'case-study' design (i.e., I research the particularities of a series of individual cases). Moreover, some elements of the 'longitudinal' research design will be applied to explore temporal changes in the dynamics of insider dealing cases. In this section, I will elaborate on the crime script and social network analysis frameworks utilised in the overall research design and how they are suitable to inform what types of data are the most appropriate for the research questions: extensive case studies on procedural aspects of the crime commission process, intensive in-depth accounts on the substantial social relations between agency and structure in the crime commission process, cross-sectional snapshots of crime networks at various analytical levels, and longitudinal data with regards to the evolvement of illegal networks. This design in turn informs the data collection and analysis methods elaborated in the next section 4.5.

4.3.1 Crime script framework

The research is designed to utilise a research framework that combines crime script analysis and social network analysis to answer the research questions. They are viewed as frameworks rather than analytical methods because I use them as the overall design governing the collection, organisation and analysis of data. Crime script framework is considered the most appropriate approach to research the procedural aspect of criminal organisations, as well as the immediate situational setting and the wider organisational and socio-economic context where crimes occur (Edwards, 2016). On one hand, the original crime script approach developed by Cornish (1994) is designed to capture the temporal and functional stages of crime, seeing crime as an array of sub-events rather than a single event, thus allowing for situational interventions and responses in each stage to reduce crime occurrence. On the other hand, Edwards and Levi (2008) argue that crime scripts can be stretched to account for social-economic and cultural structures that underlie the facilitative conditions for crime created by the onset of modern social relations. In other words, the crime script framework concerns both the functional and casual mechanisms of crime (Ekblom and Gill, 2016).

The crime script analysis framework was developed by Cornish (1994) as a step-by-step procedural process map used to elaborate the crime commission process, which is underpinned by the principle of rational choice theory (Clarke and Cornish, 1985). A crime script is comprised of a number of scenes as the logistical steps that lead up to the criminal outcome. Cornish's (1994) original formulation of the car theft script includes five scenes: theft, conceal, disguise, market, and dispose. Moreover, under each scene the author further developed the procedural function from entry to exit during the crime commission process. Each scene may include different facets presented as the alternative methods or script actions to execute the scene. For instance, the conceal scene may be executed through either lock-up garage route or a car shop route; and the market scene may be achieved by telephone advertisement or through contacting a foreign dealer. These facets make up the script permutator as the heuristic devise

in arranging the possible, feasible and actual procedural variations and innovations that result in possible permutating pathways to the criminal outcome (Cornish, 1994).

Insider dealing may involve a spectrum of organisational complexity from a simple corporate insider dealing scheme to group offending deploying extensive concealment including money laundering, as shown in the previous chapter. The critical question is whether the crime script approach can account for the spectrum of organizational complexities in insider dealing. The crime script approach has been suggested to be unsuitable for researching organised crime where criminal cooperation for resources prevail over specific opportunity structures in space and time (von Lampe, 2010). That is, criminal cooperation means decreasing dependence on the specific facilitative conditions, such as the physical space of potential targets, that could be otherwise reached through accomplices (Kleemans, 2013). Felson and Clarke (2012) argue that the utility of the crime script approach for crimes of complex organisation lie in the extension of the approach to include elements of establishing and maintaining social ties, shared activity space, legitimate occupational roles and modern telecommunications beyond the standard 'crime triangle' of likely offenders, suitable targets and the absence of capable guardians.

In fact, the existing criminological literature has greatly expanded the scope of successful applications of the crime script framework, which has been extended from initially predatory crime such as robbery (Tremblay et al., 2001) to organised and serious crimes including illegal drug operations (Chiu et al., 2011), child sex offending (Brayley et al., 2011), infiltration of organised crime in the public sector (Savona, 2010), online and offline black markets (von Lampe, 2010; Hutchings and Holt, 2015) and human trafficking (Broad et al., 2020); in addition to white-collar and financial crimes including financial market manipulation (Jordanoska and Lord, 2018), public corruption in procurement (Zanella, 2014), money laundering (Gilmour, 2014) and corporate illegal waste activity (Tompson and Chainey, 2011). In addition, researching insider dealing through the crime script framework benefits from its 'crime specific' rule instigated to identify the particular opportunity structure of the specific type of crime because each offense involves different decisions and incentives (Cornish and Clarke, 2002). In sum, the crime script framework is particularly suited as a methodological approach to guide my empirical analysis and answer the research questions on insider dealing involving a spectrum of organisational complexities.

My research is designed to use the crime script framework in a two-step process. First, it is designed to produce what Borrion (2013) describes as the 'performed script' based on empirical data about sequences of events that occur in real insider dealing cases. Existing research has either produced crime scripts based on one single instance of crime (e.g., Jordanoska and Lord, 2018) or multiple cases of a specific type of crime (Brayley et al., 2011). My research is designed to capture all known taken pathways of crime commission and the associated procedural requirements, thus adopting an approach similar to Brayley et al. (2011) — beyond a single case study design. This is made possible under the four different levels of abstraction (Cornish, 1994) from a universal script, metascripts, protoscripts,

scripts, to tracks (action sequence in specific circumstances). Track level represents the possible identification of situational intervention points (Leclerc et al., 2011). My insider dealing overall script is designed to include multiple individual tracks representing different starting points of insider dealing in real cases to provide greater validity in the results (Borrion, 2013).

At this stage, my research design involves an extensive research strategy to produce rich descriptive accounts of patterns in the procedural steps of insider dealing, and will be able to investigate the procedural requirements and facilitators of proximate interaction spaces that make insider dealing possible (Sayer, 1992). My research is further designed to enable an intensive research strategy to capture the meso organisational and macro institutional social structure (e.g., regulation) behind those patterns. Such intensive research strategy under the crime script framework is designed to be informed by semi-structured interviews and a critical literature review, as envisaged by Edwards and Levi (2008) and Ekblom and Gill (2016). These two studies argue that the insights produced from extensive research into the commission and requirement patterns are valuable to capture a qualitative understanding of the more distal settings and contexts facilitating the commission of serious crimes. Such intensive understanding of insider dealing would shed light on my research questions on the nature of insider dealing beyond a fiduciary trust violation.

My research design combining extensive and intensive research strategies may come with associated limitations in the findings. On one hand, the empirical basis of the performed script means that certain *modi operandi* may not be recurrent in reality. As a result, using a performed script to predict what may happen in the future and guide situational intervention measures may be affected by uncertainty (Borrion, 2013). The potential pitfall, therefore, includes the unforeseen uncertainty about alternative pathways in insider dealing commission; and the lack of statistical significance testing to indicate the likelihood of each track in the script (Borrion, 2013). This limitation has implications for future research, which should consider developing and obtaining a larger sample of insider dealing cases to increase the certainty about the variation in crime commission. At present there is a lack of such data primarily due to the selective enforcement of insider dealing by the regulator (Hansen, 2014). Further, whereas the intensive understanding of the wider organisational and socio-economic factors may produce findings with limitations in its reliability and validity, I use strategies mentioned previously for mitigation to meet research criteria (Merriam and Tisdell, 2016).

4.3.2 Social network framework

The social network framework refers to the research approach that explores and analyses patterns of relationships among entities that make up social systems. This framework is composed of collecting and analysing relevant network data (Borgatti et al., 2013). The research is designed to use this framework based on several considerations. The first one is that the research question demands an empirical inquiry into the pattering of the structure of associations at multiple analytical levels. Such enquiry can be best researched through a design using the social network framework. The social

network framework can identify patterning on a dyad level. 'Dyads' mean pairwise connections between two nodes which can be different entities such as actors and organisations (Borgatti et al., 2013). Some criminological studies adopting the relational lens of the social embeddedness perspective (defined as the social relations between co-offenders involved in criminal behaviour) seek an understanding and explanation of the criminal cooperation by using a research framework designed to capture the underlying mechanisms through measuring dyadic connections between co-offenders (Kleemans, 2013). That is, explaining co-offending in insider dealing as the dyadic outcome by accounting for dyadic conditions, such as whether trust inhibited in pre-existing relationships increases tipping.

Second, the social network framework can be utilised to identify the patterning in relational structures on a node level to study individual positioning by measuring the aggregations of dyadic connections (Borgatti et al., 2013). This involves collecting and making sense of network data on the property of nodes to identify key players in crime groups and its relation to, for example, illegal monetary gain (Morselli and Tremblay, 2004), flexibility and resilience in illegal activities (Bellotti et al., 2020), and vulnerability in the face of law enforcement investigation (Morselli, 2010). Such node level analysis is useful in understanding the characteristics of actors in association with their network positions among insider dealing groups composed of more than two actors. This can contribute to the insider dealing literature that has been preoccupied with describing the dyadic connections underpinning tipping, as mentioned in the previous chapter. The node level analysis can provide insights into the crime network flexibility with regards to maintaining the crime commission process (efficiency) and identifying key actors.

Lastly, the social network framework enables investigations on the overall network structure. This level of enquiry often seeks to understand the macro illegal network structures and mechanisms that cannot be observed or visualised from an individual standpoint. For instance, a line of criminological investigation is into the extent to which the network property is in association with the trade-off between secrecy and efficiency (Baker and Faulker, 1991; Morselli et al., 2007) or the culture of cooperation and competition (McIllwain, 1999; Bakker et al., 2012). By taking such a macro analytical level for insider dealing, it enables examining the empirical data with regards to the structure of the overall insider dealing network, defined as the group of more than two co-offenders, beyond the pairwise connection. This allows analysing patterns and characteristics of illegal cooperation among co-offenders and, more specifically, study it in relation to the commissioning process. In sum, such capacity of overseeing the micro (node), meso (dyad) and macro (network) structures makes the social network framework an appropriate research design in addressing the research questions.

The social network framework is further considered as a suitable approach because of its capacity in gaining novel insights into the social organisation of organised crime (e.g., Bright and Delaney, 2013; Campana and Varese, 2013; Bellotti et al., 2020). It is a powerful research design that allows organised

crime to be re-conceptualised based on empirical observations on social structures of criminal collaboration. The myth of organised crime as a static hierarchical structure has not received support when using social network analysis, and it has been found that organised crime groups display a tendency to be small, flat and flexible (Bouchard and Morselli, 2014). As mentioned in the previous chapter, the policy construct of insider dealing as organised crime has created a host of conceptual and empirical ambiguities. Klerks (2001) states that the ambiguities due to the association of organised crime with "alien others" can be best resolved through using the social network framework to gain empirical evidence on the social connections between co-offenders. Further, the social network framework provides theories and methods to research the underlying mechanisms of relational patterns with regards to, for example, how it is established and maintained over time in generating criminal activities or certain patterning (e.g., Morselli et al., 2007).

The design under the social network framework is both cross-sectional and dynamic. A cross-sectional design is commonly used in illegal network research where data is collected for each case as it happened at one point in time. I adopt this research design based on my research questions seeking a descriptive account on the relational structure of insider dealing, since it has not been studied under such lens before. Such cross-sectional design has been applied in research on other types of illegal networks, which produces findings of descriptive and explanatory nature on how the relational structure is associated with functions and behaviours of the social system of offenders (see, for example, Morselli and Tremblay, 2004; Natarajan, 2006; Malm and Bichler, 2013; Free and Murphy, 2015). Such design is often adopted to study either illegal collaboration of co-offending networks (Malm and Bichler, 2013) or communication networks such as the extent or content of telephone contact within crime groups (Natarjan, 2006; Campana and Varese, 2013). My research is designed to adopt the former approach mainly because communication data is not available.

The dynamic network design highlights the extension to the use of longitudinal data to account for changes in the relational structure with the passage of time in insider dealing. Whereas a descriptive cross-sectional design is a standard approach in crime network research, there are increasing interests in longitudinal networks in criminological research to understand how crime groups develop and change (e.g., Bright and Delaney, 2013; Bright et al., 2019). The difference between the two approaches is described by Moody et al. (2005: 1208) as between the "static network image… aggregating dead past events" and the "dynamic social space defined by temporal embeddedness of relations". The utility of a longitudinal network design lies in advancing the understanding of the network's stability and its effects on individual and group behaviour (Moody et al., 2005). This is exemplified by Bright and Delaney's (2013) longitudinal network design that provides insights into how the changing crime network structure corresponds to changing in group objectives. My research adopts a similar approach in representing longitudinal network data by conceptualising time as a discrete rendition by taking a series of cross-sectional snapshots of relational structures (Moody et al., 2005). However, this may have

some limitations because it may not be able to capture how the changes continuously emerge (Moody et al., 2005).

4.3.3 Merging crime script and social network frameworks

The novel research design in my thesis is the merging between crime script and social network analyses. There are criminological studies that seek to consider the complex system beyond actor-actor relationships by merging crime script and social network analysis. At the outset, the crime script framework foregrounds the procedural aspects and requirements and suggests that social network is only one of such requirements. It posits that the organisation of crime emerges from the requirements of crime commission (Cornish and Clarke, 2002). However, Morselli and Roy (2008: 77) argue that 'main objective of a network analysis of crime scripts, therefore, should be to untangle how some participants contribute in varying degrees to keeping the inherent channels of a script in place'. Based on this theoretical argument, Morselli and Roy (2008) are the first ones to integrate the 'scene' component of the crime script framework into a social network analysis, examining the relationship between relational structures and the crime script. Following their study, other scholars have also tried to merge the two frameworks by using attribute or link data to include the elements identified under the crime script analysis (Bright and Delainey, 2013; Bright et al., 2015a, 2015b).

One advancement I see recently is the study by Bellotti et al. (2020) who extend such approach by including various other procedural script components into the network analysis by imputing them as nodes – using a multi-mode network approach. This is based on Carley's (2003) research on illegal networks. Carley proposes the use of a multi-mode network analysis that goes beyond traditional one-mode network of actor-actor relationships and two-mode network of, such as, actor-organisation relationships. Rather, multi-mode network incorporates multiple entities including not only actors but also activities, resources and locations, where relationships between these entities are viewed as a strength and capability of the network (Carley, 2003). The goal is to be able to identify the complex system, of actors and their interaction to other entities, behind illegal networks to gain a complete understanding of the nature and organisation of the network (Carley, 2003). My thesis adopts a similar design in merging the crime script and social network frameworks by using multi-mode network analysis to provide insights into the research question on how relational structure contributes to the insider dealing commission process.

However, the research would have benefited from more extensive law enforcement data via surveillance to have more complete accounts on the relationships between co-offenders and full accounts of the entities (such as locations, organisations and so on) that participate in the illegal activities. My data is largely restricted to only prosecution documents and official and news reports on details revealed during the criminal trials. In addition, as Sparrow (1991) notes, certain measures of network propensity can be inflated by using prosecution documents where, for example, the central node may reflect the main focus of law enforcement activity. For instance, the high centrality of trading at certain periods of time

may reflect the focus of law enforcement in searching transaction records of the defendants. In addition, the use of official law enforcement data means the limited validity of network boundaries where it is difficult to ensure that the network consists of all participants. In other words, some participants may remain undetected by law enforcement (Sparrow, 1991). Moreover, the design in capturing temporal changes in network structures through discrete time periods is arbitrary, which may influence the results (Bright and Delaney, 2013).

4.4 Data collection methods

4.4.1 Case studies

I decided to use a multiple-case studies research method to delve into the organisation of insider dealing with regards to the structure of activities and associations under the research design of crime script and social network discussed above. The case study method is a widely used approach which is known to be suitable for research addressing the questions of 'how' and 'why' with regards to a phenomenon within its real-life context of multivariate conditions (Yin, 2003). Insider dealing is a social phenomenon that warrants the use of case studies, because it encompasses complex interactions with the wider organisational settings that variously provide conducive conditions shaping the structure of activities and associations across cases, as mentioned in the previous chapter. Existing research on insider dealing has used single-case studies to describe the profile of insider dealing offender (Reamer and Downing, 2016); how respectable insider dealing offenders receive leniencies in the criminal justice system (Szockyj, 1993); how top-executive offenders construct social identities, with a focus on the gendered discourse (Liu and Miller, 2019); and how social associations among insider dealing co-offenders pattern (Ahern, 2017).

Based on two methodological considerations, a multiple-case study approach is chosen over a single-case study. Firstly, the research design under the crime script framework dictates the analysis of multiple-case studies, as it seeks to aggregate all pathways to insider dealing as mentioned previously. Second, the research seeks to avoid common criticism over single-case studies while retaining the instrumentality that allows researchers to appreciate multiple factors impacting the subject matter. In Yin's (2003) methodological book on the case study method, it is suggested that the multiple-case studies method is a more desirable option over single-case studies to enable more robust results to be produced. I consider this is especially relevant in studying the organisation of insider dealing under not only the script but also the social network framework. Whereas the previous chapter has highlighted complex dynamics of certain cases, analysing specific cases by their own may over-represent certain conditions in an artificial way, while a multi-case approach may allow a multi-faceted understanding of the phenomenon within its context. Such multiple-case study method enables contrasting results across cases to obtain theoretical insights of the factors shaping these dynamics in the organisation of insider dealing.

To select the cases of insider dealing, I obtain data from law enforcement records for offences of both insider dealing and market abuse (civil offence of insider dealing). Market abuse is included as it is a legal term that covers a range of activities equal to insider dealing under the civil law regime in the UK. The selection criterion includes cases concluded in the FSA/FCA between the 2000 and 2020. This criterion is out of the practical consideration that the enforcement approach began to be taken in a rigorous manner only since 2000, alongside the creation of FSA and the civil offences. Given the small number of known insider dealing cases, I decide to analyse the universe of all the public and known cases. To identify cases, I initially carry out searches in the government archival database (i.e., the National Archives, https://www.nationalarchives.gov.uk/) and on Google using the keywords "insider dealing" and "market abuse". This is then followed by a Freedom of Information Request submitted to the FCA, who then shared a list of concluded offences to confirm that all public cases were included. As a result, a total of 43 cases are included (see Table 4.1 for a descriptive summary).

Data were publicly available from the enforcement authorities' websites (FSA/FCA) and news media outlets. The search for data sources is carried out in the legal database Lexisnexis, Westlaw, government websites, and Google. The official data sources include legal complaints by prosecutors using evidence provided by case investigators, Court of Appeal, Upper Tribunal/ Financial Services and Markets Tribunal decision reports of insider dealing; Final Notices by the FSA/FCA to individuals carrying out civil market abuse and guilty of insider dealing and money laundering associated with insider dealing; and Press Releases by the authorities at different enforcement stages from investigation, enforcement actions and results. In addition, news media reports further contain evidence on the commissioning process and social relationships laid during the trials. For each case, data is collected from at least two sources to corroborate that multiple sources converge on the same set of facts (Denzin, 1980). Access to primary documents including court transcripts and investigation records were sought via the Southwark Crown Court, which was forgone due to the high fees charged for transcription services.

Case No.	No. offender	Count abuse	Sanction	Sources of data	Method applied				
					Script	SNA	Multi-mode	Multi-link	Multi-time
1	1	1	Civil	Final Notice, official press release, news	✓				
2	1	1	Civil	Final Notice, official press release, news	✓				
3	1	1	Civil	Upper Tribunal decisions, Final Notice, official press release, news	✓				
4	1	1	Civil	Final Notice, official press release, news	✓				
5	1	1	Civil	Final Notice, official press release, news	✓				
6	1	2	Civil	Final Notice, official press release, news	✓				
7	1	1	Civil	Final Notice, official press release, news	✓				
8	1	1	Civil	Final Notice, official press release, news	✓				
9	1	2	Civil	Final Notice, official press release, news	✓				
10	1	1	Civil	Final Notice, official press release, news	✓				
11	2	1	Civil	Final Notice, official press release, news	✓				
12	1	1	Civil	Final Notice, official press release, news	✓				
13	2	1	Criminal	Court of Appeal Judgments, official press release, news	✓				
14	1	9	Criminal	Final Notice, official press release, news	✓				
15	1	1	Criminal	Official press release, news	✓				
16	1	2	Criminal	Official press release, news	✓				
17	1	1	Civil	Upper Tribunal decisions, Official press release, news, Final Notice	✓				
18	1	1	Civil	Final Notice, official press release, news	✓				
19	1	1	Civil	Upper Tribunal decisions, Final Notice, official press release, news	✓				
20	1	1	Civil	Upper Tribunal decisions, Final Notice, official press release, news	✓				
21	2	5	Criminal	Court of Appeal Judgments, official press release, news	✓				
22	2	1	Civil	Upper Tribunal decisions, Final Notice, official press release, news	✓				
23	2	1	Civil	Final Notice, official press release, news	✓				
24	2	1	Civil	Final Notice, official press release, news	✓				
25	3	1	Civil	Final Notice, official press release, news	✓				
26	2	1	Criminal	Official press release, news	✓				
27	4	1	Civil	Final Notice, official press release, news	✓	✓	✓	✓	
28	2	1	Civil	Final Notice, official press release, news	✓				
29	2	1	Criminal	Financial Services and Markets Tribunal decisions, official press release, news	✓				
30	2	1	Criminal	Court of Appeal Judgments, official press release, news	✓				
31	2	3	Criminal	Court Judgement, Final Notice, official press release, news	✓				
32	2	18	Criminal	Final Notice, official press release, news	✓				
33	2	1	Civil	Final Notice, official press release, news	✓				
34	3	6	Civil, Criminal	Final Notice, official press release, news	✓				
35	3	1	Civil	Final Notice, official press release, news	✓	✓	✓		
36	3	1	Criminal	Final Notice, official press release, news	✓	✓	✓		
37	3	1	Criminal	Final Notice, official press release, news	✓	✓	✓		
38	4	1	Civil	Final Notice, official press release, news	✓	✓	✓		
39	4	8	Criminal	Final Notice, official press release, news	✓	✓	✓		
40	4	22	Criminal	Final Notice, official press release, news	✓	✓	✓		
41	7	10	Criminal	Final Notice, official press release, news	✓	✓	✓		
42	6	7	Criminal	Final Notice, official press release, news	✓	✓	✓	✓	✓
43	6	7	Criminal	Litigation release, Final Notice, official press release, news	✓	✓	✓	✓	

Table 4.1 *Descriptive information of cases*

These sources variously encompass the data necessary to answer the research questions. Aside from information regarding the regulatory/criminal penalty given to the alleged offenders, the data includes detailed accounts of the actors and their activities related to insider dealing transactions. With regards to the actors, the data available includes previous offences, trading history (frequency and market used

by alleged offenders), occupation and employer organisation. It further includes descriptions typically on the circumstance where alleged offenders discover inside information, and associated actions, timing (date and time), location, organisations, resource, and profits involved in the process of exploiting the information. The available information is often rich. Quotes of bugged conversations between actors are also available, especially quotes of potentials incriminating offenders; oral evidence given by witnesses; and the timing and length of conversations between co-offenders[19]. Moreover, there are relevant data regarding the relationship between alleged co-offenders and between offenders and legitimate actor (who are linked to alleged offenders but not active in crime operations, such as co-workers), including how they become known to each other and begin an alleged illegal joint venture.

4.4.2 Semi-structured interviews

Data were further collected using semi-structured interviews with experts with in-depth knowledge on insider dealing. The goal of conducting interviews is to corroborate findings obtained from the script and social network analysis over documentary data to enhance the validity and reliability of results through a method triangulation. The other goal of the interviews is to gain further contextual understanding by enabling possibilities to incorporate additional patterns of commissioning process, association and the conducive conditions. To fulfil these goals, I consider semi-structured interviews, which are a commonly used research method for research of a qualitative nature, as the most appropriate approach. It allows the exchange of views and dialogue between interviewer and interviewee, eliciting alertness to significant themes and offers flexibility in terms of the questions to be asked (Noaks and Wincup, 2004). The 'semi' component manifests an interview schedule that guides the discussion direction by outlining topic areas on the structure of activities and association of insider dealing, which is turn informed by the literature review and preliminary data analysis over documentary data. Moreover, semi-structured interviews make use of diverse techniques of probing to elicit further responses or asking follow-up question to gain more contextual information (Noaks and Wincup, 2004).

The interview schedule involves an opening question for background information about the interviewees, including organisation and profession (see Appendix). The topic areas in the schedule include the modus operandi of insider dealing and its facilitative context. Only in one specific interview, it focused on the cases known by the lawyer who has first-hand knowledge. For participants who are not familiar with the cases, general responses with regards to interviewees' knowledge on the modus operandi and the facilitative context are elicited. During the interview, I probe further beyond the given responses to questions and explore the topic more deeply. Establishing rapport is suggested to be important for effective interviewing as it makes interviewees more likely to engage in conversations and 'open up' to share experiences (Noaks and Wincup, 2004). This is considered as highly relevant in

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[19] The recorded data on this information is typically related to communications before the announcement of events moving share prices, which is an essential circumstantial evidence against offenders.

my interviews with people considered as elite respondents (Goldstein, 2002). This has been enhanced and facilitated by the setting of accessing interviewees and certain procedures employed during the interview. One of the interviewees was recruited when I participated in a financial crime conference. The setting of the two-day conference enabled building rapport by enhancing mutual comfort and finding common ground by sharing experiences, background and knowledge. When conducting interviews, I endeavoured to employ a conversational style to enhance the connection with participants by using pleasant dialogue and interaction, and reciprocating the professional terms and acronyms being used. The interviews were benefited by a 'good preparation' of a prior literature review and data analysis, equipping me with knowledge necessary to understand the responses (Goldstein, 2002; Harvey, 2011). For instance, reading through the FCA's documents on regulatory issues enabled a smoother conversation with interviewees on compliance requirements and associated challenges.

The sampling strategy is purposive and non-probability in identifying and selecting target interviewees who have in-depth knowledge of the organisation of insider dealing and the associated conducive context of financial markets, and who are willing to talk without organisational constrains. To this end, it is decided that interviewees should include law enforcement officers at the FCA who investigate, prosecute and regulate insider dealing; professionals including lawyers with experiences of insider dealing cases; and compliance officers with experience controlling insider dealing in financial organisations (mainly investment banks). Nonetheless, gaining access to target populations for interviews proved to be difficult. This issue has been highlighted by Goldstein (2002) and criminological studies (Shapiro, 1984; Levi, 2015). This is reflected especially among my attempts accessing FCA officers. All 'cold calling' emails and LinkedIn messages sent received no reply from identified FCA personals. Whereas the 'door' appeared to open through connections with academics, access was eventually denied due to 'busy schedule'. Further, it is possible that they were under constraints to not speak with 'outsiders' and I was frequently told to go to the official website for information during conferences. In total, 40 individuals were contacted, and four of them participated in the interviews.

Three out of the four interviewees are recruited using existing connections. This corroborates with Levi (2015) who highlights that gaining access to 'elite' participants is often benefited from social capital that demonstrates respectability. Access is mediated with the help from my supervisor (Interviewee 3), relying on contacts of people who had been interviewed and other academics (Interviewee 1 & 2), and lastly, attending conferences on specialised themes including the two-day Financial Crime Conference in Manchester (Interviewee 4). At the end, a total of four experts were interviewed (see Table 4.2). This is a small sample, which is justified by the difficulties in accessing the sample and the fact that interviewees subject matter experts with direct case knowledge. Moreover, one of the interviewees has deep understanding on most of the cases I collect and analyse due to the profession and involvement in prosecuting and defending a number of them. Such expert knowledge greatly enhances the results'

validity. Further, it also represents a balanced sample with an equal number of professionals with legal and compliance backgrounds that provides sufficient data in achieving the primary goal of corroborating the findings from data analysis over documentary data under the multiple-case studies.

Pseudonym	Background	Format and location	Recorded
Interviewee 1	Prosecution and defence lawyer	Face to face interview in London	Yes
Interviewee 2	Prosecution and defence lawyer	Face to face interview in London	Yes
Interviewee 3	Compliance officer	Face to face interview in London	Yes
Interviewee 4	Compliance officer	Face to face interview in Manchester	No

Table 4.2 Interviews details

Lastly, it is argued that interviewing offenders can provide more complete information on the organisation of crime (Leclerc, 2017). However, I do not seek such data mainly because access to a sample of insider dealing offenders in incarcerated institutions would require overcoming several administrative obstacles, whereas ethical and safety issues may arise in accessing active offenders (Leclerc, 2017). In fact, relying on accounts by offenders might incur potential issues of accuracy when recalling events, as compared with documentary data and interviews with lawyers that provide evidence which underwent legal scrutiny (Chiu et al., 2011). With regards to the ethical issues related to the interviews, they are resolved by ensuring informed consent from interviewees for participating in the research and for audio-recording. The transcription of three audio-recorded interviews is carried out by a University-approved transcription service due to time constraints. A fourth interview was not audio-recorded because the interviewee refused to have the interview recorded, however written notes were taken during the interview. Privacy of participants, with regards to the confidentiality and integrity, is fully ensured by anonymising identity of interviewees in transcripts. Audio records and transcripts are securely protected with passwords on encrypted devices in University systems.

4.5 Data analysis

4.5.1 Applying crime script analysis

To analyse the documentary data to answer the listed research questions on the structure of activities across insider dealing commission, the crime script analysis provides useful concepts that are utilised. A *scene* refers to an event divided into stages of smaller units of actions that make up the insider dealing script, and a *facet* refers to different methods of executing actions particular to each scene (Cornish, 1994). Insider dealing script will be produced at the track level for each case, and will be merged together at a meta-script level to connect pieces of information together and make sense of the holistic script of insider dealing. Track level refers to the least abstract level of generalisation as it presents the most detailed level of the scripting of insider dealing commission process with detailed information on procedural activity and requirements (Cornish, 1994). All identified scripts at the track level in the 43 known cases will be merged into an overall insider dealing script (Braley et al., 2011). Thus, the script

analysis allows to research the data at different levels of abstraction, from the highly specific level of individual tracks up to the more general meta-level script in which common features across scripts are identified.

In Cornish's (1994) original formulation of crime script analysis, it is proposed that there are seven key scenes in the universal script including preparation, entry, instrumental pre-condition, instrumental actualisation, doing, and post-condition. Other studies using script analysis have reduced the number of scenes into three to four to reflect the empirical data (e.g., Tompson and Chainey, 2011; Zanella, 2014). In this thesis, I also condense the insider dealing commission process into five key scenes: pre-activity, preparation, instrumental initiation, activity and post activity (Tompson and Chainey, 2011; Lord et al., 2020a). This is done by grouping activities that serve the same operational function under the same scene. Pre-activity represents the way in which insider dealing opportunities are obtained, which is the stage that previous research was preoccupied to conceptualise the nature of insider dealing (see Chapter 2). The preparation scene is the other 'set-up scene', which includes the acquirement of the resources required to exploit the opportunity of entering inside for committing insider dealing. Instrumental initiation refers to the tipping of inside information. The activity scene is the insider dealing transaction itself. Post-activity includes activities aimed at exiting the insider dealing transaction to retain illegal proceeds (Levi, 2008a).

The actual process of applying the crime script analysis from the documentary data involves the following steps:

Step 1: Coding documentary data for the scripts at track level

Every insider dealing case is coded to classify the scenes and facets of the script at a track level. Coding is an analytical strategy for organising and categorising qualitative textual data, according to which a narrative is built around the emerged themes from the conceptual categories of codes (Noaks and Wincup, 2004). A similar approach is followed under the crime script framework, but in this case, it is informed by preconceived conceptual categories used as a guide when coding. Coding is carried out by the highlighting and commenting functions in the software Mendeley. Chunks of text are coded by using different colours according to the conceptual categories in the document, for instance, 'sold part of his shares' would be categorised under 'behaviour/activity' which is coloured differently from 'utilising his and his wife's Capital Gains Tax (CGT) allowance' which indicates the category of resource' (extracts from the Final Notice in Case 1).

In the meanwhile, I make an initial judgement here to distinguish between events. This judgement is made based on whether the activities carried out appear to serve the same procedural goal. For example, the activities of 'attending board meeting and became apparent that PPI was unable to meet its sale targets' and 'telephoned his broker and sold 70,000 ordinary shares at 14.5p' (extracts from the Final Notice in Case 1) are clearly there to serve different goals including obtaining inside information and

insider dealing transaction. Coding is then proceeded to use the comment function by adding a short phrase next to that large chunk of sentences/paragraphs, which are to distinguish between events. These comments include such as 'transaction' and 'obtaining entry', which are used to develop scenes/facts in the next step. So far, for Case 1, I have coloured texts indicating conceptual categories include behaviour (activity), and procedural requirements including cast (actors involved), props or resources (involved to complete the action), and settings (immediate and situational settings that enable/facilitate the behaviour) (Cornish, 1994); as well as comments next to the texts that represent different events. This is repeated for all cases.

Step 2: Tabulating codes and identifying patterns to generate scenes and facets through comparison
Having coded the full document using colours and comments, I then tabulate these codes into Excel. Coloured texts are summarised using short phrases, which are then tabulated under the events. This is shown in Table 4.3. All codes in Case 1 are tabulated into the first row in the Excel. This represents the script at the track level identified in case 1. Having tabulated codes in Case 1, the process of coding further includes comparing these short phrases representing the procedural aspects with those in the Case 2 to identify similarity and difference, before tabulating codes in Case 2. Another judgement is made here. If, there appears to be main differences in the activities and procedural requirements between Case 1 and 2, coded texts will be grouped under 'event 2', as indicated in Table 4.3. If, procedural activities and requirements are similar, they are tabulated under the same event. This is exemplified in Table 4.3, where Case 2 has no event 1 or 2 because activities carried out are different from Case 1. This procedure is repeated for all cases.

The next step is to compare across events to identify patterns. Events that serve similar operational purposes are grouped together. For instance, events 2 in Cases 1 and event 3 in Case 2 are differentiated because the procedural activities are not identical; however, they are grouped together under using blue colour because both of them serve to enable the access to price-sensitive information. This is repeated for all cases. Under the crime script framework, the grouped events are then conceptualised by using concepts of scene and facet (as highlighted in bold text in Table 4.3). Different events that serve the same operational purpose are coded as individual facets under the same scene to represent alternative pathways of how the generalised scene is carried out (Cornish, 1994). In line with the adaptive theory mentioned earlier, the process of identifying and naming scenes and facets incorporates both induction and deduction (Layder, 1998). Existing evidence on behavioural patterns, such as occupational access to insider dealing opportunities, inform the naming of the facet (see Chapter 3). Meanwhile, interrogation of the data through coding adapts these concepts by incorporating new insights by either 'zooming in' to reflect details found at track level or, 'zooming out' to see all aspects of the crime commission process.

	Coded as Scene 'Pre-activity'				Coded as Scene 'Preparation'		
	Event 1				Event 2 **Coded as facet 1**	Event 3… **Coded as facet 2**	Event 4, 5, 6…
Case no.	Behaviour	Cast	Resource	Setting	Behaviour	Behaviour	…
1	Increasing shares holding	M (Capital of offender's surname), wife	Gaining additional finance through mortgage	Issuing shares where employees can subscribe	Reforecasting subsidiaries and was accidently told about downfall		…
2						Preparing interim results	…
…. 6	Lying about investment portfolio	M, compliance officers		Routine internal compliance check	…	…	…

Table 4.3 *Tabulating tags and codes under the crime script framework*

Step 3: Coalescing all scripts at the track level

To better answer the research questions on the structure of activity, the crime script analysis further involves a step in which the result from above track level scripting is coalesced into an overall script (Chiu, et al., 2011). The practical procedure entails translating the above tabulation containing the track level script for the 43 cases into a condensed overall script, as indicated in Table 4.4. This overall insider dealing script presents a summary of all identified track level information and avoids duplications in procedural aspects across cases. This overall script enables a straightforward description of the procedural patterning of activities and cast requirements under each scene and facet.

Scene	Facet	Behaviour	Resource	Micro-facilitator	Organisational-facilitator	Macro-facilitator
Preparation	1, 2, …			Routines and lifestyles	Legitimate practice	Regulations
Pre-activity				Concealment		Enforcement

Table 4.4 *An illustration of the overall insider dealing script coalescing all identified track level scripts*

With regards to the script facilitator, further analysis is carried out to translate the information categorised under the procedural setting into the overall script. In line with the theoretical framework (see Chapter 3), the analysis further codes the information under conceptual categories of situational setting (day-to-day routines and lifestyles, security and concealment measures, social network), organisational/industry-facilitator (legitimate and routine practices), and macro-facilitator (regulations

that govern insider dealing, enforcement agency that enforce controls, jurisdictional discrepancies) (Cornish, 1994; Levi, 2008a). Lastly, interview transcripts are coded to confirm script findings, and in turn the script is augmented with themes emerged during the interviews (Noaks and Wincup, 2004).

The coalesced overall insider dealing script is then transformed into a flow chart; the typology of symbols is explained in Table 4.5. Different tracks are marked based on different starting points referring to the way of accessing confidential information for insider dealing opportunities (Braley et al., 2011). Procedural aspects of the script are illustrated with the flowing (arrow line) of activities (in square) in distinguished tracks. The script also distinguishes between core (minimum requirement for insider dealing) and contingent (present in some cases but not necessary) elements. This enables a more holistic view on the insider dealing script as a flow process rather than the loosely jointed pieces of information. It assists interpreting the overall insider dealing script.

Category	Operationalisation	Symbol	
Starting point	The way in which offenders first access and identify insider dealing opportunities in the initial phase of insider dealing	○	Starting point (legitimate)
		◉	Starting point (illegitimate)
Facet	The activity carried out by the offenders	□	Core facet (legal)
		▧	Core facet (illegal)
		⬚	Contingent facet (legal)
		▨	Contingent facet (illegal)
Flow direction	The direction and flow connecting activities across the insider dealing script	→	Core flow
		⇢	Contingent flow

Table 4.5 *Typology of symbols in the flow chart of the overall insider dealing script*

4.5.2 Applying social network analysis

This section introduces the methods used in the social network analysis. The details on definitions of nodes/links and the procedures are further discussed in Chapter 6.
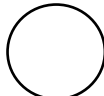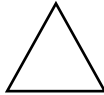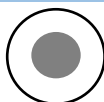
Step 1: Constructing social networks

The network analytic method applied in this thesis is the social network analysis and the multi-mode multi-link multi-time network analysis to consider the complex social and technical relationships connecting different entities in each insider dealing case (Carley, 2003; Bellotti et al., 2020). Social networks in each case are constructed by including co-offenders and relations among them. The relations are broadly defined as any social relationships or interactions. This could be legal pre-existing relationships or illegal relations in transferring inside information or illegal proceeds. The social network is an undirected binary network. If a relation is identified, the tie is coded '1', if not, it is coded as '0'. They are constructed among 10 cases, including cases 27, 35, 36, 37, 38, 39, 40, 41, 42 and 43 that have at least three offenders. These 10 cases are selected because they have sufficient data to

construct multi-mode network, where the social network is constructed to compare whether multi-mode network analysis can be more accurately reflect the story behind the network. Social networks and all other networks constructed in this research are anonymised where each actor involved in insider dealing is given a unique combination of two alphabets (such as ZA) with the prefix distinguishing between cases and suffix indicating the agent's identification in that specific network.

Step 2: Constructing multi-mode networks

Beyond the traditional social network analysis that focuses on actor-actor relations, this research constructs multi-mode network by using multiple node types that correspond with the four main categories of procedural requirements under the crime script analysis for each of these 10 cases. The typology and definitions can be found in Table 4.6. below. The meta-network is constructed to include the social network among co-offender (actor × actor) with other subnetworks (see Table 4.7). The studied insider dealing meta-network includes a set of sub-networks to organise these nodes and edges based on the categorisation developed by Carley (2003; 2012), such as the social network (relationships and interactions among agents), capability network (who has what resources for insider dealing activities), task network (what task is assigned to whom), needs network (what is needed for tasks), precedence network (what task precedes which), location network (who is in where), geographical ease (what resources are available where), and hotspot network (where sees the activities). Detailed definitions of nodes and ties are given in Chapter 6. Each subnetwork is represented using binary symmetrical matrix. That is, the cell value is entered with either a one with a present tie, or zero if the tie is absent. Ties are undirected (symmetrical), meaning that the relations are mutual.

Category	Definition	Symbol
Actor	Individuals involved in insider dealing	◯
Resource	Tangible and intangible assets that actors deploy in insider dealing (e.g., financial knowledge, trading account, inside information)	△
Task (activity)	Actions undertaken by actors during the crime commission process	⬡
Location	Places where actors are positioned	◻
Ego or new node	In multi-mode network analysis: Focal node in a network (this will only be used when I analyse ego networks to understand the sphere of influence surrounding a specific actor) In multi-time (dynamic) network analysis: New node entering a network (this will be used when I highlight the new node entering the network)	◉

Table 4.6 *Typology of symbols used in social network analysis*

	Agents		Resources	Tasks	Locations
Agents	Social network (AA) – sum of below all sub-social networks		Capability network (AR)	Task network (AT)	Location network (AL)
	Kinship and friendship	Business relationship			
	Illegal transfer of inside information	Illegal transfer of finances			
Resources				Needs network (RT)	Geographical ease (RL)
Tasks				Precedence network (TT)	Hotspot network (TL)
Locations					

Table 4.7 *Meta-network of all possible sub-networks coded in the studied insider dealing networks based on four node types*

Step 3: Constructing multi-link networks

In the previous social network analysis, all social relationships are aggregated and represented using to a single binary network. Here, I deconstruct the social networks into 'network layer' that distinguishes and represents different social relations among co-offenders. The associated matrix for each layer is undirected and binary. There are four network layers. They include two types of illegal relationships of resource transfers: the transfer of inside information and the transfer of finance; and two types of legal relationships for trust: kinship/friendship (as in personal) and business relationship. The multi-link network merge all present network layers together into a single valued multi-link network by adding the link values in each network layer. Hence, the new single valued multi-link value has a link value range between 0-4. '0' means an absence of any relationships, '1' means the presence of one type of relationship (e.g., it can be personal or illegal information transfer). '2' means the presence of two type of relationships and so on. Such multi-link networks are constructed for cases 27, 42 and 43 where there are sufficient data that permit developing a multi-link analysis.

Step 4: Constructing the multi-time network

Case 42 is the only case that contains sufficient data in different time periods to allow utilising multi-time networks to illuminate changes over time. The multi-time (dynamic) network is operationalised as a collection of discrete renditions of meta-network snapshots, where a time-based split (yearly) is adopted (Moodyet al., 2005; Bright and Delaney, 2013). The constructed multi-time network therefore includes 5 meta-network snapshots, where one snapshot represents one year-period. In multi-time network, I only include the active nodes/edges that are actually deployed to the insider dealing commission process in that specific year. For instance, an actor is not included in the multi-time network

if the actor is not yet involving in insider dealing in that specific year. The same applies to the inclusion of an edge. For example, an edge is not present between an actor and resource if the actor is not deploying that specific resource in that specific year.

Step 5: Visualisation

The multi-mode multi-link multi-time network analysis visualise network matrixes using sociograms. Sociogram is a diagram composed of shapes representing nodes and lines symbolising edges. In multi-time network, sociograms are plotted as discrete diagrams at different time periods. I also visualise all constructed social networks, multi-mode networks, multi-link networks. In addition, the 'sphere of influence' is also visualised. The sphere of influence is a meta-matrix extension of the ego-net (set of nodes to which an ego -the focal node- is connected) to include all nodes from all entity classes directly connected to the ego (Carley and Reminga, 2004). This is to visualise entities influenced by and influencing an actor. The nodes are shaped according to the node types. The nodes are further coloured based on the subgroup analysis that is detailed in Chapter 6. Visualisations are produced in the ORA software (Altman, et al., 2019).

Step 6: Computing network measures in ORA

Detailed analysis procedures, measures and rationales are presented in Chapter 6. Here, an overview of what measures are used is given. All analysis is conducted in ORA (Altman et al., 2019). For the social network analysis, standard network measures are computed. They include overall network measures, including density, shortest average path length, betweenness, closeness and degree network centralisations. It also uses standard node-level measures, including degree centrality, betweenness centrality and closeness centrality. To analyse multi-link network, I use standard descriptive statistics (density and centrality measures), in addition to (Multiple Regression) Quadratic Assignment Procedure ((MR)QAP). (MR)QAP correlation and regression are computed in order to understand how network layers are related, and to test hypotheses (Borgatti et al., 2013).

To analyse (dynamic) multi-node network, I first detect subgroup structures. I use the Newman algorithm which is a hierarchical grouping method to detect subgroup structure under the principle of more ties within and fewer ties between groups (Clauset et al., 2004). Additionally, the Louvain algorithm is also used as a 'sensitivity analysis' to see whether the Newman algorithm is capable to detect subgroups accurately. On a node-level, the multi-mode network analysis further uses two-mode measure of exclusivity to identify key actors. Resource exclusivity is calculated on capability network; task exclusivity is calculated on the task network (Ashworth and Carley, 2006). They identify critical individuals by measuring the extent to which an agent is connected to the same task or resource that is not performed or owned by many others. They are important because they have a critical resource or conduct a critical task required for insider dealing (Ashworth and Carley, 2006). Further, a key actor is also identified using the multi-mode measure – cognitive demand – which is computed using all sub-networks in the multi-mode network (Carley and Ren, 2001). The actors who stand out in cognitive

demand are coined as emergent leader, who is important but does not assume formal leadership of the network (Carley and Ren, 2001). In this study, the cognitive demand is used to capture one's involvement in the insider dealing script. Emergent leader is often connected to many other co-offenders, engages in a variety of tasks and brings different resources. I will corroborate the results from these structural measures of the meta-network with the qualitative evidence to see if they provide a full grasp of the mechanism (Campana, 2016). All these node-level measures are normalised to scale from 0 to 1.

4.6 Validity, reliability, and limitations

Internal validity refers to the extent to which research findings match the reality (Merriam and Tisdell, 2016). Due to the reliance on official data resources and news media reports on cases published by regulators, my research may bear limitations in internal validity, which is also observed in other criminological research utilising official data. That is, the findings may be reflecting law enforcement investigation processes and results. Law enforcement activities are largely restricted by resources and their decision to initiate investigations and prosecutions is dependent on administrative considerations such as whether it is a high-profile case. While insider dealing has been recognised as difficult to detect, my research findings may be discrete to unknown cases to the regulator due to, for example, extensive concealment. I am aware that other criminological studies on criminal organisation use court script and investigation report and intercept and surveillance transcripts as data sources to establish crime script and criminal collaboration dynamics (e.g., Bright and Delaney, 2013; Campana and Varese, 2013), they are however not accessible in this study. Although official data bears limitations, as mentioned earlier, I am confident that prosecution documents and official press release are the best available data sources that contain the most sufficient information on actors and their activities and the timeline of establishing relationships to offending. In fact, official data has gained validity in financial and organised crime research that acknowledges its empirical value in research (Antonopoulos et al., 2015).

Triangulation is used to maintain internal validity of my research findings that are collected through various sources and interrogated by existing theories and confirmed by interviews (Merriam and Tisdell, 2016). Data is triangulated by using both official data sources and news media reports which contain information revealed in criminal trials to enhance validity. In situations where news media reports are used, I compare multiple reports of the same case from different media agencies to cross check accounts. The preliminary results from analysis are then shown to interviewees to confirm emerging findings. Random pages of data coding and analysis were also shown to supervisors to ensure inter-judge validity. Findings were also presented in a conference and seminars for discussion to ensure validity. During the interview process, I always summarise my interpretation of interviewees' account and relay it to interviewees to check if the interpretation accurately reflects the meanings they convey. Three out of four interviews are permitted for audio-recorded and transcribed by a university-accredited third-party transcriber. The transcripts are retained for inspection to examine the process of induction and deduction and conclusions from their accounts. For the non-recorded interview, notes were taken. During the

interview process, one of the participants had first-hand knowledge on a number of cases by virtue of the profession and hence I discussed non-confidential case details including co-offending dynamics, enhancing the data validity.

Reliability refers to whether the research findings can be replicated. Qualitative research has been suggested to be problematic in reliability where replication of a qualitative study is unlikely to produce same results. This is due to the ontological position where human behaviour is ever changing, and the world is understood as multifaceted and highly contextual (Merriam and Tisdell, 2016). In addition to triangulation, recording the audit trail during the process of research from the literature review, data collection and analysis under the specific theoretical framework is utilised to maintain reliability of my research findings (Lincoln and Guba, 2000). Recoding audit trail enables research transparency so that others can examine the reliability of my findings.

External validity refers to the generalisability of findings from one study to other situations, which has been recognised to be difficult to achieve and is a desirable goal for qualitative study (Lincoln and Guba, 2000). The value of qualitative research is to provide detailed accounts of a particular situations so that understanding can be generalised to a similar context (Merriam and Tisdell, 2016). My endeavour to allow readers to generalise my findings to their own situations include producing a script based on all available known cases since the 2000 to maximise variability in the study sample, and using a detailed description of these cases to allow readers to see if it is similar to other known situations elsewhere (Merriam and Tisdell, 2016). In other words, while the script analysis permits generalisation in terms of the identification of the necessary components of each particular crime, each case, the track-level generalisation may be limited by the context-specific nature of the cases analysed in this research.

4.7 Conclusion

This chapter has discussed the methodological approaches and data that will be used in this thesis to analyse the organisation of insider dealing in the UK. To address the gap in research about the structure of activities and co-offending relations (i.e., the organisation) of insider dealing in financial markets, this research will use crime script analysis based on data from the 43 known cases in the UK between 2000 and 2020, and social network analysis on a selection of 10 cases with at least three actors involved. Previous research has demonstrated that combining the frameworks and 'toolkits' provided by the script and social network analysis approaches allows obtaining rich insights into the dynamics of the organisation of crime (Morselli and Roy, 2008). More specifically, I merge the crime script and social network approaches by recording the script elements under multiple node types in the meta-network. The data used in this thesis is recorded from official reports, news media reports, semi-structured interviews conducted with lawyers and compliance officers in the UK, and policy and legal documents. By analysing data recorded from different sources I corroborate the facts and mitigate potential issues of internal validity. The results of the crime script analysis are presented in Chapter 5 and the findings

of the social network analysis are discussed in Chapter 6, which will illuminate a series of situational crime prevention measures to prevent and interrupt the organisation of insider dealing (Chapter 7).

Chapter 5 Scripting dynamics in insider dealing commission processes

5.1 Introduction

This chapter articulates a novel understanding of the organisation of insider dealing as a commission process and reveals which conditions are facilitative of the insider dealing commission processes. This chapter draws on the crime script analysis enacted on the 43 known insider dealing cases in the UK and interviews conducted with lawyers and compliance officers. Section 5.2 begins with a description of the insider dealing scripts at different levels of abstraction. From Section 5.3 to 5.7, each 'scene' and associated 'facets' of the insider dealing script at the least abstract 'track' level are depicted and, discussed in how they relate to the financial markets. Section 5.8 discusses the potential combinations of scenes and facets in relation to the 'organised' and 'opportunistic' forms of insider dealing in the official narrative. Section 5.9 concludes the chapter by summarising the key insights.

5.2 Insider dealing scripts at different levels of abstraction

This section introduces the insider dealing scripts and recaps relevant analytical concepts. 'Crime scripts' are maps that deconstruct the offences into a sequence of events before, during and after the actual doing of the offence. These events are included as 'scenes' that represent the smaller units of action or plans required for sub-goals in the crime commission. Scenes have causal potentials, where earlier scenes in the script enable the occurrence of later scenes (Cornish, 1994). This chapter develops insider dealing scripts at both metascript and track levels. This development starts with the 'universal script'. Universal script is the most abstract and generic level of crime scripts. This abstract quality means that it describes a sequence of scenes that is applicable to all offences. They often include pre-activity, preparation, instrumental initiation, doing to post-activity (Tompson and Chainey, 2011; Bellotti et al., 2020).

Relying on this generic sequence of scenes, the insider dealing 'metascript' is developed to particularise a corresponding sequence of scenes specific to insider dealing. This insider dealing metascript is shown in Figure 5.1 below. The metascript encompasses the most recurrent scenes based on the 43 studied cases of insider dealing. The first core scene is 'entering inside' in accessing the inside information. Core scenes appear in all cases, representing the necessary conditions for insider dealing to occur. This is followed by 'procuring resources' that prepare for the following illegal activities. The initiation of illegal activity begins in the scene 'tipping'. This is a contingent scene specific to certain cases. The actual doing of insider dealing is in 'transaction' scene where inside information is abused. The contingent post-activity scene involves 'retaining proceeds' in exiting the illegal setting with profits.
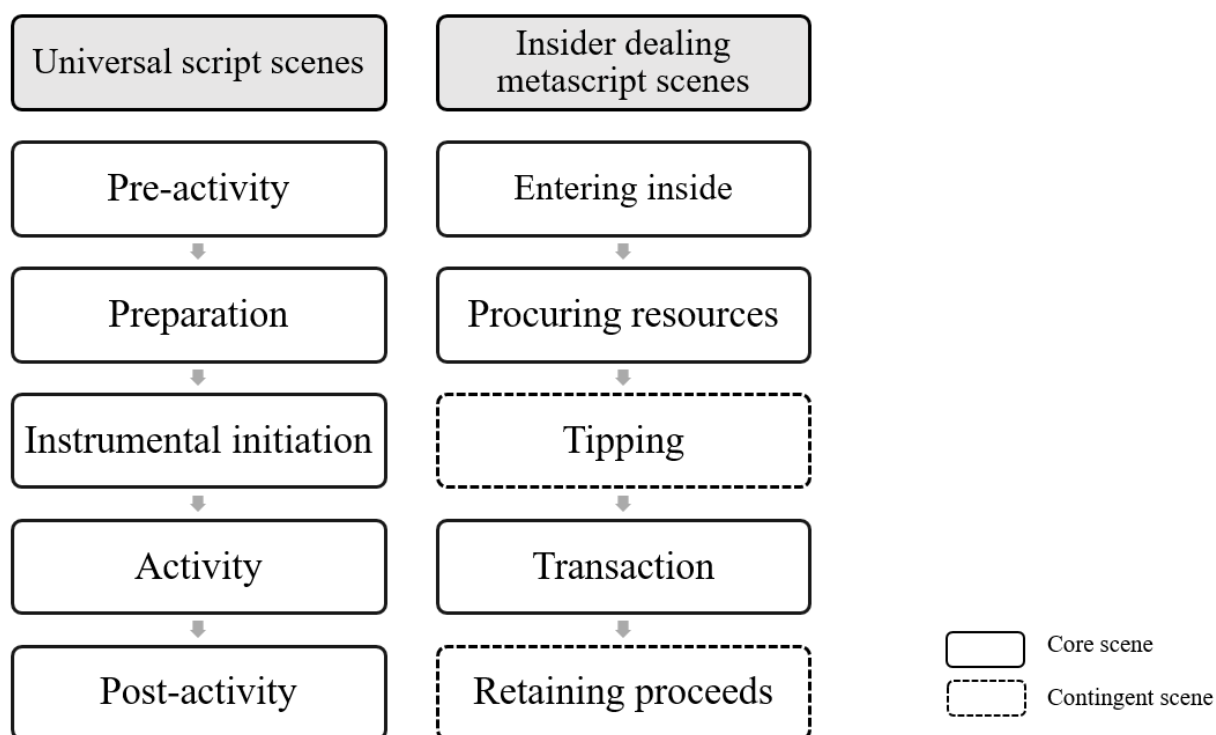
Figure 5.1 *From universal crime script to insider dealing metascript*

The insider dealing metascript is developed into tracks, which is shown in Figure 5.2 below. Insider dealing tracks represent the least abstract level of crime scripts, where the detailed description of track elements identified in all studied cases is presented. These track elements include activities/behaviour, casts/actors, resources, locations/settings. Tracks represent the most appropriate abstraction level, where capturing facilitators (resources, actors or settings) helps to inform situational prevention strategies (Leclerc et al., 2011). Scenes are divided into 'facets' at the track level to represent the different ways to execute the scenes, highlighting the dynamics in insider dealing commission processes. The core facets represent what must appear for insider dealing to happen, where contingent facets may occur under certain contexts. Understanding these contexts is important in highlighting how the insider dealing scripts may change in the future. The rest of this chapter foregrounds this insider dealing script at track level.

Insider dealing script at track level

Entering inside	Procuring resources	Tipping	Transaction	Retaining proceeds

Primary entry

Temporary entry

Exogeneous entry

Improper entry

Security measures

Trading capacity

Co-offending relationships

Individual

Organisational

Opportunistic tipping

Repetitive tipping

Organisational tipping

Buying/selling stocks

Short selling and derivatives

Organisational trading

Transferring and dividing proceeds

Concealing proceeds

Legend:
- ○ Starting point (legitimate)
- ● Starting point (illegitimate)
- ☐ Core facet (legal)
- ■ Core facet (illegal)
- ⬚ Contingent facet (legal)
- ▨ Contingent facet (illegal)
- → Core flow
- ⇢ Contingent flow

Figure 5.2 *Insider dealing script at track level*

5.3 Scene 1: Pre-activity – Entering inside

In what follws, I will elaborate on each scene and facet, in relation to the track elements, from cast/actors, behaviour/activities, resources to settings/places. The crime script analysis identifies a pre-activity scene of 'entering inside' for the inside confidential and price-sensitive information[20]. This scene is present in all cases. It is identified as the entry point to the opportunity into the insider dealing setting – the prelude leading up to the actual illegal insider dealing activities (Sacco and Kennedy, 2010). This scene is deconstructed into four different facets, based on how it is executed.

Facet 1 'primary entry' is enabled when carrying out relevant occupational duties at the issuers (companies that issues/sells financial securities/instruments such as corporate stocks). Facet 2 'temporary entry' is enabled when carrying out occupational duties at professional services providers who enter the inside via the contractual relationships formed with issuers. Facet 3 'exogeneous entry' is enabled not endogenously in issuers or those connected with issuers. It is externally enabled in financial institutions through their substantial financial capitals to move stock prices.

Facets 1, 2 and 3 are of legitimate nature. That is, entries are variously enabled by the legitimate corporate and financial processes surrounding organisations participating in the legitimate financial markets. However, when such legitimate channels are unavailable to certain employees in these organisations, facet 4 'improper entry' may be executed to enter the inside. This facet features a spectrum of illegitimacy associated with track elements, shaping semi-legitimate, semi-illegitimate, illegitimate and illegal entries.

5.3.1 Facet 1 – Primary entry

Facet 1 is named as 'primary entry', which is manifested in 17 cases (1, 2, 4, 5, 6, 10, 13, 15, 18, 20, 25, 26, 28, 30, 35, 38, 38). The data show that this facet includes a complete legitimate set of track elements from behaviour, actor and resource to situational setting in a corporate context. That is, there is a class of actors holding specific occupational and organisational positions at the issuer who naturally enter inside the issuer company and obtain corporate information while performing organisational duties during specific events. Three main types of corporate and financial events are found, including routine internal accounting, mergers and acquisitions, and other major business developments such as natural resource discovery, new business joint venture, and corporate structuring. For instance, case 15 includes a offender who become aware of a new business venture between the issuer and another corporation by the position as head of tax. This observation aligns with Szockyj and Geis (2002), who found that corporate director position provides more opportunities insider dealing in their study focusing on the U.S context.

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[20] As signposted in Chapter 3, inside information is defined by its non-public characteristic and, its influence on stock prices once it is made public. Positive inside information increases stock prices representing valuations of the companies, and vice versa.

To elaborate, six cases feature internal routine accounting activities, including the preparation of either interim and annual financial accounts and reports under the mandatory information disclosure rule governing the publicly listed companies. The offenders include lower-level accountants directly involved in the practices, more senior financial controllers holding management functions, directors involved in the day-to-day corporate planning and management who give opinions in drafting and receiving those reports, and public relations managers responsible for responding to public enquiries in relation to financial developments. The other six cases involve occasional mergers and takeovers (or acquisitions) where the company bids for or is offered a bid that would have positive implications on the future share price once it is confirmed and publicised. Similarly, most offenders become aware of the mergers and acquisitions due to their senior management roles. In two cases (10 and 18), the entry is provided by non-executive directors with advisory functions that ensure access to corporate information. Only in case 30, the occupation of the offender is legal counsel and is kept in the information loop as the actor who works directly on the project.

The important point being that such entry is enabled among a wide range of personnel and it may cross national borders when the company is a multinational corporation (MNC), under the business model of division between a head quarter and associated subsidiaries operating local businesses in different countries. This can be illustrated by the case 1 where the offender works at the head quarter of a MNC based on London. Under the MNC there are two trading divisions of subsidiaries located in the UK and America respectively. The event leading up to offender's entry begins in the subsidiary in America, where the directors in the UK travel to America to attend the board meeting of the subsidiary and get to know about the significant fall in projected revenue of around 6 million US dollar. Such fall results in directors' decision to reforecast other subsidiaries of the MNC. Directors then instruct the financial director to do so upon return to the headquarters back in the UK. The financial director further devises a 'cover story' in response to enquiries about the reason for the urgent reforecasting. Nonetheless, the cover story is not given to the offender and colleagues in the same office who all together work on the reforecasting, hence the entry.

5.3.2 Facet 2 – Temporary entry

In facet 2, 'temporary entry' is indicated in a total of 16 cases (8, 11, 14, 16, 17, 19, 21, 22, 23, 24, 29, 31, 36, 39, 42, 43). Facets 1 and 2 are both of legitimate nature. However, instead of being inside the issuer naturally due to relevant occupational roles at the issuer, the entry into the issuer company for information in facet 2 is on a temporary basis. The situational events are similar to those identified in facet 1, *id est* accounting, new share or bond offerings, and mergers and acquisitions to other major corporate development. Nevertheless, this facet highlights the opportunity provided by organisational and financial relationships that enables external organisations to enter the issuer company. As a result of such temporary access, the entry is expanded to actors in two types of external organisations, those that provide certain professional services to the issuer on a contractual basis and those entities that have

a financial interest in the issuer company. It also extends to actors or organisations who are not employed in relevant organisations or form contractual working relationships with issuers but are however existing shareholders of issuers – financial relationships between issuers and investors.

To elaborate, nine cases involve offenders employed at the professional service company providing mostly investment advisory or underwriting services to the issuer and, in case 3 accounting services. The typical scenario is that the investment advisory function is directly advising the issues in relation to, for example, mergers and acquisitions, share placing, and investment decisions. Actors at the investment advisory company with the role of corporate broker thus obtain such information due to their direct involvement in the project. There are also other actors who are not directly involved, such as compliance officers and research analysts, who access the information through their duty at financial institutions. For instance, in case 29, the offender has access to information regarding a variety of issuer companies due to his role as an analyst covering the leisure sector. He regularly meets with managers of companies allocated to him. These companies are also served by the advisory department at his organisation, which therefore provides the offender with access to confidential information in a short period before the announcement, and in turn he communicates his views to the potential investors.

Besides banking and accounting services, the entry can also be achieved via providing operational services in a transnational context. It involves typically a UK-based company operating transnationally in resource rich developing countries to explore natural resources. Such operation is found to imply parent-subsidiary relationships and related service relationships with a company based in the developing country to enable and facilitate the operation. These relationships enable entering inside, which is manifested in two cases. Case 25 involves the offender working at a Uganda-based company that provides vehicles and equipment for oil and gas exploration for a company based in London, with operations in Uganda. Through the management role in the Uganda-based company, the offender enters inside to obtain information about the emptiness of the oil well explored by the UK-based company. Similarly, case 35 features offenders in management of a Turkish company that enters a joint-venture with a UK-based company to explore oil in Kurdistan of Iraq, and hence receives daily operational and final results reports on the oil shown during the drilling.

Furthermore, nine cases involve the temporary entry established through financial relationship between corporate brokers and external retail and institutional investors. This is involved in nine cases where the corporate broker mediates between the issuer and investors. Such financial relationships give rise to a situation of legitimately giving the entry to the issuer and inside information, mostly about corporate events including private and public placements of both shares and bonds or mergers and acquisitions. This transmission of information is part of the legitimate pre-marketing and pre-sounding activity before the formal public announcement to the market. It involves a formal setting where shareholders give consent to be 'wall-crossed' and the broker 'sounds' investment interests and support on the corporate event. For instance, in case 40, eight occasions of insider dealing feature the actor at the hedge

fund being wall-crossed under agreement of non-disclosure and restricted dealing, who however violate that agreement. Nonetheless, a distinction shall be made between opportunities among retail and institutional investors, since the latter is typically wall-crossed on a number of events due to their institutional holding.

5.3.3 Facet 3 – Exogenous entry

Whereas the majority of cases reflect either facet 1 or 2 where the entry to inside information is endogenous to the issuers (primary) or through those connected with such origin (temporary), cases 32 and 40 illustrate that the entry to inside information can also be exogenous to the issuer company. The inside information regarding the price movement of security is not the endogenous corporate events such as mergers, but it is generated by the exogenous situation of a forthcoming large transaction order placed by investors from external entities that could move share prices. This highlights the involvement of investing organisations with a relatively large market power in financial markets. In these two cases, offenders are execution traders at asset management institutions who carry out transactions ordered by the organisation and hence become aware of the upcoming price movement. The data shows that this facet is more restricted in timeframe since the trader enters inside by receiving the demand until he or she executes the transaction. It hence requires a swift and immediate illegal insider dealing, or immediate communication with co-offenders, to coordinate the illegal trading. Hence, these cases show an additional activity where actors delay the transaction in order to create sufficient time to carry out other scenes in the overall insider dealing script.

5.3.4 Facet 4 – Improper entry

The three facets elaborated above cover opportunities that are part of the routine and legitimate occupational and corporate and financial processes within an organisational context. In facet 4 'improper entry', track details show that the opportunity structure displays differences with the previous three facets, where some essential track elements feature are missing. Some elements that may be missing are relevant occupations as such as corporate broker or the financial setting in assisting corporations to issue new shares to raise finance. As a result of such absence, the entry to the inside via the legitimate route is blocked. This therefore results in the use of alternative routes manifesting a spectrum of illegitimacy in this facet. These include the semi-legitimate route that reflects gross negligence (Huisman, 2016), the semi-illegitimate route of incompliance during legitimate organisational procedures, the illegitimate route indicating intentional misuse of the otherwise legitimate organisational resources, and the illegal route that violates the law in governing the flow of inside information. The important point here is that these illegitimacies are variously facilitated by organisational situations (Vaughan, 2002) shaped by the presence of an entry promoter and the wider legitimate architecture and procedures favourable to entry but unfavourable to monitoring (Ekblom and Gill, 2016). This facet is manifested in eight cases (7, 9, 12, 27, 33, 37, 41, 42).

To elaborate, the illegal route is identified in three cases (9, 27 and 33). Cases 9 and 33 encompass a situation similar to facet 2 where the entry to inside is about to be enabled when a corporate broker attempts to wall-cross investors. However, the entry is not legally enabled due to the refusal of the investors to be wall-crossed in these two cases. Nonetheless, the financial professionals act unlawfully by illegally disclosing corporate information without the agreement. The organisational facilitator is saliently reflected among the absence of able preventers in a pre-market financial context. For instance, in case 33, although the investor said 'Wow, wow. That would be shockingly horrifying from my perspective' to display potential abuse of the information, no one intervened by raising an alarm. On the other hand, case 27 observes blatant breaching of the so called 'Chinese Wall', since the procedural architecture in controlling the flow of information between the buy-side and sell-side within the same financial institutions is breached (Rider, 2000). The facilitator in case 33 appears to be the organisational trait of incompetence (Huisman, 2016) due to being short-staffed in the compliance function, which is indicated by other misconduct by the institution such as the use of illegal high-pressure sales techniques oblivious to the potential financial loss inflicted on their clients.

With regards to a semi-legitimate entry, case 12 indicates a rather unexpected situational context of organisational negligence by the senior management in mistakenly sending out an email containing the inside information to all employees, which thereby enables or facilitates the improper entry that is not in line with the corporate standard in governing the flow of inside information. Although the entry may be seen as the accidental access as highlighted in the literature (e.g., Rider, 1978), it however reflects a conducive situation where the manager enables such entry (Clarke, 1999). Furthermore, there is also semi-illegitimacy (case 37). The situation involves an entry enabled by the legitimate occupational role working directly on the merger and acquisitions, which marks the differences from the illegal entry. Nonetheless, it is incompliant in that the entry is not recorded in the insider list instigated as an internal control measure (Article 6(3) EU MAD). The data is not sufficient in indicating the extent to which this is related to intentionality of the offender in avoiding being recorded. Nonetheless, the bottom line is that it reflects the failure, if not negligence of internal compliance control function, in the responsibility of overseeing the flow of confidential information in an organisational setting.

Whereas the 'semi' component in the semi-illegitimacy reflects little intentionality, the illegitimacy is reflected in the intentional misuse (Levi, 2008b) of legitimate organisational resources favourable for entry yet unfavourable for monitoring. They include passwords to managers' email accounts (7), the operation of the printing facility (41) and the shared office space with colleagues with legitimate entry to the inside (37, 42). These resources are favourable for entry. For instance, in case 42, which features a corporate brokering context, the offender has temporary entry to a number of events, nonetheless, he does not directly work on all the events on which the insider dealing occurs. It is found that the entry to the latter is, however, enabled by either overhearing conversations in the open plan office, or peeking at colleagues' computer screens. Thus, while control measures are applied to those with visible

legitimate entry to the inside, these are unfavourable for monitoring others who may access the information. For instance, case 7 involves the IT officer who is not inside the watchlist due to the non-insider status, whose entry through using management's email accounts is difficult to be traced back to him as it only indicates the name of account holder. In sum, the misuse of these resources may highlight the lack of risk awareness in certain physical and virtual spaces of organisations (Huisman, 2016), which may thus be a potential intervening point.

5.3.5 Summary and discussion

In sum, the analysis has so far illustrated four different entry points in the first scene of pre-activity in the overall insider dealing script. The analysis of the first scene provides a holistic view of the overall opportunity structure covering both the individual trust violations of employees inside the issuer company (Shapiro, 1990) and the organisational deal-making context in the financial service industry (Reichman, 1993). Most importantly, it discovers how the immediate organisational situation might provide tools and settings that facilitate the entry to opportunities that are not readily available in a legitimate context, highlighting the variation in the opportunity structure. This finding on the opportunity structure corroborates the mechanism of crime occurrence exemplified in the meso-level crime pattern theory (Brantingham and Brantingham, 1998), as mentioned in the literature review, and provides support for Benson et al.'s (2009) proposition on the potential of applying the crime pattern theory to white-collar crime where opportunities arise in employment and in interactions between business organisations and external entities. The findings show that not only the crime occurrence mechanism but most importantly, the frequency of crime occurrence featuring different facets, appear to lend support to the theory.

To elaborate, facet 1 'primary' entry features opportunities arising within issuer company as the *focal node*. The focal node includes settings of various organisational practices in relation to corporate and financial events that provide inside information to certain employees with relevant occupational roles, thus presenting risks of misuse among employees involved. Facet 2 temporary entry features various corporate and financial procedures and events as the *paths* used by the focal node when directly interacting with nodes of external organisations such as accountancy or corporate finance advisors, and indirectly interacting with nodes of investing entities through the corporate broker. The insider dealing events range from one to three among cases featuring facet 1; whereas the occurrence increases from one to 22 in cases of facet 2. This can be explained by the crime pattern theory where facet 2 includes multiple paths used to interact with nodes originating the inside information, hence enabling greater access to opportunities. Facet 3 'exogenous' entry features the access to opportunity through direct paths bridging the focal node and the organisation investing in the focal node, which are used to transmit inside information.

Lastly, facet 4 'improper' entry highlights the element of *edges* between occupational roles where immediate access is either present or absent. The interaction space is blurred as those outsiders without

immediate access can quickly enter inside without being noticed. This is clearly seen in case 7 given the nearly intractable identity of the security officer entering inside by accessing management emails. The access is blurred because regulatory oversight is often ineffective or absent among the edges because they are less monitored, or not monitored at all, in contrast to the control over those with ready access. For instance, the internal control measure of establishing an insider list only contains those actors who legitimately receive information due to direct involvement, but not, for example, the security officer. It further relates to the proposition that crime occurrence in these edges might present less frequent crime occurrence (present in only 7 known cases) as the actors are pushed away towards the edges. Thus, those without direct access to the information may require additional tools in order to reach that access described in the crime pattern theory (Brantingham and Brantingham, 1993). Nonetheless, cautions should be applied due to the use of known cases in this analysis, which means uncertainty in the actual frequency of entry points used.

In terms of the more distal factors influencing the opportunity structures, the analysis further reflects the role of the wider socio-legal context. In Chapter 2, History of insider dealing, I show how the emergence of joint-stock companies, the development of financial markets and the state-corporate symbiosis enable the abuse of inside information. While these mechanisms appear to remain unchanged until today, they have been further legitimised through legal changes over the decades. At the outset, the existence of inside information is permitted within issuers under regulations governing the financial markets (e.g., EU MAD). Issuers can legitimately delay the release of inside information – possessing monopolistic information – which is legitimised based on protecting and safeguarding the interest of the business and other legitimate considerations (EU MAD). Also, inside information legitimately exists because of the weak accounting and auditing practices in issuers (Barnes, 2009). Consequently, the publicly available information about corporate development is not fully complete or perfect (Barnes, 2009). This generates information asymmetry – issuers and relevant organisations mentioned earlier, therefore, hold *unavoidable informational advantage* (Easterbrook, 1981: 315) over individual/retail investors[21], like you and me. It is this legitimate informational advantage that enables insider dealing.

5.4 Scene 2: Preparation – Resource procurement

Scene 1 foregrounds the initial opportunity to enter inside, how it is facilitated by legitimate occupational, corporate or financial contexts. However, according to Ekblom and Tilley (2000), such opportunity cannot be exploited without the resources to allow taking advantage of them. Scene 2 highlights the preparation stage in the overall insider dealing script. This is related to the argument on the distinction between competence (resources) and performance (illegal outcome) by Ekblom and Gill (2016). This scene is therefore about what and how resources are acquired in order to exploit the situational opportunity of entering inside for committing insider dealing. This further includes

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[21] Retail/individual investors are non-professional investors who invest in financial markets on their own accounts. Institutional investors are professional organisations.

considerations into what are the situations that influence the execution of this scene, how resources are improved over time from the first time executing the insider dealing script to recurring executions, and how this scene might be related to insider dealing outcomes in terms of scale and the amount of illegal profit.

In the analysis, resources are distinguished between the minimum necessary core resources for insider dealing to occur, and the 'contingency' that are the additional resources not universally found in all cases. In other words, the 'causal' versus the 'functional' resources in Ekblom and Gill's (2016) terms. Such distinction is important in allowing for an understanding of the development of the new and complex forms of insider dealing. This reflects what Cornish (1994) highlights as the role of contingent resources in the form of complex and heavier logistical requirements in scaling up insider dealing from a rather simple and typical one to a new and complex one. Furthermore, the contingency, representing the more isolated deviations from the standard resources, might later become increasingly attractive as the standard one loses effectiveness and, thus, evolves to the dominant one (Tremblay et al., 2001). This highlights a potential area for crime prevention by, for example, intervening the resource acquirement process (Ekblom and Gill, 2016).

The paragraphs below elaborate this scene by deconstructing it into three facets based on the type of resources being prepared. In facet 1, it includes the preparation of 'trading capacity' defined as including the trading account and financial capital necessary to execute the insider dealing transaction, representing the core resources present in all cases. Facet 2 is the preparation of 'security measures' in lowering the risk of detection, such as concealable trading capacity and communication tools. Facet 3 is the preparation of co-offending relationships. Facets 2 and 3 represent the contingent and facilitative resources not universally found in all cases. The findings overall reflect the argument on the blurring boundaries between legitimate and illegal activities (Ruggiero, 2002). Further, while facet 3 highlights the importance of pre-existing relationship in translating to 'co-offending relationships', findings further highlight the importance of offender convergence settings in routine activity for the establishment of co-offending (Felson, 2006).

5.4.1 Facet 1 – Trading capacity

Facet 1 is the preparation of 'trading capacity', which refers to the core and necessary capability. This includes financial capital. The data shows that financial capital invested varies from hundreds to millions of pounds, resulting in varying amounts of illegal profits from as little as £3,000 to a total of £10 million maximum. The majority of offenders invest with personal finance that they hold legitimately in savings from work or investments (25 cases). In the other seven cases, the finance is in the form of pre-existing security holding. Alternatively, they are fund managers and, thus, have legitimate access to mobilise millions of institutional funds and associated trading accounts (case 8, 18, 19). In a minority of cases, additional finances are sought by offenders to increase illegal profits. For example, in case 1 the offender increases a mortgage for credits. It may involve converting existing

financial holding into credit (case 29). This can also be carried out illegitimately as in case 7, where the offender borrows £29,000 by falsely stating that the funds are for home improvements to the bank or, by falsely claiming to be earning a £300,000 salary (case 32). These isolated behaviours might highlight potential areas to enhance regulatory efforts, especially customer due diligence in the banking sector.

In terms of trading accounts, most offenders rely on pre-existing personal or institutional trading accounts (either cash accounts for share trading or margin account for dealing in the more complicated derivative products). In some cases, trading accounts under third parties are found to be used. They are often pre-existing accounts under family members (case 2 and 15) or in offender's maiden name (case 39) that have been previously used to carry out legitimate trading; or procured just before the illegal insider dealing (case 14, 26). Amongst the available cases, data indicates that these third parties are not aware of the illegal use of the accounts (or it might be the case that they lie to the authority). The use of third-party account indicates the attempts to lowering the risk of detection. Furthermore, three cases feature the boouse of an investment vehicle that is a company under which the trading account is registered, where the sole beneficial owner[22] is the offender, indicating little intention of concealment. Three cases involve trading vehicles registered offshore, either pre-existing (case 21) or established solely for insider dealing (cases 16 and 36). Interestingly, case 41 indicates the use of over 130 attorney accounts established by offenders. These characteristics will be discussed later in relation to risk calculations of offenders.

Whereas the trading capacity, as the core and necessary resources, is often pre-existing and has been used by offenders previously for legal transactions, the procurement of additional trading capacity highlights the dynamic of the development of procedural competence to enhance illegal profits. Such acquirement process is found to be deliberately planned and conceived by the offender. This can be exemplified by case 2: After the first insider dealing transaction, the offender attempted to open an additional account under her name to increase credit facility to place more trades. However, it is not approved before the second episode of the insider dealing. The acquired trading account is then only used in the third episode. To further increase profits, an additional trading credit of £100,000 is applied and allocated to the account. The data suggests that such acquirement of additional trading capacity, including financial capital and trading account, invokes little suspicion from the financial institution. In sum, this facet therefore highlights the individual lifestyles in legitimate financial investment and the financial service industry as facilitators of insider dealing resource acquirement (Clarke, 1995).

5.4.2 Facet 2 – Security measures

Facet 2 is the acquirement of 'security measures' in maintaining superficial appearance of legitimacy, optimising anonymity and secrecy (Lord and Levi, 2017). This indicates the mechanism of minimising

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[22] Beneficial owner means individuals who exercise ultimate owns, control or benefit from the corporate partnership (Information on the Payer Regulations 2017).

detection risks. It is not observed in all insider dealing cases. It includes risk neutralisation activities in smoothing the overall script execution, such as prior deception to maintain legitimate outlook. In case 3 where the offender works in the accountancy firm, the offender is subject to prohibition in placing transaction in financial instruments of issuers audited by the firm. During the routine compliance check requiring disclosure of all existing share holdings, the offender deceives the firm by falsely stating that he holds no shares. The deception used by the offender appears to facilitate the overall insider script by avoiding the general regulatory attention that would have created risks for the upcoming illegal insider dealing transactions. This in turn highlights a potential weakness in the compliance in relying on self-declaration information. Further, in Case 42, it features the purchase of military graded iron keys to secretly document the planning of insider dealing so that the investigator cannot acquire evidence. It is procured via online/offline shopping sites that pose little detection risk.

Secondly, there are concealable communication tools procured to facilitate the scene of tipping (cases 21, 40, 41, 42). Offenders are found to purchase and prepare the use of pay-as-you-go phones with unregistered SIMs to frustrate tracing of calls made in the scene of tipping among co-offenders. The purchase has found to be further concealed by the use false names and addresses, indicating that communication services providers set few identity verification barriers as the potential unwitting facilitator in the facet of preparing security measures. The preparation of usage involves the behaviour of delivering the phone face-to-face and establishing initial contact to verify the identities of co-offenders. That is, the covert nature of additional communication indicates the need for a parallel activity to initiate the usage. For instance, in case 40, the offenders calls the other offenders using the new pay-as-you-go phone for a fraction of a second, and then immediately sends a message via the commonly used private communication console in Bloomberg to say 'that's me' to identify the new pay-as-you-go phone number. The data indicates that the setting (internet, public street) in such parallel activity is facilitatory due to the lack of supervision (Felson, 2006).

Whereas the facet 1 in trading capacity reflects the process of resource refinement, this facet also highlights the dimension of offender adaptability as part of the wider evolutionary process where offenders adapt communication methods to the changing situational context over time. Moreover, while the analysis has previously shown how deception is used by offender to react to the context of compliance checks, the data further shows evidence of the 'spiralling process' where offenders make further countermoves against efforts in renewing defence (Ekblom and Tilley, 2000). For instance, in case 21, I observe the repetition of the execution of this facet in regularly improving techniques in neutralising risks. The setting is the investment bank that prohibits the use of personal mobile phones but allows the use of work mobile phones. Originally the offender uses a Nokia pay-as-you-go phone, which is changed to a Blackberry 9300 that is identical to the one issued by the bank to facilitate tipping inside the bank. The work mobile is later upgraded by the bank to a Blackberry 9720 model, which prompts a countermove by the offender employing a replacement with an identical model.

Lastly, there includes procurement of trading capacity of a concealable characteristics (case 16, 21, 36, 41). Offenders are shown to seek additional security to disguise the beneficial ownership of the trading account, facilitating the scene of insider dealing transaction or/and retaining proceeds. These include the use of offshore investment vehicles, nominee directors and shareholders, power of attorney, and informal nominees such as spouses, extended family and other personnel and associates, where it might combine layers of control ownership chain in order to further obscure the beneficial owner (FATF, 2018). Offshore investment vehicles refer to legal persons, principally shell companies with no independent operations and business activities, that are established to disguise the ownership of the financial capital while remain control over it. As mentioned earlier, there are trading accounts established under family members' identities with their consent for legitimate trading but are later employed to carry out insider dealing without their consent. The tracks further indicate that the personal identity of a former spouse is stolen by the offender in establishing the 'straw man' account to disguise the transaction (case 26).

These concealable trading accounts are either pre-exisitng (case 16) or ephemeral (case 21, 36, 41, 42) that are variously associated with Panama, British Virgin Islands and Switzerland. These are offshore financial centres with jurisdictional characteristics associated with favourable tax conditions and anonymity via bank secrecy and strict bank-client confidentiality, which have been suggested to be attractive to financial crimes (Blum et al., 1999). The mechanism of layering of ownership chain can be exemplified by case 16. The offender purchases a Panamanian registered company with beneficial ownership of the company uses his wife's maiden name, and personnel from a Switzerland asset management company as registered as the president, secretary and treasurer of the company. The company then opens a trading account with a stockbrokerage firm in Switzerland, and delegates power of attorney to the asset management company to execute trades. The acquirement of such corporate structure is either unwittingly facilitated by trust and company formation agents (TCSPs) (Lord et al., 2019) or financial professionals. Only in case 41, the financial professionals are found to knowingly assist the offender in acquiring attorney accounts.

5.4.3 Facet 3 – Co-offending relationships

Facet 3 is the establishment of 'co-offending relationships' defined as actors co-participating in illegal activities as one of the procedural requirements in the overall script. This facet is absent in the 18 cases where there is a lone offender, and therefore it is not a core requirement for the overall script. However, it emerges to be important for more complex forms of insider dealing entailing illegal cooperation between co-offenders which may or may not be in the division of labour (Weerman, 2003). This is observed in the rest of the 25 cases. The execution of this facet is found to variously support other scenes and facets, reflecting co-offending acts to instrumentally ease the execution of the script and increase illegal profits (Tremblay, 1993). This point will be illustrated in the discussion on cast in other scenes and facets. In this facet, the track element highlights the role of pre-existing relationships, which

corroborates findings on co-offending in insider dealing cases in the United States by Szockyj and Geis (2002). The findings further illustrate the role of offender convergence settings (Felson, 2006) that facilitate the establishment of illegal cooperation by enabling access to one another in the context of their legitimate routine activities.

To understand how co-offending relationships are established, this facet analyses the composition of pairwise relationships between co-offenders in the 25 cases. Findings show that all cases involve pre-existing social bonds on which co-offending is built. More specifically, kinship is translated into illegal cooperation in seven cases. 12 cases feature friendship. Case 36 involves a romantic relationship. There are two cases which involve co-owners of businesses, whereas four cases involve co-workers. Two cases include business-client relationships. Two cases include shared contacts with third parties. Some cases may involve a combination of these relations. The finding that some cases show an overlap with the pre-existing relationship in a legitimate context is not surprising given the role of social embeddedness in cooperation in crime. It has been suggested that crime is embedded within and stabilised by networks of personal relations because it mitigates the problem of distrust by providing information of one another, thus smoothing partially the problem of cooperation in an unregulated and uncertain environment (Kleemans and Bunt, 1999; Morselli, 2009; Campana and Varese, 2013).

Pre-existing relationships can be seen as the resources mobilised by the cast in this facet. Nonetheless, the track elements indicate that it also involves activities carried out by the cast. This is the arrangement of *formal* meeting to share and communicate the idea of exploiting the opportunity structure in entering inside and agreeing on how to carry it out and how to divide the illegal profits. The available data indicates that, in several cases (cases 26, 34 and 42), co-offenders pitch the credibility of the source of entry and the potential benefits to convince the other party. Among these cases involving kinship and friendship, the data indicates that offenders would further convince the other party by indicating the need of their help to carry out illegal activities (cases 26, 34). For instance, in case 34 the offender informs the co-offender about the good source of share tips, but since he is receiving a pension at a financial institution it would be awkward for him to buy shares. Hence, he asks the co-offender if he is prepared to buy shares on their joint behalf. Such formal meeting is found to be often held at privately owned dwellings.

Furthermore, the cases further indicate the relevance of the informal settings. Aside from formal settings of arranged meetings to establish joint venture in illegal insider dealing, the analysis identifies the role of *informal* settings providing ongoing social life to set the stage in establishing co-offending ventures (Felson, 2006). That is, while one person may have numerous prior relations with different people, only a few co-offending relationships may form among those regularly converged in otherwise legitimate settings. This is reflected in the seven cases where co-offenders, underpinned by friendships and kinships, are found to regularly meet each other in social events leading up to cooperation in insider dealing (cases 25, 29, 31, 36, 37, 39, 43). Six cases indicate business settings that provide ongoing and

recurrent social interactions between co-offenders who are previously in legitimate business partnership (joint investment), or are colleagues, or are in business-client or business-business relations (cases 22, 23, 24, 27, 33, 35). One case reflects the setting of the internet bulletin board, a forum where investors communicate with others interested in certain shares, which fosters the communication between individuals who later become co-offenders in insider dealing.

The relevance of informal settings for legitimate activities can be highlighted by the dynamics in case 28, which involves a pre-existing relationship between two individuals who are friends and former colleagues. The setting which leads to the scene of illegal tipping is the business context of the financial institution, through which the individual pitches for the brokerage of to the issuer company at which the friend is working at. The available data indicates that since this event, the two individuals had frequent contacts with each other, which led to the cooperation in insider dealing. Geographical proximity between home location of the co-offenders appears to play a role in case 29 and 37, where co-offenders live either next door or in the same neighbourhood and hence can meet each other regularly. In contrast, geographical proximity is less important in the context of family members regularly meeting each other, even when these reside in different countries (case 43). Shared pre-existing contact is shown to play a role in providing co-offenders a convergence setting (cases 21, 42, 43). For instance, in case 21, the co-offenders meet each other when their mothers introduce them to one another.

5.4.4 Summary and discussion

Four core themes have emerged in the analysis of scene 2. Firstly, facet 3 highlights the important role of pre-existing social relationships and shared social contacts on which co-offending relationships are established (Milward and Raab, 2006). Nonetheless, the findings show that without the social events in which pre-existing social contacts converge (Felson, 2006), co-offending relationships may not be established with those specific individuals. Interestingly, the analysis further shows the role of technological advancement. That is, the internet facilitates such convergence of co-offenders through online forums. Secondly, the distinction between pre-existing or ephemeral relations is reflected not only in facet 3, but in all facets. In facet 1, while most offenders rely on pre-existing trading capacity, additional finances are acquired for scene 4 transaction to maximise illegal profits. In facet 2 security measures, there is little evidence of pre-existing 'criminal lifestyle' in pursuing anonymity and security (Hancock and Laycock, 2010). Security measures are mostly acquired *ad hoc* in order to reduce detection risks associated with the following scenes. Interestingly, all cases that acquire security measures do not establish co-offending relationships upon kinships. This may reflect a mechanism in making up for the operational risks implied in the less socially secured environment for co-offending (Milward and Raab, 2006).

Thirdly, there are blurring boundaries between legitimate and illegal spheres, as highlighted in the literature (Cornish, 1994; Ruggiero, 2002; Hancock and Laycock, 2010). The procurement of trading capacity often relies on legitimate incomes and savings, occupational roles such as investment fund

managers, and trading accounts established at financial institutions. Their superficial appearance of legitimacy masked under the legitimate occupations and financial transactions records incurs little suspicion when acquiring additional trading capacities (Benson and Simpson, 2019). In facet 2, security measures are procured through the legitimate spheres of economy in the financial services industry, TCSPs and the telecommunication sectors. In facet 3, all social events are of legitimate and/or routine nature as part of the personal lives of actors or business negotiations. Lastly, there appears to be a process of resource improvement over time, reflecting how offenders overcome operational barriers posed by the legitimate environment or law enforcement activities. The findings show that the procurement of additional credits and trading accounts may take time due to the administrative barriers created by financial institutions. Offenders are observed to gradually acclimatise to the ideal level of trading capacity. Procurement of additional security measures and co-offending relationships may reflect responses to the law enforcement activity.

5.5 Scene 3: Instrumental initiation – Tipping

In this scene, tipping describes the illegal communication of legitimate inside information from within the relevant organisations to the outside – extending the pool of individuals of informational advantages. Earlier in this chapter, I discussed the improper entry within an organisation, featuring spaces inside the organisation that constitute the less effectively monitored area – the 'edges'. Thus, this scene similarly features edges where opportunities are not readily available, nonetheless, these edges are placed outside such organisational context via the execution of this scene. Whereas most preventive measures in governing the flow of inside information have an effect within the organisation (FCA, 2015), once the inside information leaves the organisation it may be circulated to dozens of individuals and it becomes difficult to trace (Ahern, 2017).

Asides from the three cases with illegal entry in scene 1, this scene signifies the instrumental initiation of behaviour with an explicit illegal nature. Previous research has studied the relationship underlying tipping and explained tipping using the self-control theory (Gottfredson and Hirschi,1990) from an individual perspective (Szockyj and Geis, 2002). The important analytical focus here is how such illegal extension of opportunities to outside the organisation occurs and under what conditions it is more likely to occur (Cornish, 1994). Most importantly, it poses a question of: To what extent is concealment used to disguise the illegality? This scene is present in 22 cases with two or more offenders. Foregrounding the variation in the execution of this scene, the analysis distinguishes between opportunistic, repetitive, and organisational tipping based on the recurrence, vigilance and setting to characterise the variation.

5.5.1 Facet 1 – Opportunistic tipping

Facet 1 is the 'opportunistic tipping', which is discovered in ten cases (13, 22, 25, 26, 28, 30, 35, 36, 37, 38). It describes the single occurrence of tipping on one single corporate or financial event. The typical situation involves the insider (defined as those executing scene 1) acting as tipper who illegally

communicates the inside information to friends or family members when they encounter the opportunity at work. The opportunistic nature in misusing the information is reflected in a lack of planning and an organic response towards the situational context (Levi, 2008b). In terms of the cast composition, all cases have one insider as tipper, but the number of recipients to whom the tipper communicates the inside information ranges from one to three. The analysis indicates that the tipping functions to lower the risk of detection as the tipper assumes the transaction by the recipient without legitimate entry to the inside is more difficult to be detected (as described by Interviewee 2). Additionally, tipping also functions to enhance the social relations between the tipper and the recipient (Szockyj and Geis, 2002), especially in situations where the tipper has previously encouraged the recipient to invest in the financial instruments related to the inside information. Only in case 36 it is found that the presence of two recipients is a strategy to capture higher illegal profits. This will be explored in the next scene.

The analysis identifies behavioural patterns in seeking *certainty* and *time management* to enable the execution of the next scene. Depending on the relevant occupational and organisational roles, the timing of exposure to the inside information in relation to its public announcement may vary. An accountant directly involved in auditing the business prior to the forthcoming disposal of a department might be aware of it several months prior to its announcement. Unexpected changes of course may occur during this time interval, including acceleration, delay, and abruption of the corporate or financial event. Such *uncertainty* in the occurrence of the event and the timing of its occurrence hence results in endeavours to achieve certainty. Aside from certainty, tipping is eventually used to enable the execution of scene 4, which involves the transaction based on the inside information. A successful implementation of the insider dealing transaction requires that such information is not yet public. Once it is public, the information loses its price-sensitive value dependent on its confidentiality (Fama, 1970). Nonetheless, tippers might only be aware of the inside information a short time before the announcement. In fact, the interval between the entry and its public announcement may often be short (Article 49, Market Abuse Regulation (MAR)). This results in the need to achieve sufficient *time* for the next scene to be executed.

To attain the required certainty and time, tipping often involves a continuous process of communications to constantly update about developments on the corporate and financial event, which mirrors the timing of tipper's knowledge. This can be illustrated by case 28, which is related to a tipping on developments related to the acquisition negotiation. On 11 April, the tipper becomes aware of the potential acquisition by negotiating a bid offer at 7p per share. On the same day at night, the tipper and the recipient meet at a pub. The next day, the acquirer informs that they are willing to accept the increased price. During this period, the tipper and the recipient have been in frequent contact through calls, texts and emails. The same day, the recipient carries out transaction on the relevant shares. Two day afterwards, the target company confirms that it will publicise the bid approach, which is followed by 14 text messages with one containing text 'look out for an announcement tomorrow morning concerning a potential offer'. On 25 April, the tipper joins the meeting where the offer to 8p per share

is negotiated. This is followed by a tipper's email suggesting that the bid has been accepted. In another email, the tipper states '8p looks like the final offer'.

The frequent communication also appears to create a 'time cushion' by preparing the recipient for reacting to the forthcoming entry to the inside. This dynamic can be exemplified by case 25, which is related to the tipping over an oil exploration process. The frequent communication begins in late May and early June through several emails from the tipper to the recipient to indicate that imminent entry to the inside. Later, on 10 June, the tipper again prepares the recipient on the potential entry, and the recipient telephones his broker and says, 'just a warning…can you be prepared to sell our Tower shares?'. On 11 June, the tipper emails another recipient immediately after entering inside, which includes the text 'the bottom line is as things stand RIGHT NOW, there is no oil. Word of course is going to get out…I am still going to unload'. This email is then forwarded to the other recipient, and it says 'note as sent to someone else with some shares. If you agree I believe we sell this am'. Together, these cases variously show the uncertain nature and the limited time frame to react to the inside information, which are in turn related to the behavioural patterns of swift and frequent communications over the process and development of the corporate or financial event.

In relation to the linkages between scenes, eight out of the ten cases are enabled by scene 1 facet 1 (primary entry), while only two cases are of scene 1 facet 2 (temporary entry). This is not surprising given the likely uneven distribution of opportunities to enter the inside as discussed earlier. Further, the execution of scene 2 facet 3 provides the co-offending relationships necessary for the execution of this facet. However, in these cases, this scene represents the first scene featuring behaviour of an explicit illegal nature. Interestingly, the data indicates the absence of an active deployment of concealment strategies to disguise the illegality. On one hand, this may be related to a lack of planning and the opportunistic nature of the tipping. On the other hand, this can be attributed to the underlying setting that provides natural concealment (Felson, 2006). The analysis identifies that the communication often take place via personal phone, emails, or face-to-face at a home, pubs, bars and strerets. According to Felson (2006), such telecommunication space and personal home represents private setting, since these are accessible by offenders only. Hence, these spaces offer natural concealment from the public. Pubs are semi-public and accessible to many but not all. Street is public as it is accessible to all. However, there is little supervision from the owner or the state due to pricy implications or the lack of incentives or resources in monitoring conversations.

5.5.2 Facet 2 – Repetitive tipping

Facet 2 'repetitive tipping' describes the communication of inside information on multiple corporate or financial events. It is executed in ten cases (21, 29, 31, 32, 34, 39, 40, 41, 42, 43). Compared with facet 1, this facet reveals the clear intentionality of offenders looking out for additional opportunities at work (Levi, 2008b). This routinisation and repetition of tipping appears to be connected with facet 2 (temporary entry) and 3 (exogeneous entry) in scene 1, highlighting the role of opportunity. It also

encompasses a greater variation in the number of offenders (from two to nine). The maximum number of tipper and recipients increases to two and seven, respectively. Stable cast composition is identified in five cases (21, 29, 31, 32, 34), which last between three months to two years. That is, individuals reuse previous co-offender relationships in subsequent tipping. The other five cases manifest changes in the tipper and/or recipient involved over a maximum of an eight-year period. The cast stability is likely to reflect vigilance by not trusting the incriminating information with additional co-offenders (Tremblay, 1993). Changes are found to occur often after the first successful execution of the overall insider dealing script (40, 41, 42, 43). The data indicates that this is likely to adjust to the goal of expanding illegal profits by capturing more opportunities and trading capacity (McGloin et al., 2008). Only in case 39, the recipient is replaced in the face of regulatory disruption.

This facet reveals an additional activity before the actual tipping occurs. In cases 21 and 41, tippers are variously found to download the document containing inside information into a USB flash drive (case 41) or print out copies of the document (case 21). This physical storage is then brought out from within the office building to the outside, which is followed by the actual tipping behaviour where this storage is physically handed to the recipient, or virtually updated to online storage (e.g., Dropbox) for data sharing. The latter is likely used to achieve the swift communication in adjusting to the large number of recipients (i.e., six recipients). Such move reveals the flow across different settings (Felson, 2006) from the better-supervised office space to the less-supervised public street or private home where the actual tipping occurs. Considering the condition underpinning such flow, the analysis suggests that it may be an indicator of the insufficient operational knowledge to understand the documents, when the entry is achieved via facet 2 or 4 in scene 1. Moreover, it may indicate that tippers who are compliance officers or print room operators have not been directly involved in the corporate or financial event. Hence, the sending of the documents to the recipients, who are financial professionals, for interpretation to achieve the certainty required.

Aside from the isolated cases involving such additional activity, similar patterns to the frequent and immediate communications seen in facet 1 are also identified in this facet. However, this facet shows a higher level of vigilance displayed during tipping, which indicates the attempts in maximising likelihood of illegal achievement through risk neutralisation (Cornish, 1994). This is reflected in the employment of the previously procured pay-as-you-go mobile phone and unregistered SIM cards in scene 2 facet 2. These concealable communications tools are used in four cases (21, 40, 41, 42). Amongst these four cases, the available data indicates that tipping occasionally takes place within the organisation to immediately communicate the latest update. The prohibition of personal phones within the financial institution is circumvented by using a pay-as-you-go phone that is identical to the work model (case 21). Further, a tipper also uses code names during tipping through text messages (case 31): 'get involved with the Chinese now', 'Today will be the last day we can do this' and 'All looks good on the Chinese front, think we should stock up'. Additionally, vigilance is displayed in switching the

setting of tipping to less supervised environments to neutralise the immediate risk of detection (Felson, 2006). The tipper immediately leaves the office building onto the public street to update the recipient after the work meeting using a personal phone.

The concealment attempt through the choice of setting is further reflected in case 42, which involves the tipping over at least eight episodes of corporate mergers and acquisitions. The surveillance data shows that on one occasion, the recipients 'A' and 'B' are meeting in 'B's private office space. 'A' then walks out of the building and enters a BMW driven by the intermediary (mediating tipping between insiders and final recipients/dealers who do not know each other) that later pulled into London traffic. After one hour, recipient 'A' leaves the car and goes back to 'B's office, during which the conversation is wiretapped by the law enforcer indicating the tipping of information including 'we'll be the only ones getting it'. The target of concealment through such mixing of settings appears to be the identity of the insider tipper and the recipient 'B' through the intermediary tipper and recipient 'A'. This may reflect the role of the brokers as actors positioned between the otherwise unconnected others (Burt, 2005). Parallel to this is the selective disclosure of the identity of tipper by the intermediary (seen in cases 34, 42, 43), who discreetly refer to the tipper as 'my man', 'a good source' or 'a bit cloak and dagger' when communicating with the recipients. This reflects the strategy of using anonymity in illegal cooperation in the absence of pre-existing ties (von Lampe and Johansen, 2004).

The above elaboration of the intercepted conversations through wiretap in private settings (in case 42) reflects the interaction between law enforcement and offenders. It highlights the role of evidence obtained through covert surveillance methods including wiretap and covert listening device (e.g., bug) in exposing the naturally concealed private setting. Insider dealing prosecution largely relies on circumstantial evidence on a number of surrounding circumstances for inferences to be made due to the often absence of direct proof (Rubenstein, 2002). Existing research has emphasised the importance of communication records in reaching the criminal standard of proof when prosecuting insider dealing cases in which the dealer possesses inside information (Duffy, 2009). However, currently in the UK, the FCA is not entitled to intercept communications, nor are intercepted communications admissible in criminal trials on the ground of fairness of criminal prosecutions (Regulation of Investigatory Powers Act (RIPA) 2016). This is substantiated by the interview data highlighting the difficulties encountered during the prosecution, especially of large insider dealing networks:

> [A]ll you can do is use wiretapping as an investigatory tool. And so you can never, even if you've got an insider and a dealer talking about insider dealing on an intercepted phone call, you can't even refer to the fact that there's been an interception [during the trial], let alone the product of the call. And so cases have to be built on circumstantial evidence which is virtually impossible when you've got a big and sophisticated insider dealing ring. (Interviewee 1, Lawyer)

Even in the better supervised organisational setting where surveillance is most commonly deployed, the interview data also highlights that there is a caveat in detecting tipping. This partly relates to the technological and manual aspects of the surveillance system over written and voice communications to identify suspicious tipping within financial institutions. Currently, financial institutions are required to record telephone conversations and other electronic communications such as emails at work and regularly monitor these communications (COBS 11.8, FCA Handbook). The technological challenge is suggested to be the detection of suspicious activity using an algorithm (a system of pre-conceived filter) in red-flagging communication. It is suggested that the wording during tipping does not often match the filter; and when it does raise red flag, they are false positives '98% of the time' (Interviewee 3). Furthermore, the monitoring of voice communications is crippled by the accuracy of translating speech into text due to language and clarity (Interviewee 4). The manual challenge in detecting insider dealing from communication data involves the complexity in technical terms, where interviewee 3 further suggests that 'it maybe…market abuse in some way, but I as the compliance officer won't know that unless I'm really familiar with the market and reading those emails on an everyday basis'.

5.5.3 – Facet 3 Organisational tipping

Facet 3 refers to the 'organisational tipping'. It is identified in three cases (11, 27, 43). The organisational dimension describes tipping by individuals within the organisation as tippers for the organisation in attaining its organisational goals of seeking profits and serving clients (Kramer, 1982). Unlike the previous two facets where tippers are clear about the illegal implications of the tipping with the recipient, the clients of the brokerage and the owner of the investment vehicle is likely to be unclear of the implicit illegal nature. Hence, they cannot be viewed as witting and conscious accomplices. Instead, the tipper displays some deception by merely encouraging them to trade in relevant financial securities without explicitly disclosing the fact that it is based on inside information. Such deception is facilitated by the setting where it occurs. In all three cases, the deception is concealed as part of the legitimate organisational procedure. Case 11 involves the tipper as financial advisor for the investment vehicle who routinely conducts market research and looks for investment opportunities for the beneficial owner of the investment vehicle. Cases 27 and 43 feature tippers as brokers who routinely contact (prospective) clients over phone in selling certain financial securities. It is during these routine organisational procedures in the financial service sector that the inside information is tipped through disguising the illegal nature.

Aside from the actual tipping, it further involves the behaviour of integrating inside information into the otherwise legitimate sales scripts written to aide brokers in the selling of financial securities (cases 27 and 43). This integration process encompasses organisational tipping within the organisation, where the tipper disseminates the inside information to other individuals to ask them to draft the sales scripts, or simply shares the drafted sales script, or relaying it to the management for consent. This integration process indicates an organisational facilitator – the silence and secrecy maintained by bystanders (van

de Bunt, 2010) who are the employees at different levels, from sales staff to the senior broker and management. This can be illustrated by case 27. The data indicates that the tipper drafts and then disseminates the sales scripts to the sales staff through emails covered with text 'Gentleman, this script does not exist'. Further, the tipper gives a presentation to the staff, although different accounts vary on the extent to which the inside information is disclosed. In either case, the email indicates that sales staff are aware of the illegality but remain silent through inaction in the face of knowing (van de Bunt, 2010). Additionally, the directors have also been informed by the compliance department on the incompliance of the sales scripts, but also choose not to break the silence.

Nonetheless, not everyone remains silent. This raises the issue of *how* resistance from bystanders is overcome (Levi, 1998). Establishing collusion to maintain the silence appears to be a way out. Collusion here refers to an implicit cooperation aimed at mutually satisfying hidden needs and/or warding off fears such as avoiding rejection or exclusion, or not being confronted with powerlessness or insecurity (Schruijer, 2018). The element of implicit cooperation is what distinguishes collusion from the explicit cooperation established in scene 2 facet 3 (co-offending relationships), which highlights the passive involvement in merely not breaking the silence rather than displaying law-breaking behaviour. Case 11 shows the attempted collusion following the tipper who encourages the recipient to invest one million on relevant shares. Alarm is raised by the corporate broker who wall-crosses the tipper in the scene 1 facet 2 (temporary entry), which suggests that they are prohibited from trading. In overcoming this bystander resistance, the tipper replies 'Yes, no I know. Hey, we're all friends here'. Here, this sentence appears to reflect the intent to trigger fears of being excluded from the established relationships that are vital in the context of corporate financing in the financial service industry (Reichman, 1993). Alternatively, the tipper may simply conceal the sales scripts of inside information from bystanders to circumvent the possibility of resistance. The tipper in case 27 skips compliance procedures requiring approvals of sales scripts before they are used.

Silence through inaction by employees is one aspect. I find that silence may also be maintained through the concerted ignorance by institutions' clients who raise no suspicions (van de Bunt, 2010). In case 27, the data points out that there are indeed complaints filed by clients. Nonetheless, the complaints are not associated with the sale events of organisational tipping over specific company shares. Instead, they are shown to be related to the purchase of other unregistered stocks of US companies that cannot be sold back for one year. The available data does not allow a clear understanding of the extent to which clients are aware of the presence of inside information during the sales call. However, it can be observed from the recorded sales calls that certainty and confidentiality regarding the corporate event is revealed, such as 'they're meant to be releasing some news to market in about two days…which should give it a kick up' and 'we could expect the price to jump up substantially…we know they're in negotiations with, well I can't give you the name…'. No available data concerns narratives by clients regarding this sales event. It can only be concluded that it is likely that there is a 'do not know' type of ignorance, which is

reflected in the absence of the will to ask difficult questions as long as a financial return is generated from the transaction based on the inside information. Data points out that complaints are only raised in the situation of financial losses.

With regards to facilitators, organisational tipping in case 11 would not have been possible without the initial entry through the pre-marketing activity (scene 1 facet 2). It is facilitated by illegal entry (scene 1 facet 4) in case 27 and repetitive tipping (scene 3 facet 2) in case 43. Further, the organisations, as an investment vehicle or financial institutions such as brokerage, provide the necessary cast required in this facet, including the employees as tippers and clients as the recipient. In understanding the organisational facilitators, this facet preys on the routine business procedures in contacting clients to sell financial securities. It also includes the everyday organisational strategy of illegitimate nature (Huisman, 2016) as the personal criminal lifestyle in Hancock and Laycock's (2010) terms. Such *organisational lifestyle*, independent of the primary illegal act of tipping, appears to facilitate the primary act by equipping offenders with skills in deceiving clients. This is reflected in case 27. The brokers routinely use a sales manual referred to as 'the bible'. This manual sets out sales strategies which in fact are found to distort and mislead the extent and quality of market research to sell financial securities. One example is its section 'Good Lines in relation to the Stock', which includes 'This is a Great stock…the management is top drawer…is massively undervalued!'.

5.5.4 Summary and discussion

Overall, four main themes have emerged from the analysis of scene 3. Firstly, there is a thin line between legal and illegal financial market behaviour. I argue that tipping is a market behaviour of actors attempting to mitigate the inherent information asymmetry between relevant organisations and retail investors in financial markets. Most importantly, illegal tipping resembles legal market behaviour in the legitimate 'market for financial information' (Barker, 1998; Holland, 1998). This market for information includes: (1) legitimate pre-marketing activities underpinning scene 1, facet 2 where inside information is legally transferred from financial institutions to investors, and (2) legitimate production and exchange of 'outside' information through external research and analysis that are carried out by financial analysts at financial institutions and information processing firms who have sophisticated modelling techniques and financial knowledge (such as Reuters) (Holland, 1997). These two practices are considered as legitimate procedures, which are justified based on enhancing informational efficiency and liquidity in financial markets (Ellul and Panayides, 2018). Essentially, this information market serves the legitimate demand for the up-to-date information for risk aversion (Tversky and Kahneman, 1992). As shown in facets 1 and 2, tipping reflects the same endeavours to achieve certain information about the market developments.

Secondly, the findings indicate the facilitating roles of various legitimate settings for tipping. These settings are characterised by little supervision, and may include routine social settings such as having an ordinary conversation at home or meeting for a pint at a London pub after work. Whereas intrusive

surveillance tools may enhance the supervision of these settings, offenders adapt by employing more elaborate concealment strategies, thus generating new facets in the crime script (Cornish, 1994). Thirdly, in facet 3, the findings highlight the illegitimate organisational strategies and the mechanisms of secrecy and silence used to maintain illegal activities, as depicted by van de Bunt (2010). These mechanisms are found to be supported by employees' concealment, inaction in the face of knowing and collusion established through mutually satisfying hidden needs and/or warding off fears, and clients who do not ask difficult questions unless their financial interests are troubled. Forth, it appears that the initial opportunity in scene 1 influences offenders' behaviour. When the entry is obtained illegitimately through scene 1 facet 4, the offenders often require additional activities to decode the documents as they do not comprehend the documents. Primary entry (scene 1 facet 1) is often associated with opportunistic tipping (scene 3 facet 1) whereas temporary or exogenous entries (scene 1 facets 2 and 3) enable repetitive tipping (scene 3 facet 2). Repetitive tipping is often facilitated by the contingent acquirement of concealable communications tools (scene 2 facet 2).

5.6 Scene 4: Activity – Transaction

The script illustrated so far, has presented scene 1, which signifies various entries to the inside within the organisation – the generation of opportunities through the *corporate and financial processes* of the legal financial markets; scene 2, which describes the procurement of resources needed to committing insider dealing; and there is scene 3 about how the entry may be extended to outside the relevant organisations in the financial markets, through illegal tipping. However, it is in scene 4 – the concrete doing of insider dealing – where the opportunity is exploited for illegal profits. It highlights the advance integration of inside information back into the financial market prior its public announcement, through the *transaction processes* in the financial markets.

This scene separates three facets foregrounding the financial instruments and nature of the transaction of insider dealing. It includes shares, derivatives, and organisational trading. Like scene 2, the facets are distinguished and named based on *what* product is traded and *who* trades it, rather than the *how*. However, this decision is based on the analysis which shows that the *how* (i.e., the procedure and mechanisms used in the transaction) is much conveyed by the type of financial instrument exchanged, and the type of investor executing the insider dealing transaction (whether retail or institutional). In addition, variations in facet requirement, resources, activities casts and settings are also observed within each facet.

The following paragraphs describe these three facets and illustrate how the behavioural routines and legitimate lifestyles in financial investment facilitate the execution of this scene and, how insider dealing fits with the specific type of illegality in Beckert and Dewey's (2017: 5) typology of illegal markets where 'the production, exchange, and consumption of the products are in principle legal, but actors violate existing regulations during the production or the exchange process'. In other words,

insider dealing involves the illegal transaction of otherwise legal financial securities – parasitical on the legal financial market architecture of transaction processes.

5.6.1 Facet 1 – Buying/selling stocks (Individual)

23 out of the 42 cases include this facet 1 'buying/selling stocks'. The transaction involves stocks listed either in the main market of the London Stock Exchange (LSE) or the Alternative Investment Market of the LSE for smaller capitalised companies, and in one case, in other European stock markets (36). Regarding the recurrence of this facet, there are only three cases which involve insider dealing transactions on between six to nine corporate or financial events (14, 31, 39). These three cases manifest similar linkages with previous scenes and facets. That is, it typically involves temporary entry (scene 1 facet 2) of a single offender who then repeatedly tips inside information (scene 3 facet 2) to their friends and family who then act as dealer in this facet. The other 20 cases do not see repeated execution of this facet. This restriction in repetition appears to be mainly attributed to the limited opportunity through the primary entry (scene 1 facet 1) in 17 out of the 20 cases. In cases 22 and 23, this is restricted by pre-marketing activities (scene 1 facet 2) that only enable the entry to the single company stock. In case 36, although there are more opportunities due to the temporary entry through the occupation as a corporate broker (scene 1 facet 2), it only sees insider dealing on one corporate event. This may indicate a lower intent, or the situational motivation of financial difficulty as indicated during the criminal trial.

An important finding is that the dealers generally have previous experiences in stock market transaction in the relevant market where insider dealing occurs. Most dealers regularly carry out stock transactions, while in cases 1 and 36, the dealers are found to trade less regularly but are holding stocks. The legitimate lifestyle in stock trading reflects the argument on how scripts are embedded in behavioural routines and lifestyles (Cornish, 1994). This embeddedness can be understood as the initial preparations to take advantage of the opportunity available (Cornish, 1994) by providing the necessary trading accounts obtained through scene 2 facet 1) for legitimate stock trading to carry out the illegal insider dealing transaction. It is also understood as providing the motives generated out of the long-lasting established routines (Cornish, 1994), where dealers constantly carry out market research to look for investment opportunity. To exemplify this, the dealer in case 31 admits in the trial that he is 'completely addicted' to following the stock market and suggests that 'it is a bit like Facebook'. Then, he argues that his trading is based on 'internet research' instead of the inside information passed on from the tipper.

With regards to the behaviour, it is known that the execution of the insider dealing transaction mirrors the legitimate stock transaction pattern in buying on good news in expecting the stock price to rise or selling before the bad news released decrease the stock value (Szockyj and Geis, 2002). The findings certainly confirm this (7 cases of selling, and 19 of buying). Aside from the trading account and familiar financial institutions, the pre-existing stockholding in facet 1, scene 2 enables the sale, with credit transferred to the trading account to enable the buy. Further, the analysis indicates that this is a process

with more than just a single transaction similar to legitimate trading. The buying on good news is the opening position based on the inside information, whereas the actualisation of the profit depends on the closing transaction after the stock price rises following the public announcement. Some offenders may choose to hold a long position in expecting the stock price to continue rising, rather than selling it immediately to benefit from the imminent price swing. Similarly, in the sale, offenders may or may not place an order to buy the same stocks at a lower price to build back the long position (cases 20, 22, 23).

Furthermore, in the process of insider dealing transaction, the analysis indicates an additional behaviour of communication between co-offenders to instrumentally coordinate the transaction. Such communication is observed between tippers and dealers in two (26, 39) out of seven cases (26, 28, 39, 31, 34, 36, 39), which involves a division of labour where the dealer carries out transactions on behalf on the tipper for joint benefits (reflected in the transfer of profits in the next scene). It aims to guarantee the completion of the transaction, both the opening and closing position, to actualise illegal profits within the limited timeframe following the tipping. For instance, in case 26, the dealer places the buy order after scene 3 (tipping), and then telephones the tipper immediately upon the buying. The dealer again informs the tipper right after completing the sale. In case 39, which includes transactions over at least eight corporate events, the opening transaction is also found to occur immediately after scene 3 of tipping. The tipper is further suggested to closely monitor the transaction, where the tipper sends an email to the dealer revealing his concerns over whether he has yet closed out the position as arranged. This highlights the role of communication in guaranteeing the linkage between scene 3 (tipping) and scene 4 (transaction).

As suggested earlier, this facet often involves a pre-existing trading account used for legitimate stock trading, which reflects the effects of routinisation in lifestyle extended to illegal activities. Nonetheless, innovation and variation from routine legitimate stock transaction is discovered in the use of additional trading capacity procured in facet 1, scene 2, to enhance illegal profits (Ekblom and Gill, 2016). This includes the abnormal trading pattern, which is substantially different in size from the previous legitimate stock trading pattern of retail investors used to trade in a more modest and reasonable size, knowing that there is risk of financial loss. The analysis identifies that several cases involve a considerable stock order that contrasts greatly with previous trading patterns, which is backed by the certainty in the stock price movement based on the inside information. For instance, case 26 shows that the dealer invested a total of £42,522.70, which represents his entire savings. The dealer admits to the law enforcement that he is 'absolutely certain' about the increase in the stock price, and that he feels there is 'no risk' and describes it as a 'racing certainty'. Similarly, case 36 shows that the dealer invests more than €1 million that differs significantly from previous 'low level' investment size because of the certainty about the forthcoming acquisition.

With regards to the setting, insider dealing is parasitical at the legitimate financial market architecture (Beckert and Wehinger, 2013). The interface between the dealer and the legitimate financial market

embroils the market exchange/transaction processes (Benson and Simpson, 2019) that the dealer preys on. The question that remains unanswered is: how are these processes guarded by regulatory oversight circumvented by dealers while executing the transaction? The main oversight over stock trading is maintained by the organisation that provides various entry routes to the inside via scene 1, and the financial institutions that provide broker services to the dealer in mediating the transaction process. The former maintains organisational compliance procedures, such as an insider list, stock watch list, and monitoring the stock trading by employees. The monitoring typically involves the requirement on employees to seek approval from the compliance department for relevant stock transactions, report regularly their stockholding, and using specific brokers designated by the organisation (see FCG 8.1, FCA Handbook). The latter refers to the requirement to brokers who are subject to regulatory requirement to report all transactions and raise any suspicion of insider dealing – the suspicious transaction and order reports regime (STORs) (Article 16, MAR).

These oversights do not appear to pose significant difficulties for the offender to be circumvented. The dealer may simply hide the trading from the organisation through incompliant non-disclosure and book the transaction into an alternative account with a different broker (e.g., cases 2, 3). Such concealment is typically used by dealers with a primary entry. The other common way to bypass suspicions from the organisation and the financial broker is to delegate the insider dealing transaction to third-party dealers, thus circumventing the monitoring procedure on organisational insiders (case 25, 26, 28, 30, 31, 34, 38, 39), which is enabled by scene 3 (tipping). The difficulty in prosecuting such delegated transaction is obtaining evidence to establish a direct link between the insider and the dealer in proving the inside information (Interviewee 2). Furthermore, the use of online trading accounts, alongside the technological development of financial transactions, appear to facilitate insider dealing by making it harder to trace the accounts (Interviewee 2). In several cases (e.g., 12 and 26), the dealer places the transaction via online trading account instead of telephoning brokers.

In the absence of scene 3 (tipping), findings indicate that regulatory oversight may be diminished by the financial broker who becomes a 'crime promoter' (Clarke, 1999). In case 23, the broker is informed by the dealer that the transaction may be related to the inside information through pre-marking activities. Nonetheless, the broker facilitates the transaction by, on one hand, telling the dealer 'best to say nothing on that one' and 'you're not breaking any rules by that. That's fine basically' and on the other hand, failing to report the suspicious transaction to the authority. Other resources and activities are adopted to circumvent the monitoring procedure or masking the dealers' identity. In using third-party trading accounts (previously procured in scene 2), it is observed that dealers impersonate the third-party to escape suspicions from the broker while placing the transaction (case 14). It may also involve a transaction in an overseas exchange in an overseas location (case 36). The presence of such transnational arrangement, whether intentional or not, is suggested to create barriers for law

enforcement activity (Lord et al., 2020b), thus undermining the instigated 'credible deterrence' strategy mentioned in Chapter 2. This is substantiated by the interviewees:

> [O]verseas trading… [makes it] harder to link the trading accounts to the person who may have inside information. And then if you trade out of the jurisdiction as well, that doesn't prevent the FCA from prosecuting you because the territorial scope of the Act is relatively wide. And as long as it's a stock that is listed on a regulated market then you can prosecute it. But it's harder to detect… (Interviewee 1, Lawyer)

The other main mechanism of transaction oversight is the market surveillance on the financial market. This refers to the use of technology in monitoring unusual stock price movements to detect insider dealing, where stock prices run up prior to public announcement of inside information may indicate insider dealing. The technological monitoring of UK financial markers is maintained by the FCA and financial brokers (FCG 8.1, FCA Handbook; Rider, 1978). The market cleanliness statistics produced annually by the FCA publicises this. In upsetting the market surveillance system, the dealer may also deliberately separate the selling order into separate, smaller transactions, in order not to create a price movement large enough to trigger regulatory attention. While some offenders may place a considerable order to enhance criminal profits, as mentioned earlier, a trade-off is observed in some cases in which smaller transactions are placed to secure secrecy over criminal profits. In fact, it is found that even a large order is placed, share price may not be affected, indicating the intrinsic weakness of the market cleanliness data and algorithm in detecting insider dealing (Alexander, 2013). These are reflected in case 14 and 25. The interviewee illustrates this by using case 14 as an example:

> For nine years he got away with it. And what he was doing was trading in relatively small amounts...The evidence we had showed that he was actually sometimes even trading sitting at his desk [at the financial institution] ...we were able to match the IP address that he used to make the internet trades… the amounts of money each time he was making were a few thousand pounds here, a few thousand pounds there… (Interviewee 1, Lawyer)

Lastly, there is a question regarding whether such oversight is sufficient for prevention, as mentioned in Chapter 2. The interview data highlights issues regarding, firstly, the effectiveness of organisational compliance procedures, and secondly, resourcing issues related to FCA's investigatory capacity. The first point can be illustrated by the account of interviewee 4, who suggests that personal account dealing is a 'blind spot', where the compliance procedures 'spend a lot of time tracking basically honest people who forgot to tell us a deal'. In other words, it appears difficult for the compliance function to prevail over purposeful concealment. All interviewees agree that FCA has greatly enhanced the market oversight function in detecting insider dealing for deterrence effect. Nonetheless, interviewees 1, 2 and 3 raise the issue over the limited resources of FCA for investigating all the STORs filed by financial institutions and the accounts linked with all transactions associated with the unusual price movements

detected by the trade surveillance system. Interviewee 4 further suggests that the enhanced enforcement strategy (in opening investigations once there is suspicion) greatly increases cases under investigation, but this is not matched with sufficient resources in allowing to see through all cases.

5.6.2 Facet 2 – Short selling and derivatives (Individual)

Other than buying or selling stocks, insider dealing transaction may also be carried out through facet 2 'short selling and derivatives'. Short selling is a legitimate transaction order involving the sale of corporate stocks which the dealer does not own at the time of the sale. Such transaction procedure is misused to carry out insider dealing transaction in case 2 over two negative corporate events. In facet 1, the dealer typically sells existing stockholding before the bad news. In this facet, even without pre-existing stockholding, the dealer is able to capitalise on the negative news. This involves mirroring the legitimate short selling procedure where the dealer, in case 2, first contacts his broker to borrow stock to implement the sale knowing that the share price will fall after the public announcement. In total, he short sells 10,000 shares with settlement dates set later than the announcements. Following the announcement, the dealer closes out the short positions by buying the stock at the declined prices to actualise illegal profits from the price difference in the two orders.

This facet also describes insider dealing carried out through transactions for derivative contracts, including CFDs (cases 7, 16, 21, 40), spread bet (20, 29, 40, 41, 42, 43) and option (16 and 37). A total of 12 cases involves this facet. Whereas short selling still involves the transaction in corporate stocks, derivative contracts are the more complex financial instrument, whose value is derived from the value of the underlying securities (which are corporate stocks in all known insider dealing cases). It enables risk exposure to the price movement of the underlying stock without having to own any underlying stock from which the price derives. It is often used legitimately for hedging against risks or speculation on the value of the stock (Fabozzi et al., 2014). The latter means that it is used to bet on either the rise or the decline in the future value of the stock. Such legitimate product structure appears to make it an appropriate if not ideal avenue to carry out insider dealing transaction, by enabling insider dealers to profit from the certainty over stock price movement direction.

The facilitative condition associated with executing this facet can be generally understood through the attractiveness associated with short selling and derivatives transaction processes (Felson and Eckert, 2018). In terms of short selling, it enables the dealer to profit from negative inside information, rather than just avoiding losses as in facet 1. 10 out of the 11 cases involve derivatives that appear to be attractive for insider dealing because it can capitalise on both the rise and fall of share prices. Most importantly, they provide a greater leverage to receive potential larger returns than direct dealing in corporate stocks. This is due to the much lower initial investment costs in removing the need to pay for the full value to purchase the underlying corporate stocks. In insider dealing, derivatives are essentially used as bets with no risk due to the certainty over the future price value based on the inside information.

The third benefit is related to tax, where CFD is not subject to stamp duty and spread bet incurs no stamp duty nor capital gains tax on the profit.

Nonetheless, if it is this attractive, why do not all dealers execute this facet 2? This directs us to the potential barriers. Short selling and derivative contracts have been suggested to be risky, and it is generally understood that these are used more commonly by experienced and knowledgeable market participants for risk hedging and speculation, and less commonly by retail investors (e.g., Christophe et al., 2004). Nonetheless, the analysis indicates that some dealers have prior experience in short selling or derivatives. The insider dealers might also work as financial professionals, hence regularly deal or sell derivatives (e.g., case 43). These experiences provide skills and knowledge to execute facet 2. Firstly, they provide the ready trading account with the familiar brokerage, and hence also the legitimate outlook of the dealer. Secondly, they provide the cognitive resources (Ekblom and Tilley, 2000) – the knowledge of the techniques for carrying out transaction in the more complex derivative products. This further strengthens the argument on the embeddedness of insider dealing in behavioural routines and legitimate lifestyles (Cornish, 1994).

The execution of this facet manifests a greater variation, in terms of the cast and resources, than the previous facet. Aside from cases 2, 7, 16 and 20 (with lone offenders), the other eight cases involve multiple offenders, with the number of dealers executing this facet ranging between one to seven. The increasing number of dealers appears to indicate the greater access to trading capacity – the procurement of trading capacity through co-offending relationships (Tremblay, 1993). This can be seen, for example, in case 41, which suggests that the dealer provides access to over 130 attorney accounts at multiple brokerages to optimise illegal gains, and in case 42, where one of the dealers provide millions in investment capital. Relevant to dealers' providing such trading capacity is their routine – 'prolific betting' in the stock market through derivative contracts (cases 21, 40, 41, 42) and in other venues, such as horse betting, highlighted in the case file. Moreover, their trading capacity also provides motives for the use of derivatives to bet on the certainty based on inside information provided by tippers.

The more sophisticated arrangement for concealment, including complex corporate structure and attorney accounts procured in scene 2, are found to be more meticulously deployed in four (16, 21, 36, 41) out of the 12 cases. This contrast with the previous facet that sees more use of simply third-party trading accounts, whereas one case involves the use of offshore arrangements that also feature in facet 2. Regarding the use of offshore corporate vehicles, the dealer may, for example, instruct the nominee company to place the order to conceal the beneficial ownership of the trading account. Such instruction is also carried out through a pay-as-you-go phone (case 16). Nonetheless, a number of cases, similarly to the previous facet, do not deploy concealment during the transaction process. This may be due to the legitimate outlook of the dealers for them to easily blend in the transaction processes in financial markets due to the legitimate and routine behaviour mentioned earlier. However, as Cornish (1994) notes, such patterns may evolve to see more concealment to adapt to developments of the regulation.

In terms of the behaviour, the analysis shows that it encompasses activities between the placing of opening and the closing position. The dealers may adjust or cancel orders, which is dependent on the tipping process in scene 3. In seeking for the certainty that the corporate and financial events are going ahead, dealers may increase the bet to enhance the illegal performance. If it becomes certain that the event is ceased, the dealer may cancel the opening position. For instance, in case 43, three out of the seven events involving an insider dealing transaction indicted are ceased, resulting in the cancelling of the transaction. Additionally, this facet is often connected with a temporary and exogenous entry (8 out of 11 cases). All these eight cases manifest the recurrence of the insider dealing transaction over a duration of between one and four years. This appears to indicate that cases with an entry enabled via occupations at financial institutions might also be more likely to use the complicated derivative products in repeatedly executing the insider dealing transaction. This might be an effect of the search for resourceful co-offenders (Tremblay, 1993) with relevant financial backgrounds. Lastly, cautions shall be applied that such a finding may merely reflect emphases in law enforcement activity. I will return to this point in the Chapter 8 Conclusions.

5.6.3 Facet 3 – Organisational transaction

Facet 3 'organisational transaction' describes those cases in which the insider dealing is carried out in an organisational context. It is featured in eight cases. The transaction may involve orders of buying, selling, or short selling, in either a stock market (11, 17, 18, 19, 33, 43) or bond market (cases 8, 24). The typical scenario is that the asset management companies, such as hedge fund, are wall-crossed via scene 1 facet 2. The dealers at the asset management companies who are wall-crossed may or may not relay the inside information to colleagues who then execute the transaction in an organisational account based on the inside information, or directly execute the transaction themselves. This indicates the short investment horizons that have been found to be conducive to insider dealing for quick market returns (Fu et al., 2020). Only in case 18, the dealer is a retail investor who is wall-crossed. He simultaneously holds corporate directorship at another company and instructs the company to buy the relevant stock based on the inside information. These six cases variously reflect the organisational dimension in carrying out insider dealing transactions on behalf of the organisation (Reichman, 1993). The more peculiar cases are 11, 27 and 43, which involve financial brokerages' clients who carry out transaction based on the inside information tipped by the organisations via scene 3 facet 3, which indirectly benefits the organisations. In these cases, clients either purchase stocks or derivative contracts.

The analysis highlights that the presence of several criminogenic organisational and situational properties in financial institutions (Huisman, 2016) may be conducive to the insider dealing on organisational accounts or by the organisations' clients. The data indicates that all these cases share the presence of commission-based salary, and occasionally, rewards for high sales, and sanctions including dismissal for failing to meet a sales target, reflecting the broader financial market structure in facilitating financial offences (Reurink, 2018). For instance, in case 11, the financial advisor receives 40% of the

profits from transactions by the investment vehicle. In case 19, the dealer and his family are found to be the beneficiaries of the organisation through the corporate structures arranged, where he and his family receive substantial profits linked with the organisational fund where the insider dealing occurs. These mechanisms are used to persuade employees to carry out employers' actions by aligning their interests, which have been suggested to shape illegal behaviour by employees in acting in the interests of the organisation (van de Bunt, 2010). Furthermore, case 43 further indicate the conducive conditions of the brokerage firm experiencing loss of clients and profit downturns (Vaughan, 1983). The data shows that offenders, who are the directors of the firm, seek to line their pockets before closing the firm. Lastly, the setting of organisational transactions may diminish the oversight maintained by the broker, where asset management firms shown to be entitled to direct market access without the broker acting as the intermediary.

5.6.4 Summary and discussion

Conceptually, the findings further highlight that insider dealing can be best understood as a market-based crime by disentangling the legal and illegal practices in financial markets. This is illustrated in Figure 5.3 below. In scene 1, the access to price-sensitive inside information within relevant organisations – creating the legitimate information asymmetry – can be both legal and illegal. In terms of the legal entry, regulations justify this asymmetry and stipulate rules to ensure that the financial market remains a 'level playing field'. These rules include ensuring that the information remains confidential within organisations and stipulating that no insider can use it for competitive advantages over those who do not know about it. Illegal practice (coloured in grey) may begin in scene 1 as mentioned earlier. In scene 3, the practice is purely illegal when this inside information is leaked outside the relevant organisations. Further, it is in scene 4 where the 'level playing field' is illegally disturbed – dealers exploit the legitimate informational advantage that is acquired legitimately or illegally ('tipping') to gain competitive advantages and profit through illegal dealings in the legal financial markets (Beckert and Wehinger, 2013). However, both the legal and illegal transactions take place through the same legitimate financial market transaction processes, which makes the illegal insider dealing transactions difficult to be detected. According to the economic theory described in Chapter 3, these insider dealing transactions 'integrate' the inside information back into the financial markets prior to its scheduled public announcement date. Such integration is illegal as it violates the laws in governing the legitimate operation of financial markets.

Legal and illegal practices in financial markets
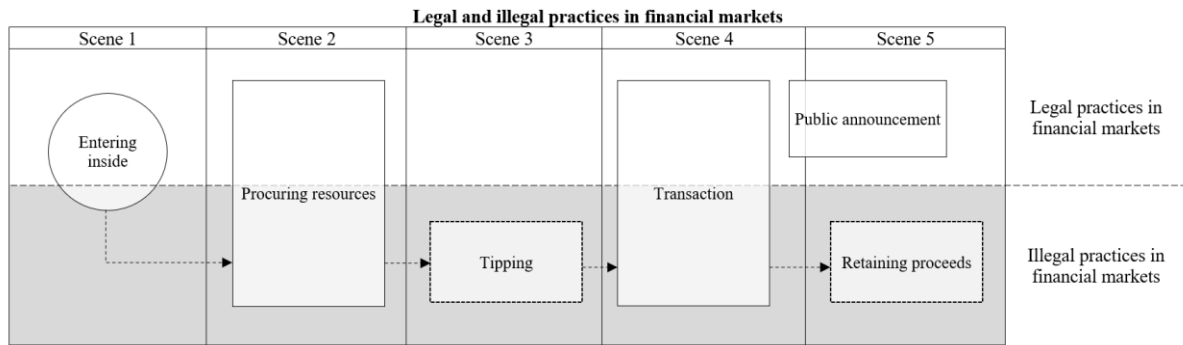
Figure 5.3 Illustration of insider dealing metascript and the parallel legal practices in financial markets

The empirical findings of facet 2 (i.e., the use of more advanced trading strategies (short selling) and financial instruments (derivatives)) are important in highlighting the interaction between the financial market developments and illegal practices. This facet can be viewed as the most innovative way to carry out insider dealing (this crime is traditionally carried out through ordinary stocks) which is attractive to offenders as it is more profitable and concealable (Alexander, 2013). This reflects the argument of how financial misconduct is facilitated by the increasing complexity involved in financial market transactions, which are driven by the rapid technological, legal and financial innovation and an ever-widening menu of financial products (Reurink, 2018). This is also important as it highlights the potential for new sideway contingent facets (Cornish, 1994) using other new financial products when they are developed in the future. Moreover, the findings further identify the important micro-level facilitators of individual investment lifestyles that equip offenders with legitimate appearance, the 'know how' and the pre-established co-offending relationships to execute the more advanced transactions. Facet 3 (organisational transaction) further supports existing literature on the criminogenic conditions of financial institutions, such as the incentive structure of rewards for sales targets (Reurink, 2018) and the organisational pressure for profit-seeking (Vahghan, 1983; Reichman, 1993).

5.7 Scene 5: Post-activity – Retaining proceeds

Scene 5 is the final scene in the insider dealing script. This scene describes the post-activity in exiting from the illegal activities (Cornish, 1994; Thompson and Chainey, 2011). It encompasses activities that serve the instrumental goal of retaining the illegal proceeds (Chiu et al., 2011) generated from the scene 4. The analysis distinguishes between two key facets in highlighting the extent to which offenders seek concealments. Facet 1 is the transfer and division of the illegal proceeds. Facet 2 is the post-security measure in disguising the proceeds.

5.7.1 Facet 1 – Transferring and dividing proceeds

For analytical purposes, facet 1 'transferring and dividing proceeds' is defined as the illegal moving of proceeds under main purposes of either personal spending and/or paying co-offenders. From a legal

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perspective, facet 1 encompasses activities defined as money laundering by involving any handling or processing of the criminal proceeds as modest as putting it in a bank account (see Proceeds of Crime Act (POCA) 2002). The analysis identifies that the moving involves the transfer from trading accounts to current accounts to enable any following spending. In cases that generate a relatively larger sum (between half to at least ten million pounds), the proceeds are found to be spent back in the legitimate economy, including real estate, betting, business activities and luxury lifestyles. For instance, case 39 sees that the insider dealing transactions generate around £590,000, all of which is invested in a string of properties in London. For cases with recurrent insider dealing transactions (regardless of the sum), the proceeds may (partly) stay in the trading account as the preparation of trading capacity in scene 2. Some offenders are found to deposit the proceeds to current accounts (e.g., case 2, with £3,000 profits). However, there is not sufficient data to show exactly how offenders spend the proceeds in all cases.

This highlights the facilitators including the ease with which the legitimate statuses and appearances of offenders enable them to blend into most of the commercial areas without arousing suspicions. Considering the facilitators/constraints for spending illegal proceeds in the real estate market, the estate agency is required to conduct customer due diligence procedures (The Money Laundering and Terrorist Financing (Amendment) Regulations (MLR) 2019). The illegitimacy is disguised under the legitimate income from work or financial investments, and such disguise appears to easily camouflage the illegal origin of the payment. This is especially relevant given the results of a recent study that highlight how customer due diligence in the real estate market appears to be applied inconsistently in the UK (Zavoli and King, 2020). The one potential risk of moving of proceeds from trading accounts to deposit accounts is the potential of incurring suspicions from financial institutions when the amount is abnormally large. However, findings show that some brokers fail to alert the law enforcement even when they notice the significant return from a single transaction (e.g., case 36), indicating the limitation of control system that facilitates this facet.

The analysis further identifies that the moving involves the division of proceeds between co-offenders. How proceeds are divided depends on the co-offending agreements, and how they cooperate in the insider dealing transaction, which are established when they agree to co-offend in scene 2 facet 3. In case 26 and 38, the dealers use their own finances to carry out transactions on the agreed amount on behalf of the tipper, in addition to transactions by the dealers themselves. This situation involves the transfer of the proceeds derived from the agreed transaction, where the dealers retain the proceeds from their own transactions. The other way is more common, where the dealers carry out joint illegal investments. And then the tippers and dealers would divide the proceeds on the agreed percentage. Between a pair of tipper and dealer, it may be half and half (cases 30, 32, 36, 40), two-thirds and one-third (case 34), or two-fifths and three-fifths (case 40). There are interesting cases that are more 'loosely' organised, where insiders may tip two dealers who are not aware of each other's existence (e.g., case 40). Then the insider is able to retain the largest gains by soliciting profits from two dealers.

In the cases where there is a proceed transfer from dealers to tippers, it may be carried out through different methods with various levels of disguise. It may be simply conducted through the use of a bank cheque (30) or direct bank transfer (34). Some may involve the use of a third-party account (26) or maiden account (39) to disguise the ownership of the proceeds. The more clandestine payments might be carried out by cash and payment in kind to avoid regulatory attention from banks with money laundering controls, which is more common in cases with a relatively large sum (40, 42). For instance, in case 40, the dealer first withdraws cash, and then meets with the tipper in a pub nearby his workplace in central London for the handover. In avoiding the banking system to lower detection risks, the proceeds are transferred through high value commodities, such as a luxury holiday or car. Case 42 included similar types of payments such as property, holiday, and home renovations, cash in a curry restaurant, and on one occasion, the dealer 'A' buys dealer 'B' a Bentley car. The earlier discussion on the low supervision in semi-public settings, such as restaurants and pubs, is relevant here in facilitating the illegal proceeds transfer, in addition to other spending-intensive commercial areas such as travel agencies.

Cases involving the division of proceeds between co-offenders reflect the perspective of co-offending as a social exchange guaranteed by instrumental payments in forms of different material rewards for services or resources that make the offence possible (Weerman, 2003) or even optimise the perpetration of future re-offending (Tremblay, 1993). For insider dealing, the services or resources that make the offence possible include, for example, the entry to the inside, trading capacity and laundering services in other scenes and facets. In other words, the payments are executed to instrumentally guarantee co-offending relationships established in scene 2, and thus ease the execution of the overall insider dealing script. Other cases indicate the absence of this facet, and the data indicates that it is most likely due to the element of helping friends and family (13, 29, 31), which reflects the immaterial social rewards for such as affection or approval (Weerman, 2003). For example, case 31 involves a scenario in which the dad is 'soliciting tips from his son' because of his 'almost addiction' to the stock market, and the son is 'helping out a family member' (Interviewee 1, and case file). In case 14, the proceeds are all left to family members to 'impress' them.

Furthermore, it is observed that notetaking is a common practice to document transactions and associated profits generated after carrying out scene 4 and to calculate how to divide the proceeds. These notes often include sections on how to divide the proceeds between co-offenders. This is found in the largest cases (39, 41 and 42), which included between four and nine co-offenders. These notes are variously taken in either note pads physically, or military-graded storage or floppy disks hidden physically at home. Several cases further indicate the lack of proceeds division among co-offenders merely co-participating in the transaction without a division of labour (cases 22, 23, 35, 43), where the payments are already generated from each of their own transaction. In case 43, the data indicate that the insiders and the dealer have the agreement of dividing the proceeds equally. However, the case file

itself does not provide evidence of such transfer following the insider dealing transaction. A caution is noted here that there is missing data in cases 28, 37, and 29 regarding this facet. It is unclear whether the proceeds are divided between co-offenders and whether there is an agreement on how to divide the proceeds.

5.7.2 Facet 2 – Concealing proceeds

While facet 1 encompasses activities that reflect some disguise through the use of third-party bank accounts or the use of spending-intensive commercial areas to avoid large transfers that may alert regulators, this facet 2 'concealing proceeds' describes the activities carried out solely for the purpose of concealment of the proceeds before the spending or division among co-offenders. Compared to facet 1, it highlights a greater degree of intentionality in disguising the illegal origin of the proceeds. In other words, it may further reflect the analytical construct of money laundering, since it involves the actual sanitising of the proceeds of illegal activities so that they appear to be acquired legitimately (Levi and Reuter, 2006). A rather sophisticated scheme is identified in case 42, where the proceeds from scene 3 are moved to offshore bank accounts associated with shell companies registered in Panama and, to accounts around the world, in breaking the financial trail. In moving the large sum, false invoices are provided to the Swiss banks where the accounts are registered in order to maintain superficial appearance of legitimacy and disguise the illegal origin of the fund. Funds are plumed back to the legitimate luxury watch business owned by the offenders.

In case 13, the dealer makes four separate transfers of the illegal proceeds to a third-party account to avoid confiscation, which happened two months after the insider dealing transaction when he is contacted by the FSA for the investigation. This highlights the situational context of regulatory investigation in promoting the execution of this facet. Such mechanism is further identified in promoting other activities to disguise the proceeds. For instance, in case 3, FSA raises an enquiry on the relevant transactions three months after the sale order, which prompts the dealer to write to his broker to change the trading account ownership to a third party, in an attempt to disguise the proceeds, by falsely stating that the change is for tax reasons. However, a caution should be noted here that the lack of concealment activities following the insider dealing transaction might be caused by the prosecution strategy. Interviewee 1 notes that 'if the allegation is insider dealing and you've got the insiders and the dealers [on trial], you'll usually focus your indictment on that rather than tacking on money laundering. Because in order to prove money laundering you have to prove that there is underlying criminality'.

So far, the discussion above mainly focuses on proceeds from individual transactions. To reflect on the earlier point related to organisational transactions on organisational accounts or by its clients, the analysis identifies how organisational employees act to retain proceeds by settling complaints by the counterparties in the market transaction. In case 24, the portfolio management team transacted with two counterparties who later complained and requested reverses of the transaction following their awareness

of their disadvantageous positions. The complaints are partly settled by the team, which indicates an attempt to conceal and to retain the illegal profits by avoiding the complaints that would otherwise be brought to the regulator. This indicates money laundering activities in the organisational context where illegal profits generated are automatically integrated into the business accounts, according to Lord and Levi (2017). Similarly, in the case of the proceeds of organisational clients (11, 27, 43), money laundering occurs when benefits are reflected into tangible finances integrated into business accounts. This includes clients paying commission fees and when the brokers retain part of the proceeds from transactions by clients.

5.7.3 Summary and discussion

Overall, three core themes have emerged in this scene. Firstly, findings indicate the role of the legitimate economy and the superficial appearance of legitimacy as enablers of the illegal retainment of proceeds. The former includes the formal banking system and high value commodity dealers. The latter includes shell companies and associated bank accounts. Further, false invoices are used to transfer proceeds between offshore companies, which reflects the 'material frontier' for blending into the legitimate economy (Holt and Lee, 2020). Secondly, it appears that the larger the sum of the illegal proceeds, the more extensive the concealment strategies that are used for retainment. This risk neutralisation tendency further means that offenders may increasingly opt for the more elaborate concealment strategies in the future. This is because the anti-money laundering regulation is becoming increasingly stringent and is covering more and more sectors that were previously unregulated (Levi and Soudijn, 2020). Thirdly, the division of proceeds between co-offenders may be reflected in either material or immaterial rewards (Weerman, 2003). Those cases that involve more co-offenders and insider dealing transactions are also those that require additional activities to retain the proceeds, such as notetaking and calculations.

5.8 Further discussion: The 'organised' and 'opportunistic' forms of insider dealing

This section further illustrates the organisation of large- and small-scale cases and the organisational form of insider dealing. The large-scale cases (n=10) are distinguished from the small-scale ones (n=26) based on whether insider dealing transactions are repeatedly executed over more than two corporate and financial events. Organisational cases (n=8) are distinguished based on whether the transactions are carried out on organisational and/or clients' accounts. There is one case (case 43) which manifests both large-scale and organisational characteristics, involving transactions over multiple financial events on both organisational and personal accounts. For the small-scale cases, the most common organisation begins with offenders entering the inside through scene 1 facet 1 (primary entry), followed by the pre-existing trading capacity established in scene 2 facet 1. Offenders may or may not choose to find co-offenders. In the 26 small-scale cases, there are 10 cases that select this route, engaging two to four co-offenders. Tipping co-offenders mostly takes scene 3 facet 1 (opportunistic tipping) on one event. This

is followed commonly by scene 4 facet 1 (buying/selling stocks). Scene 5 only occurs in some cases, and mostly takes facet 1 (transferring/dividing proceeds) where offenders attempt little concealments.

In relation to scene 1, the main difference between small-scale and large-scale cases is that, while facet 1 is more common in small-scale cases, large-scale cases tend to feature facets 2 (temporary entry) or 3 (exogenous entry) instead. In scene 2, offenders involved in large-scale cases are more likely to (repeatedly) execute multiple facets to increase trading capacity, recruit co-offenders and adopt risk reduction measures. In large-scale cases, tipping is more likely to be repetitive (scene 3 facet 2) and transactions are more likely to be executed using short selling and derivative contracts for greater profits (scene 4 facet 2) than in small-scale cases. Scene 5 is also often executed in large-scale cases. For organisational cases, entry is often enabled by facet 2 (temporary entry). They rely on pre-existing organisational trading capacity (scene 2 facet 1) and execute organisational tipping and transactions. Little concealment is used in organisational cases, which is due to the natural appearance of legitimacy provided by the organisational veils. Such distinctions on the organisation of insider dealing provide conceptual and empirical clarity for the 'organised' (large-scale) and 'opportunistic' (small-scale) forms of insider dealing in the official narratives (e.g., NCA, 2019), while organisational insider dealing may be either organised or opportunistic.

5.9 Conclusion

As suggested from the findings, insider dealing encompasses dynamic commission processes. Dynamics (facets) are reflected in the insider dealing opportunity structure within relevant organisations. The opportunity of scene 1 ('entering inside') is distinguished between primary, temporary, exogenous and improper, which are shaped by various legitimate organisational and occupational processes. The main distinction of the improper entry is a spectrum of illegitimacies, which are shaped by the absence of relevant occupational positions. This opportunity structure influences the organisation of insider dealing by determining which facets are more likely to occur in later scenes. The organisation of insider dealing is further influenced by the core and contingent facets executed in scene 2 (procuring resources). That is, whether offenders seek to improve trading capacity and reduce detection risks and recruit co-offenders from legitimate social and business settings. These contingent facets are facilitated by the legitimate appearances of offenders that incur little suspicions. It instrumentally increases logistical advantages, which potentially multiply illegal gains and maximise the likelihood of illegal outcomes.

The initiation of illegal practices begins in scene 3 (tipping). It reveals different motivations of offenders, based on whether they are on a constant look out for additional opportunities and whether they seek to benefit themselves or the organisations. It is contingent on whether the co-offenders hold temporary and exogenous entries that enable frequent opportunities for repetitive tipping. This scene is often executed in legitimate and routine social settings that provide natural concealment, including homes, pubs, telephone conversations and the internet. It incurs coordination problems, which are solved by continuous processes of constant communications. Offenders with improper entry are likely to move

the confidential documents from organisations because they do not fully grasp the content. The actual doing of insider dealing transaction is in scene 4 (transaction), but which facets are executed is contingent on the routine investment habits. This is related to whether offenders already have knowledge and financial accounts required for using advanced dealing strategies. Lastly, offenders' decisions on how to exit the illegal settings and retain profits are contingent on the perceived stringency related to the anti-money laundering regulation of the formal banking system, corporate structures and high value commodities (Broad et al., 2020).

Dynamics are further indicated in the change of organisations over time. These may be adopting additional security measures or recruiting more co-offenders in adjusting to the law enforcement disruptions. Further, all these facets discussed have causal potentials in enabling insider dealing to occur. Hence, addressing the underlying facilitators of facets can plausibly reduce insider dealing. This will be discussed in Chapter 7. Reflecting to the nature of insider dealing, the findings reinforce the conceptualisation of insider dealing as a market-based crime, by disentangling how each scene is associated with the financial markets. The insider dealing opportunity is rooted in the inherent information asymmetry between relevant organisations and retail investors. The motivation underpinning illegal tipping can be viewed as attempts to mitigate this information asymmetry, which resembles legitimate market behaviours in seeking up-to-date information to inform investment decisions. All offenders are found to be ordinary financial market users. However, they engage in misuse of inside information obtained either legitimately or illegitimately and abuse the legitimate financial transaction procedures to gain competitive advantages and illegal profits.

Chapter 6 Insider dealing networks: A multi-mode multi-plex multi-time perspective

6.1 Introduction

This chapter seeks to gain insights into the organisation of insider dealing by foregrounding *how social relations among co-offenders contribute to the insider dealing commission process*. To do so, it presents the novel meta-network[23] images from the mixing of crime script and multi-mode multi-plex multi-time network analysis (Carley, 2003; Morselli and Roy, 2008; Bright and Delaney, 2013; Bellotti et al., 2020) on 10 insider dealing cases in the UK. As discussed in Chapter 4, I select the 10 cases (out of the 43 known cases) which involve at least three people and have sufficient data to analyse social relationships and the roles of persons involved. It captures a range of entities including actors, resources, tasks and locations, and the relations between these entities, which are identified in the insider dealing script at the track level. For each case, the social network and the overall meta-network are analysed and presented using both standard and meta-network measures and visualisations. It also seeks to analyse multiplexity in three cases and, in one specific case, structural changes over time are mapped using dynamic meta-networks. The findings are discussed and contextualised further with regards to balance between efficiency and security and roles played by actors.

In the previous chapter, the social network (loosely defined as a set of social actors and relations among them) was described as one of the procedural facilitators established in scene 2 facet 3, which may function instrumentally to variously support other scenes and facets for tangible or intangible awards. Nonetheless, it is mainly analysed on a dyadic level. That is, the composition of a pairwise relationship between co-offenders, whether it is a pre-existing or ephemeral instrumental relationship. Further, it touches on issues with regards to the nature of illegal cooperation in scene 3 tipping, to distinguish between explicit cooperation in co-participating in law-breaking activities, or implicit collusion of co-offenders who do not participate in law-breaking activities but fail to report them. Lastly, it also touches on some dynamic of illegal cooperation that changes over time. Nonetheless, the analytical focus is mainly on the behaviour and setting. It remains however unclear as exactly how illegal networks (as a collection of nodes and ties) of actors are structured and how insider dealing is embedded in them.

This chapter furthers the empirical understanding on the organisational structure in insider dealing by foregrounding its actors and social networks. As identified in the literature review, such understanding is needed to clear up the ambiguities in the policy construct of 'insider dealing' conceptualised as an organised crime that brings about serious harm (see for example NCA, 2019). Further, as Campana

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[23] In simple terms, 'meta-network' refers to the structure of relationships (the ties or edges) between nodes coded as actors, resources, tasks and locations (Carley, 2003).

(2016) suggested, the increasing use of the network paradigm in describing illegal activities by practitioners without empirically reconstructing the network may be insufficient to fully grasp the organisational mechanism underpinning the illegal activity in the real world. Besides, there is an inadequate discussion in the criminological literature about the characteristics of co-offending underpinning insider dealing activities that may involve two or more offenders. Given that social network analysis framework has already been fruitfully adopted in studying a wide range of illegal activities (see, for example, Bouchard and Morselli, 2014), this chapter builds on them and extends the application to insider dealing network.

6.2 Social network structures

6.2.1 Analytical concepts and measures

Firstly, I will introduce the concepts used in this chapter. The social networks (SN) analysed in this section aggregate all identified relationships between co-offenders in the 10 studied insider dealing cases. These relationships include pre-existing personal relationships (kinship and friendship), business relationships and illegal relationships. Illegal relationships are identified as the illegal tipping of inside information and the transfer of illegal proceeds between co-offenders. The concept of 'density' measures how many ties between actors exist compared to how many ties between actors are possible. Density indicates how well-connected or how cohesive a network is. 'Cohesiveness' or 'well-connectedness' refer to the efficient flow of information and coordination in achieving the goals of a network (Borgatti et al., 2013). 'Average shortest path length' measures the average number of steps along the shortest paths for all possible pairs of network nodes. It is a measure of the efficiency of information transfer in a network (Borgatti et al., 2013).

'Degree centrality' measures the number of relationships that one actor has with other actors in a network, which indicates how important an actor is based on the extent to which the actor has many relationships with others. 'Closeness centrality' measures the inverse average distance between a node and all other nodes. The higher the 'closeness centrality' score means that the node is more capable to spread or receive information in the network. 'Betweenness centrality' measures the extent to which an actor is on the shortest path between pairs of actors in the network. It is used to indicate brokerage positions that mediate between actors who are not connected. A higher score indicates higher capability to control the flow of information (Freeman, 1979). These centrality measures are node-level measures. To characterise the overall network, this thesis uses the three network centralisation measures, including 'degree centralisation', 'closeness centralisation' and 'betweenness centralisation'. Network centralisation measures indicate the degree to which the information flow is centralised around a single node. They are calculated by first producing the centrality scores for all nodes, and then calculating the variance of the centrality scores across all nodes (Altman et al., 2019).

According to the illicit network literature, insider dealing networks may display low density measures, which indicates a tendency to seek security (Baker and Faulkner, 1993; Krebs, 2002). That is, actors may seek not to be connected with everyone in the network out of a desire for security, where high level of connectedness may increase network exposure and hence the risks of detection and sanction. However, insider dealing, as a profit-driven activity, falls under the criterion of criminal enterprise networks that pursue monetary ends, which may lead to a prioritisation of efficient communication over security, hence increasing the network density (Morselli et al., 2007). Insider dealing networks may also display a centralised structure with a 'core' actor who may not necessarily assume formal leadership in terms of command hierarchy, but who may be key in facilitating the efficient communication channels to place transactions in a short time frame (Morselli et al., 2007). The interesting question remains whether there are differences among actors in their rankings of degree and betweenness centrality, which would indicate the presence of strategic broker positions as in other illegal networks, which in turn aims to maintain the fluidity of the operation and retain some forms of control while reducing visibility (Morselli and Roy, 2008; Morselli, 2010; Bright and Delaney, 2013).

The importance of combining descriptive measures with visual inspections to illuminate and uncover structural characteristics and dynamics in social or illegal networks has been highlighted in the literature (Freeman, 2000; Xu et al., 2004; Everton, 2012). Since the insider dealing networks studied here are very small, the use of visualisations is especially useful in directly observing their structure. The most relevant concepts in relation to efficiency and security that concern the directly observable structures include the 'triadic closure' and 'distance two', which can be observed in sociograms (Bright et al., 2019). 'Triadic closure' is related to the concept of 'cohesiveness' in facilitating efficiency at the likely expense of security. This is showed as a triangle with all three possible ties being present between three actors – the tendency that the friend of your friend is likely to be your friend (Newman, 2003). 'Distance two' is related to the concept of 'brokerage', which reflects a strategy to prioritise security by avoiding direct connections with others. Visualisations are also used to explore whether there are subgroups that are more cohesive than the overall network. Such clustering may support local efficiency in specialised tasks while maintaining security (Bruinsma and Bernasco, 2004).

6.2.2 Results

6.2.2.1 Overall social networks

The following presents the findings from the social network analysis that uses standard network measures and visualisations to capture characteristics of the 10 insider dealing social networks. Descriptive statistics and sociograms are presented in Figures 6.1 and 6.2 below. The analysis identifies clear similarities and differences in the overall network measures across these 10 social networks. They are grouped into four groups based on the overall network measures, including their density, degree centralisation, closeness centralisation and betweenness centralisation (see Figure 6.1) and the average

shortest path length (reported in Table 6.1), in order to ensure the maximum level of within-group homogeneity and between-group heterogeneity.
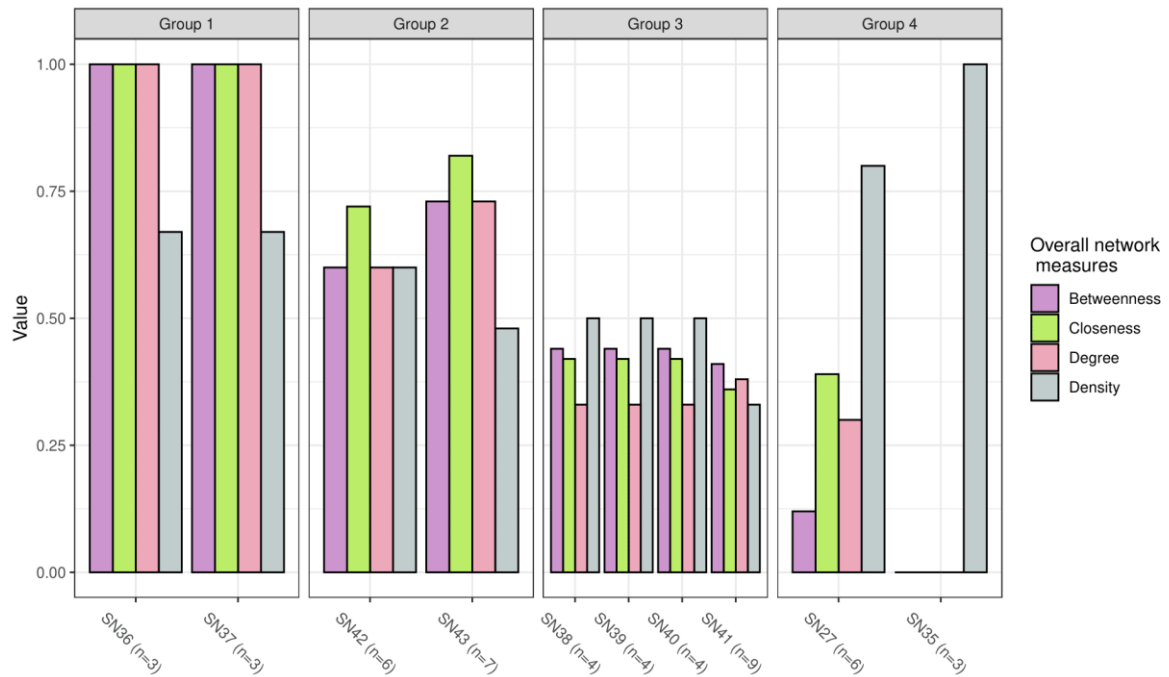
Figure 6.1 *Insider dealing social networks descriptive statistics on an overall network level (0-1 range)*
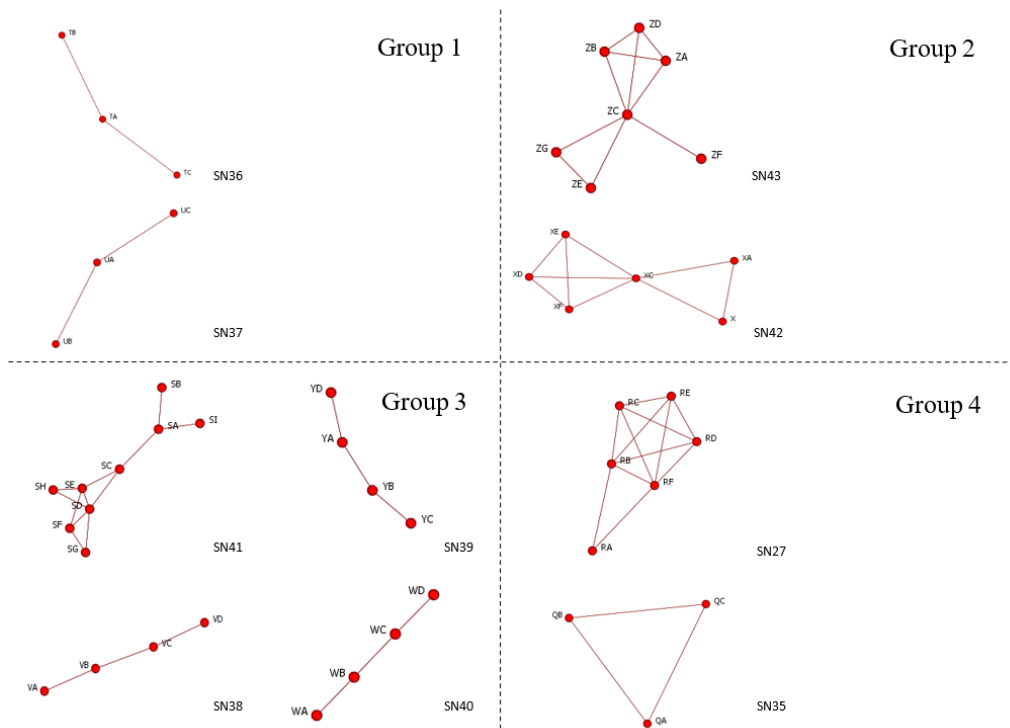
Figure 6.2 *Insider dealing social networks sociograms*

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	Social network	Average shortest path length
Group 1	SN36	1.33
	SN37	1.33
Group 2	SN42	1.40
	SN43	1.52
Group 3	SN38	1.67
	SN39	1.67
	SN40	1.67
	SN41	2.19
Group 4	SN27	1.20
	SN35	1.00

Table 6.1 *Average shortest path length in social networks*

Group 1 includes SN36 and SN37, which score the same in every overall network measure, hence they are allocated to the same group. Both SN36 and SN37 have a density score of 0.67 and all network measures of degree, betweenness and closeness centralisation score one. They also have the same the average shortest path distance, which is equal to 1.33. A closer look at the sociograms shown in Figure 6.2 also allow observing that SN36 and SN37 display the identical network structure with the smallest network size (n=3) among the studied networks. Three offenders are separated by two paths and an intermediary actor, hence the maximal centralisation scores. Regarding the propensity of these networks towards efficiency/security, their structure is a 'distance two' manifestation that creates a shield or a buffer. This structure is suggested to indicate security through the broker insulating the other two offenders in the illegal network (Bright et al., 2019). While closing the structure into a triangle shape (triadic closure) with three paths among three nodes might increase efficiency for coordination, not closing the structure may indicate a priority for security over efficiency.

Group 2 includes SN42 and SN43. These two networks are grouped together due to their high degree of within-group homogeneity in all three centralisation scores. Their degree, closeness and betweenness centralisation scores range between 0.6 and 0.82. This range is lower than the first group and higher than the range between 0.33 and 0.44 of group 3. In hindsight, this centralisation range is not low. SN42 has a density score of 0.6, whereas SN43 has a density score of 0.48. This is slightly lower than the density scores in group 1. The range of average shortest path length is between 1.40 to 1.52, which increases slightly from the range in group 1. Overall, these network scores indicate that these two networks are still quite well-connected and centralised to a certain extent. The sociograms (Figure 6.2) show an increase in the network size from 3 (in group 1) to between 6 to 7 offenders (in group 2). The sociograms also demonstrate the presence of central actors (ZC in SN43 and XC in SN42). These two nodes connect other actors who appear to form separate local triadic closures (local closures in the overall network that surround a given actor). That is, in SN43, ZC is the bridge between the connected actors ZA, ZB and ZD and the connected actors ZG and ZE. Taken all together, it appears that social networks in group 2 display a tendency to prioritise efficiency through the well-connectedness between actors, whereas the central actors ZC and XC appear to create a buffer to maintain security.

Group 3 includes SN38, SN39, SN40 and SN41. These four social networks have a high degree of within-group homogeneity in all three measures of network centralisation and in network density. The density scores range between 0.33 and 0.5. The three network centralisation measures indicate scores ranging between 0.33 to 0.48. This network centralisation range is lower than groups 1 and 2 but is larger than group 4. Social networks in group 3 have the largest range of average shortest path length (between 1.67 and 2.19) among the four groups. Looking at the network maps visualised in Figure 6.2, it is observe that SN38, SN39 and SN40 have the same 'chain-like' network structure of four actors sparsely connected through three ties (Morselli et al., 2017). Although this 'chain-like' structure is similar to that in group 1, the centralisation and density scores decrease because of the increased network size. In SN41, the structure is also similarly sparse, where actors are less well-connected than networks in other groups, but the network size is larger (n=9) and there is well-connectedness among actor at the lower tail. Overall, such network structures in group 3 appear to indicate the highest risk awareness among the studied social networks. That is, actors appear to avoid having lots of contacts with others. This may reflect that the network efficiency in coordinating insider dealing is less emphasised than other groups.

Group 4 includes SN27 and SN35. While groups 1, 2 and 3 are highly homogenous across different overall network measures. Group 4 shows a comparatively higher degree of within-group heterogeneity. However, group 4 is remarkably different from the other three groups because of its larger density scores (ranging between 0.8 and 1). Moreover, their network centralisation scores are low. SN35's scores in all network centralisation measures equal to 0. SN27 scores 0.12 in network betweenness centralisation, 0.3 in degree centralisation and 0.39 in closeness network centralisation. Overall, this indicates that these two networks are very well-connected and are not organised around a specific actor. This would mean that they might be more efficient than other social networks in coordinating insider dealing activities.

6.2.2.2 Key actors

Key actors can be identified from the individual positioning illustrated in sociograms in Figure 6.2. There appears to be clear indicators of a single central actor in SN36, SN37, SN42 and SN43, and an absence of a single central actor in network 35. In the former social networks, the central actors score highest in all centrality measures, which may indicate their power in controlling the flow of information and resources in the network, and their formal leadership in exerting control over others or simply hands-on participation. In SN42 and SN43, the central actors are in fact identified as the 'linchpin' by the law enforcement authority. However, according to the data, in SN36 and SN37, the central actors are central because they own the inside information and seek to transfer to two dealers to receive two dividends of the illegal proceeds. Hence, they are the ones who earn the largest illegal proceeds. This appears to reflect the benefits of being a 'broker' connecting other two unconnected actors, where

previous research has shown that brokers achieve larger illegal monetary rewards through efficiency networking (Morselli and Tremblay, 2004).

The sociograms of SN27, SN38, SN39 and SN40, on the other hand, indicate that two actors may have equivalent power due to their equally central positioning in the network. However, this does not appear to capture the actual image of the key actors in SN38, SN39 and SN40 obtained from the official reports, where the two central actors display different roles. In the next section, I will show that the specific properties of key actor can be captured best through using multi-mode network analysis. Furthermore, there are various reasons why SN41 is particularly interesting. I identify that actors involved differ in rankings across different centrality measures (see Table 6.2 below). SD and SE have the two largest scores of degree and closeness centrality but do not stand out in betweenness, whereas SC and SA have the two largest scores of betweenness but their values of degree and closeness are on the average. This might indicate that SC and SA occupy strategic broker positions who minimise their direct contacts while retaining control over the network (Morselli, 2010). This actually reflects the actual stories described in the official data. SC and SA are suggested to be the 'brain' of the network and the one who connect a large group of dealers to the actors who have inside information, and SD and SE are just dealers who know and connect all other dealers. However, the next section will show how this can be directly reflected in a multi-mode network configuration.

	Degree	Closeness	Betweenness
SD	0.63	0.62	0.36
SE	0.50	0.57	0.16
SA	0.38	0.55	0.46
SC	0.38	0.62	0.54
SF	0.38	0.44	0.02
SG	0.25	0.42	0.00
SH	0.25	0.42	0.00
SB	0.13	0.35	0.00
SI	0.13	0.35	0.00

Table 6.2 *Actor centrality scores in network 41 (0-1 range)*

6.2.2.3 Summary

Overall, the analysis indicates that social network structures vary in size, density and centralisation, which appears to reflect varying prioritisation between efficiency and security between and within networks in committing insider dealing. In general, security appears to be an emphasis in groups 1 and 3 structured through chain-like network structures. Efficiency appears to be more of a priority in groups 2 and 4, which appears to fit well with the expected dense and centralised network structure in insider dealing as a profit-driven activity. Group 2 appears to balance the efficiency further with the buffer created by the central actor. Further, the analysis uncovers key actors in central positions that control the flow of information, and the broker connecting the network. However, I find that the key actors may not be fully captured through simply using social network analysis. On one hand, it is important to point

out that the general small network size may indicate missing data (e.g., actors who were not identified by law enforcement), which would influence the discussed overall network characteristics and individual positioning based on the measurements (Sparrow, 1991). On the other hand, these structural characteristics warrant further examination for verification and in-depth understanding of the variations in relation to the insider dealing commission process.

6.3 Multi-mode network structures

6.3.1 Constructing multi-mode networks

Beyond the social network, this chapter presents the results from the multi-mode network approach to furthering the understanding on the organisation of insider dealing. This multi-mode network approach merges crime script analysis with network analysis (Carley, 2003; Morselli and Roy, 2008; Bright and Delaney, 2013; Bellotti et al., 2020). This is carried out by imputing the different entities required for the insider dealing commission process as nodes in the multi-mode network (Bellotti et al., 2020). These entities include resource, task, and location identified qualitatively in the insider dealing script at the track level for each of the 10 studied cases. The central argument for adopting this approach is that insider dealing encompasses a wider system embedded in the social network. To understand the organisation of insider dealing, one should disentangle the association between the social network and this wider system composed of these different entities that bring about the illegal results (Carley, 2003). The analytical focus is on how the social network and some participants contribute in varying degrees to keep the inherent complex system in place and integrated (Morselli and Roy, 2008).

To apply the multi-mode network approach, a meta-network is constructed to represent these multiple node classes and relations among them. The meta-network therefore represents a structure composed of co-offenders and relations among them, and most importantly, the association between the co-offenders with the insider dealing commission process, i.e., the scripts. In other words, meta-network enables us to construct a straightforward understanding about the associations within the complex system behind insider dealing. That is, how co-offenders are linked with resources, activities and locations required to accomplish the insider dealing script. In this way, it goes beyond the crime script analysis used in the previous Chapter 5 that only informs us regarding the activity structure, whereas this multi-mode network approach can inform us regarding how the activity structure, i.e., the script, is supported by the relational structure among co-offenders. To do so, the meta-network is constructed by combining the social network (actor × actor) analysed in the previous section with other subnetworks (see Table 6.3).

These subnetworks include capability networks (actor × resources), which are composed of actors and the resources they bring to the crime scripts. An actor-resource tie is defined as both durable and temporary (instrumental) capabilities through the possession of resources required in the insider dealing script. Task networks (actor × task) are composed of actors and their relations to the tasks (i.e., activities)

under specific scenes/facets identified in the previously in [Chapter 5](). An actor-task tie is defined as the execution of the task by the actor. For instance, a tie between an actor and a task node 'S1' means that the actor carries out the activity of accessing inside information categorised under Scene 1 'entering inside'. An actor-S3 tie means that the actor passes inside information. Location networks (actor × location) are composed of actor and the locations they appear in in relation to the crime script. For instance, an actor connected with location node 'Dubai' means that the actor has been to (temporary) or live in (durable) Dubai, where she/he may be there to recruit co-offenders or do something related to insider dealing.

	Actors	Resources	Tasks	Locations
Actors	Social network	Capability network	Task network	Location network
Resources			Needs network	Geographical ease
Tasks			Precedence network	Hotspot network
Locations				

Table 6.3 Meta-matrix for insider dealing meta-network (adapted from Carley, 2003)

Needs networks (resource × task) are composed of resource nodes and the task nodes, where resource-task ties are defined as the needs for the resources in completing the tasks in the scripts. For instance, a tie between 'inside information' and 'S3' means that inside information is needed to execute tipping. Geographical ease (resource × location) networks are composed of resource nodes and location nodes. A resource-location tie means the geographical ease in having the ready-supplied resource in the locations involved in the crime script. For instance, 'inside information' is related to 'London' highlights the ease in London in getting the resource needed for the insider dealing script. Precedence networks (task × task) are one mode networks composed of nodes representing tasks required in the crime script. A task-task tie is defined as the precedence of one task to another. Lastly, hotspot networks (task × location) are composed of task nodes and location nodes, where a task-location tie indicates where activities required in the script are carried out (Carley, 2003).

In constructing the meta-network map, nodes are shaped according to the node categories (see Table 6.4). Nodes that represent actors are shaped using circle. Nodes that represent resources are shaped using triangle. Nodes that represent tasks or activities are shaped using hexagon. Nodes that represent locations are shaped using square. Moreover, in the analysis, I also use ego networks, which are consisted of the ego, the focal node, and other nodes that are directly connected to the ego. In this research, ego network is termed as 'sphere of influence' in the context of multi-mode network analysis. It visualises a focal actor of interest (ego) and the nodes of different types to whom the focal actor is

connected within one path length from the focal actor and connections among these nodes (Altman et al., 2019). This node scheme is applied to all multi-mode and multi-time networks in this chapter.

Category	Definition	Symbol
Actor	Individuals involved in insider dealing	
Resource	Tangible and intangible assets that actors deploy in insider dealing (e.g., financial knowledge, trading account, inside information)	
Task (activity)	Actions undertaken by actors during the crime commission process	
Location	Places where actors are positioned	
Ego or new node	In multi-mode network analysis: Focal node in a network (this will only be used when I analyse ego networks to understand the sphere of influence surrounding a specific actor) In multi-time (dynamic) network analysis: New node entering a network (this will be used when I highlight the new node entering the network)	

Table 6.4 *Typology of symbols used in social network analysis*

6.3.2 Analytical concepts and measures

In multi-mode networks, network efficiency is understood beyond social cohesiveness among co-offenders. It can be understood as the functional differentiation in carrying out the insider dealing script. *Functional differentiation* is loosely defined as the division of labour that improves the network acting capacity, which is reflected among co-offenders who bring different resources and fulfil different tasks at different locations in achieving the network goal for illegal profits (Krebs, 2002; Bruinsma and Bernasco, 2004; Milward and Raab, 2006; Malm and Bouchard, 2011). In other words, it equates to the phenomenon where different actors execute different scenes across the insider dealing script in obtaining illegal profits. Especially, if such functional differential is reflected in the multiple actors who enable various methods to execute a specific task, i.e., facets, it further reflects network *flexibility* (Morselli and Roy, 2008). Similar to the concept of flexibility is network *resilience*. Efficiency can also be understood as resilience brought by the duplicated or multiple actors involving in the same task (corresponding with scenes/facets) and having the same resources that not only multiply the acting capacity but also to replace a removed actor (Malm and Bouchard, 2011). Most importantly, certain actors are key to integrate and maintain functional differentiation, flexibility and resilience, and whose removal would break the network (Milward and Raab, 2006; Morselli and Roy, 2008).

To further understand network characteristics in relation to these different dimensions of network efficiency, the analysis begins with detecting and characterising subgroup structure in the insider

dealing meta-network. The analysis is exploratory, because there is an absence of existing literature using subgroup algorithm in analysing illegal meta-network.

Based on the above definition of three dimensions of network efficiency, actors who are assigned to different tasks to improve functional differentiation and flexibility are likely to be connected with different resources. This is because different tasks require different resources. However, if actors are assigned to the same tasks, they are more likely to be connected with the same resources required (Bruinsma and Bernasco, 2004; Milward and Raab, 2006; Chiu et al., 2011; Everton, 2012; Bright et al., 2015a). Based on this assumption, I expect that functional differentiation and flexibility can be observed in the differentiation among the patterns of ties among actors in the meta-network. In the meantime, resilience would be reflected in the homogeneity among the patterns of tie surrounding actors across the meta-network. According to network theory, the differentiation in patterns of ties can be detected using subgroup detection algorithms. In other words, if *functional differentiation* and *flexibility* are present in the meta-network, it is expected that I can detect a subgroup structure that may correspond with the insider dealing commission process to a certain extent. I use visualisations to explore whether the subgroup structure is meaningful. Further, *resilience* would be reflected to a certain extent if there is no subgroup structure detected. Nonetheless, as the sizes of the studied meta-networks are relatively small, network resilience is analysed by examining the visualisation by counting duplicate actors grouped in the same group in bringing the same resources and the same tasks. If duplicate actors are present, network resilience is demonstrated by the capacity to replace the removed actor (Bouchard, 2007).

To analyse subgroup structure in the meta-network, I use the Newman algorithm which is a hierarchical grouping method to detect subgroup structure under the principle of more ties within and fewer ties between groups (Clauset et al., 2004). The Newman algorithm (also known the 'Fast Greedy' algorithm) is an optimised variant of Girvan-Newman algorithm which has been widely used to analyse subgroup structures in organised crime networks (e.g., Schaefer, 2012; Ferrara et al., 2015; Neumann and Sartor, 2016; Ouellet and Hashimi, 2019). It begins by assigning each node to its own group then merges groups to optimise the modularity that assess how significant the grouping is (Clauset et al., 2004). Additionally, the Louvain algorithm is also used as a 'sensitivity analysis' to explore whether it produces different results. Louvain is also a hierarchical method created as a faster extension of the Girvan-Newman algorithm with maximised modularity – it has similar properties to the Fast Greedy algorithm (Blondel et al., 2008) and has also been widely applied in criminological research (e.g., Calderoni et al., 2017; Ouellet and Hashimi, 2019; Campana and Varese, 2020). They both begin with each node forming its own subgroup but differs in not just merging subgroups progressively but moving the node from one another to optimise modularity (Blondel et al., 2008). Both approaches produce highly similar results, but those results that are substantively different are presented and discussed. The modularity score (-1 – 1 range) measures to what extent the detected subgroups are not random, and the higher the score

means the stronger the subgroup structure. Often a score above 0.3 assumes the detected subgroup structure is meaningful (Clauset et al., 2004). The analysis explores the subgroup structure by combining the modularity score with visually examining the structure.

To analyse key actors, the analysis adopts a similar logic of Bright et al. (2015a) in using actor-level attribute data on functional roles and resources. In the multi-mode network approach, the attribute data on these roles and resources are imputed as nodes. Hence, it uses two-mode network measures of exclusivity that detects actors who are exclusively connected to elements of other node classes that few other actors in the network have (Ashworth and Carley, 2006). Firstly, this includes task exclusivity computed from the task network. It is defined as the actors who exclusively perform tasks that few other actors in the network perform. Secondly, it includes resource exclusivity using the capability network. It measures to what extent actors exclusively have access to resources that few other actors in the network have access to. It produces a normalised score (0-1 range) to measure the resource and task exclusivities. A high exclusivity score indicates key actors who play critical roles and whose removal may result in the loss in vital resources and tasks completion, hence disrupt the insider dealing commission process.

Lastly, key actors are also analysed by the multi-mode network measure – cognitive demand – which measures the total amount of cognitive effort expended by the actor (Carley and Ren, 2001). The cognitive demand is inferred based on an individual's position in the meta-network, hence it is calculated using all subnetworks. They are critical because they: 1) connect to many people, tasks, resources, and locations, 2) are engaged in complex tasks in negotiating for resources and connecting others and 3) keep the operation running (Carley and Ren, 2001). A high score indicates emergent leaders, who is not the formal leader of the group. This is because they are very busy with keeping the operation running, that there is a good chance that they never become a formal leader (Carley, 2003).

6.3.2 Results

6.3.2.1 Overall meta-networks

Table 6.5 reports the descriptive statistics for the constructed meta-networks in the 10 cases. These meta-networks include not only the previously analysed social networks, but also other subnetworks. They typically include either 5 or 8 subnetworks and between 3 to 4 node types. The reduced subnetwork numbers are the effect of the exclusion of the location node in MN41, 38, 40 and 27 where there is missing data on the city where insider dealing takes place. Network sizes vary between 10 to 21 nodes. With regards to the modularity score, the highest one in each meta-network is presented. As shown in the table, only meta-network 41 and 42 fall above the 0.3 threshold. Nonetheless, the low modularity score in other meta-networks may be just the effect of the high total density between 0.4 to 0.72 in the meta-network. The important point being that a close inspection finds that the detected division of nodes in most meta-networks with the highest modularity score does appear to be meaningful as they correspond with tasks in the insider dealing commission process.

	Modularity	Subgroups	Size	Total density	Subnetworks
MN36	0.225	2	12	0.46	8
MN37	0.198	3	11	0.5	8
MN43	0.272	2	18	0.43	8
MN42	0.309	3	21	0.32	8
MN41	0.319	2	19	0.32	5
MN39	0.239	2	13	0.45	8
MN38	0.222	2	10	0.44	5
MN40	0.278	2	11	0.4	5
MN27	0.108	2	12	0.47	5
MN35	0.045	2	10	0.72	8

Table 6.5 Meta-networks descriptions

The following paragraphs describe the subgroup structure in the studied meta-networks to understand how the social network and the associate actors contribute to insider dealing. As illustrated in Figure 6.3 below, the optimal detected subgroup structure with the highest modularity score is visualised in sociograms with nodes clustered into different subgroups, where nodes are coloured the same if they belong to the same group. Social network sociograms are shown next to its meta-networks, and nodes in the social networks are also coloured based on the subgroup structure detected in the meta-network, which is to highlight the association between social network and meta-network. The node shapes represent four different node classes (see Figure 6.3). The meta-networks are ordered according to whether they reflect a higher priority of their security (top) or efficiency (bottom), as identified in the grouping of social networks. It starts from MN36 and 37 (group 1) in the first row, MN38, 39, 40 and 41 (group 3) in the second and third row, MN42 and 43 (group 2) in the fourth row and MN 27 and 35 (group 4) in the last row. Only in meta-network 35 nodes are coloured and shaped based on the node type because the analysis does not identify meaningful subgroup structure with the modularity score being 0.045. A brief description will be given for each case to contextualise the analysis.
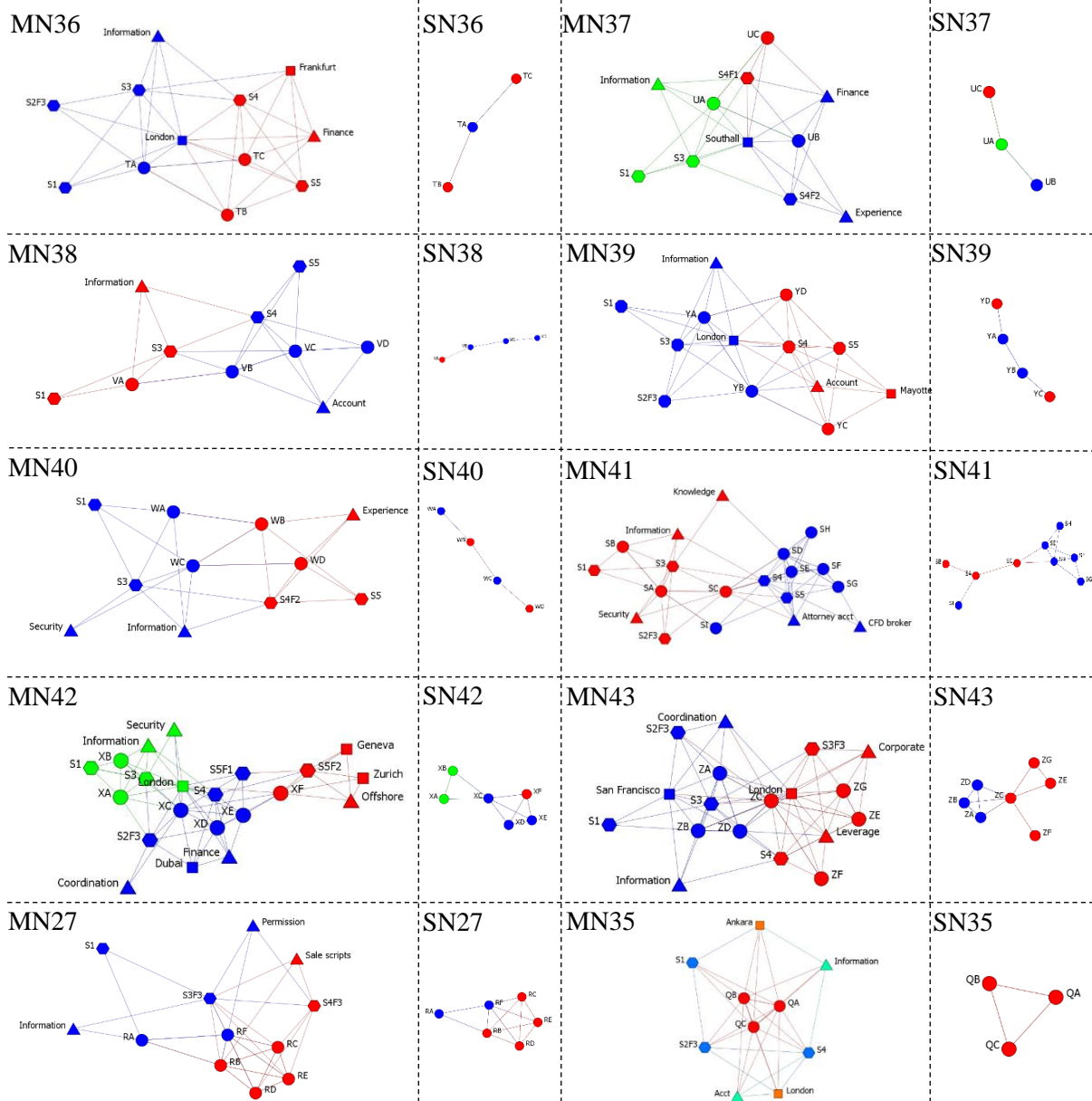
Figure 6.3 *Meta-networks and the corresponding one-mode social networks (Newman algorithm)*

From the sociogram of MN35 illustrated in Figure 6.3, I observe the absence of subgroup structure. This appears to be related to the same pattern of connections of the three offenders QA, QB and QC with other nodes in the meta-network. In other words, they contribute the exact same way to the insider dealing commission process. I can see that they co-participate in the task of obtaining the inside information (node S1) in Ankara, Turkey. Also, they all participate in the activities in agreeing on collusion by not reporting one another (node S2F3) when they travel to London for the business trip. After arrived in London, they place in insider dealing transaction (node S4) using their brokerage accounts that are previously set up in London. In the previous section, it is established that the associated social network (SN35) illustrates a good network connectedness for communication efficiency, this can

be confirmed by the description in Box 6.1. However, the meta-network provides a complementary view on this. That is, the meta-network structure shows that such efficiency in the social network is used to agree on and guarantee collusion in insider dealing in the closed social environment. However, the absence of subgroup structure indicates that the efficiency might be discounted through the lack of functional differentiation and flexibility. Such discounts appear to indicate the mechanism of the network homogeneity promoted by the social cohesiveness in reducing differential access to illegal opportunities and resources (Tremblay, 1993) identified in the meta-network. The finding is confirmed by the brief case description based on official data in Box 6.1, where they are working at the same institution, collusion is agreed on the same business trip and receive the exact same source of inside information.

Box 6.1 *MN35*

QA, QB and QC are employed in an Ankara-based company and involved in oil operations in Northern Iraq. The company listed on the LSE. The three of them receive detailed daily reports from the company about the test drilling in Miran and thus access inside information about the positive outlook for the company. One day, QA, QB and QC board the same flight to London, when they discuss using this information. They arrive in London to attend a meeting to report the testing result and discusses its public announcement time. Shortly after the meeting, the three actors call their brokers in London to place shares on the LSE on the same day. They all close out positions the second day when announcement is made and acquire profits.

In the other nine meta-networks, subgroup structures are visualised using different colours based on the results from the Newman algorithm. Same colours mean that nodes belong to the same subgroup. Overall, it is found that the subgroup structures detected are meaningful. The identified subgroups can be seen as differential 'task groups'. The task groups appear to correspond with the scenes/facets in the insider dealing commission process (scripts). There is a clear pattern that nodes are organised around two task groups. The first task group is organised around the actor(s) (circle-shaped nodes) contributing to the core task 1 in entering inside and accessing the insider dealing opportunity (task node S1), with other associated nodes that represent the casting elements required, such as the inside information and locations mostly being in London, or San Francisco in the meta-network MN43. The other task group is organised around the actor(s) contributing to task 4 transaction (node S4), whereby the associated nodes further include the necessary resources (either finance, trading account, trading experience, brokerage collusion) required for the insider dealing transaction to occur. The task node tipping (S3 or S3F3) is always grouped together indicates their similar casting requirement.

A more interesting observation is the grouping of node S2F3 and its associated actors. S2F3 is the task of recruiting other people to join the illegal network. Whereas this task is almost always grouped with tasks 1 and 3, it is grouped with task 4 in MN42 (see Box 6.2 for a brief description). This is mostly attributed to its connections with actors who hold different connection patterns from actors in the accessing inside information task group. This includes connection with firstly, actor XC who has rich

connections with nodes in the transaction (coloured blue in Figure 6.4) and laundering (coloured red) task groups and secondly, with actor XD whose main contribution is to the transaction task group. Nonetheless, when the Louvain algorithm is run on the meta-networks, the optimal structures assign node S2F3 back to the other task group with the modularity score slightly increases from 0.31 to 0.32 (see Figurer 6.4). This different grouping result likely indicates that S2F3's associated actor XC is in a broker position in connecting task groups in maintaining functional differential, further confirming confirm previous findings on XC's role indicated by the central position in the associated social network. This will be further examined in the next section.

Box 6.2 *MN42 (Tabernula case)*

XA and XC have been close friends for at least six years before the scheme. XC is a former financial director of a company who has good coordination and communication skills. XA and XC design the conspiracy, where XA tips inside information from his company. XC, through a shared acquittance, visits Dubai to pitch about the potential of the insider dealing scheme to XD, who has access to substantial financial capital. XA was then recruited XB for more inside information. XD recruited XE, who is his business partner to gain more financial capital. XF is the one responsible for money laundering and is recruited by XA. The scheme lasts for five years.
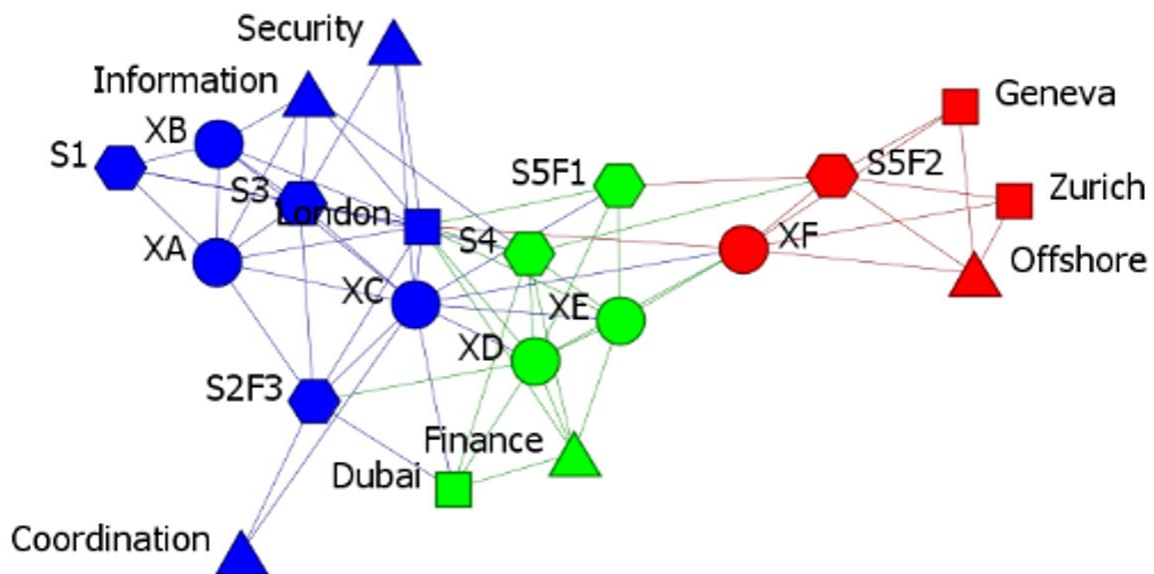
Figure 6.4 MN42 (subgroups detected using Louvain algorithm)

In Figure 6.4, the sociograms of social networks, next to that of the meta-networks, are also coloured based on the subgroup structure detected in the associated meta-networks. By doing so, I can directly observe actors who are coloured the same. In other words, these actors coloured the same mean that they are in the task group in carrying out the insider dealing scripts. This indicates that, within functional differentiation, there is functional similarity among duplicate actors contributing to the same tasks under the same scenes/facets in the crime script. This indicates resilience in the certain scenes/facets in the

crime script. That is, even removing one actor, there is still a backup actor who can continue with the same tasks to execute the scenes/facets. Interestingly, among SN41, SN42, SN43 and SN27 (n>7), these duplicate actors who contribute to the same task tend to form triadic closures. Such findings are confirmed by the official data. For example, in MN42 (Box 6.2), XA not only recruits XB, but they also engage in the same scene of 'entering inside' (S1) and 'tipping' (S3); XD also recruits XE, who both bring substantial finances to execute 'transaction' (S4). This is also observed in MN43 (Box 6.3). In MN43 (Figure 6.4), XA, XB, and XD are placed in the same subgroup, who execute the same tasks of 'tipping'. XC, XE, XF and XG are placed in the other subgroup, and execute the same task of 'transaction'. In addition, as seen in the SN43 these actors form local closures among themselves respectively. Whereas the previous section has identified the local triadic closures using social network analysis, the above findings from the meta-network further makes sense of the closures. It is suggested here that, local closures are to support coordination in executing the same task/facet in the insider dealing script. This confirms Brunisma and Bernasco's (2004) findings on the network of human trafficking activity, where actors are locally connected in specifying in the same tasks. So far, I have shown how the observed local triadic closures social networks are found to support resilience in executing the same task/scene to commit insider dealing in meta-network. This indicates the capability of meta-network analysis in giving a more complete view on network efficiency beyond social cohesiveness.

Box 6.3 MN43

ZB has sole access to inside information due to his occupation as a corporate advisor. ZA is ZB's wife, and they both live in San Francisco. ZC and ZD are a wife-husband couple who live in London. ZA and ZD are sisters. When visiting ZA and ZB in the US, ZC and ZA plan and agree to cooperate on the insider dealing scheme. ZA shares inside information to all of them. ZC and ZD commit insider dealing for three years. ZC owns a brokerage firm in London, where he further tips the information to his colleagues ZE and ZG and convince their clients to deal. ZC further tips his friend ZF who then deals.

In MN36 (Box 6.4), I also observe meaningful subgroups (see Figure 6.3). TB and TC are allocated to the same subgroup, where they both involve in the task 'transaction' (S4); TA is in the other task group, who execute task 'tipping' (S3) and 'entering inside' (S1). Unlike the impression about a priority on security given in the SN36 and SN37 based on the social relational structures, meta-networks indicate resilience through the dual actors in the same scene and functional differentiation through subgroup structures. The same finding is found in the MN37 (Box 6.5). In MN37, the meta-network structure in Figure 6.3 shows subgroup structure, and there is an additional subgroup of nodes. This subgroup surrounding UB highlights the alternatives in executing tasks under Scene 4 'transaction'. Whereas in the one subgroup it includes actor UC placing the transaction in ordinary corporate shares (task node S4F1) and, in the other subgroup, actor UB brings on the derivative transaction experience to leverage

the illegal returns as an alternative method (node S4F2). Such subgroup structures identified indicates not only functional differentiation but also flexibility offered by UB who provides an alternative route to complete the same scene. Similar to MN37 of three task groups, this is also observed in MN42, the additional task group includes the actor XF who executes task 5 in laundering the illegal proceeds (task node S5) by using offshore corporate vehicles and associated bank accounts (resource node offshore). This illustrates how functional differentiation is further promoted. This shows how social network analysis does not capture the full story behind the network. Whereas SN42 shows that the network is structured to prioritise efficiency over security, multi-mode network here shows that efficiency in communication is balanced out with the security through scene 5 involving money laundering activities.

Box 6.4 *MN36*

TA is an investment banker who passes inside information on a forthcoming merger to two associates, including TB and TC. TC, who lives in Frankfurt, Germany, meets TA through a dating website. TA meet TB in a London night club. TA does not have enough finances, therefore TA uses the money from TB and TC to place the trade. TC invested more than 1 million Euros using inside information across a seven-month period from Germany and TB invested £29,000 in London. Both TB and TC shared half of the profits with TA.

Box 6.5 *MN37*

UA was working at a technology company that was arranging a takeover deal. UA passed the inside information to UB. They are next-door-neighbours in the London suburb of Southall. UA also passed the information to his brother-in-law, UC. UB netted £100,000 through investing in options to acquire substantial exposure to the shares of the company. UC simply invested in shares.

Overall, subgroup structures identified in the nine meta-networks appear to indicate network efficiency achieved through firstly, the functional differentiation among actors dividing tasks by bringing in different resources and secondly, the flexibility offered by the actor who provides an alternative route to complete the same scene and thirdly, the resilience provided by the duplicate actors on the same task. These structures reflect how social networks contribute to the insider dealing script. It is suggested here that such understanding on how actors are connected to tasks/resources to support the insider dealing commission process is better captured by using multi-mode network analysis than using solely social network analysis.

Network	Actor	Resource exclusivity	Resource specialty	Task exclusivity	Task specialty	Cognitive demand	Betweenness	Degree
36	TA	0.5	Information	0.60	S1, S2F3, S3	0.34	1.00	1.00
	TB	0.184	Finance	0.15	S4, S5	0.34	0.00	0.50
	TC	0.184	Finance	0.15	S4, S5	0.33	0.00	0.50
37	UA	0.33	Information	0.50	S1, S3	0.29	1.00	1.00
	UB	0.46	Experience	0.34	S4F2	0.36	0.00	0.50
	UC	0.12	Finance	0.09	S4F1	0.25	0.00	0.50
38	VA	0.50	Information	0.28	S1	0.25	0.00	0.33
	VB	0.07	Account	0.16	S5	0.49	0.67	0.67
	VC	0.07	Account	0.16	S5	0.49	0.67	0.67
	VD	0.07	Account	0.03	S4	0.40	0.00	0.33
39	YA	0.50	Information	0.35	S1	0.30	0.67	0.67
	YB	0.07	Account	0.20	S2F3, S3	0.48	0.67	0.67
	YC	0.07	Account	0.05	S4, S5	0.33	0.00	0.33
	YD	0.07	Account	0.05	S4, S5	0.33	0.00	0.33
40	WA	0.12	Information	0.18	S1	0.28	0.00	0.33
	WB	0.12	Experience	0.18	S4	0.33	0.67	0.67
	WC	0.46	Security	0.18	S1	0.33	0.67	0.67
	WD	0.12	Experience	0.18	S4	0.28	0.00	0.33
41	SA	0.15	Information, security	0.17	S1, S2F3	0.27	0.46	0.38
	SB	0.07	Information	0.10	S2F3	0.20	0.00	0.13
	SC	0.08	Security	0.10	S1	0.43	0.54	0.38
	SD	0.21	Knowledge	0.00	S4, S5	0.37	0.36	0.63
	SE	0.01	Attorney acct	0.00	S4, S5	0.29	0.16	0.50
	SF	0.01	Attorney acct	0.00	S4, S5	0.28	0.02	0.38
	SG	0.20	CFD broker	0.00	S4, S5	0.26	0.00	0.25
	SH	0.00		0.00	S4, S5	0.26	0.00	0.25
	SI	0.00		0.00	S4, S5	0.24	0.00	0.13
42	XA	0.07	Information	0.11	S1	0.26	0.00	0.40
	XB	0.07	Information	0.08	S1	0.19	0.00	0.40
	XC	0.40	Coordination, security	0.07	S2F3, S3, S5F1	0.35	0.60	1.00
	XD	0.07	Finance	0.11	S4	0.29	0.00	0.60
	XE	0.07	Finance	0.08	S4	0.22	0.00	0.60
	XF	0.20	Offshore	0.17	S5F2	0.15	0.00	0.60
43	ZA	0.09	Coordination	0.08	S2F3	0.25	0.00	0.50
	ZB	0.25	Information	0.21	S1	0.20	0.00	0.50
	ZC	0.13	Coordination	0.16	S2F3, S3F3	0.51	0.73	1.00
	ZD	0.01	Leverage	0.01	S3	0.27	0.00	0.50
	ZE	0.04	Corporate	0.00	S4	0.26	0.00	0.33
	ZF	0.01	Leverage	0.00	S4	0.16	0.00	0.17
	ZG	0.04	Corporate	0.08	S3F3	0.27	0.00	0.33
27	RA	0.33	Information	0.33	S1	0.22	0.00	0.40
	RB	0.33	Sale scripts	0.01	S3F3	0.44	0.15	1.00
	RC	0.00		0.05	S4F3	0.53	0.00	0.80
	RD	0.00		0.05	S4F3	0.53	0.00	0.80
	RE	0.00		0.05	S4F3	0.53	0.00	0.80
	RF	0.33	Permission	0.01	S3F3	0.44	0.15	1.00
35	QA	0.14		0.14		0.71	0.00	1.00
	QB	0.14		0.14		0.71	0.00	1.00
	QC	0.14		0.14		0.71	0.00	1.00

Red: higher-than-normal value (greater than SD above mean); blue: lower-than-normal value (less than 1 SD below mean)

Table 6.6 *Key actors' measures*

6.3.2.2 Key actors

Table 6.6 presents the results of two-mode network measures of resource exclusivity applied in the capability network (actor × resource) and task exclusivity applied in the task network (actor × task) and the multi-mode network measure of cognitive demand in the meta-network. It also includes measures

of degree and betweenness centralities for comparison. If the actor has a higher-than-normal value (greater than one standard deviation(s) above the mean), the value is coloured red; and it is coloured blue if the value is lower than normal value (less than one standard deviation(s) below the mean). The columns of specialty describe resources or tasks of an actor that few other actors have, and it is left blank if specialty is absent. Further, the sociograms of 'sphere of influence' are presented during the analysis to understand the property of a specific actor. The following paragraph describes results in each meta-network.

In MN36 (see Box 6.4 for case description), the analysis indicates that the central actor TA identified in the social network also appears to be the key actor in the meta-network given its highest ranking in both resource and task exclusivity measures and in cognitive demand. This shows that TA possessed not only power in controlling the flow of information but also was the sole actor owning the inside information as the key resource, and both initiated the insider dealing scheme and passed on the inside information. TB and TC were in similar positions to place the transaction and send the proceeds back to TA. This finding from the task exclusivity measure does accurately represent and describe what happened. Similarly, in MN37 (Box 6.5), the central actor UA was also in possession of the unique resource of inside information and exclusively tipped co-offenders. The analysis further indicates that UB also displayed a high cognitive demand value. However, it appears to be simply inflated by the addition of node experience and the node finance that is shared with UC, instead of a real standing out in cognitive effort expended. This might show that the multi-mode measure, cognitive demand, may be sensitive to how nodes are imputed especially in smaller networks.

Nonetheless, the analysis indicates that equally central actors in the social network may differ in other aspects that make them variously vital to the meta-network, such as task and resource exclusivity and cognitive demand. In MN39 (Box 6.6), one of the two central actors in the social network, YA, also assumes exclusive inside information. The other central actor, YB, stands out in cognitive demand, which indicates the quality of emergent leader. An examination of YB's sphere of influence (Figure 6.5, left) – the egonet of specific actor to locate who and what he/she influences (Carley, 2006) – which highlights others' dependencies on YB to recruit YC, to deal, to pass on and to receive the inside information for executing the transaction. That is, YB appears to be important in maintaining the operation of the insider dealing script by connecting nodes in the two task groups. In contrast, according to the sociogram of MN39 in Figure 6.4, it appears that YA is less well-connected with other nodes and has equal cognitive demand as YC and YD. In hindsight, this appears to indicate YA's attempts to minimise involvement in the crime script to assume security. These findings are confirmed by the evidence presented in the criminal trial, where YA is suggested to be the key actor in anchoring the insider dealing scheme, and YB is under YA's command.

Also, in SN38 (Box 6.7), VB and VC both occupy central positions in the social network. However, findings from the meta-network shows further insights in their structural properties. The sphere of

influence of VB (Figure 6.5, right) appears to indicate that VB plays an important role in connecting VA who provides the insider information with the transaction task group of multiple offenders including VC and VD. In other words, VB is more important than VC in maintaining the structure that enables functional differentiation as well as resilience. Without VB, the task of carrying out insider dealing transaction cannot be completed. Such understanding gives a more accurate picture of the key actor properties, which cannot be grasped by using social network analysis shown earlier.

Box 6.6 *MN39*

YA has sole access to inside information and passes the inside information first to YD (former girlfriend) and then to YB (later wife). YA asks YB to recruit a new dealer because YB faces detection risk from the law enforcement authority. YB reaches out to her friend YC, who lives abroad, and convinces him to join the scheme. YB then serves as the bridge between YA and YC to pass information and divide proceeds. The scheme lasts over nine years.

Box 6.7 *MN38*

VA is the company director of a resource development company listed on the LSE. VA accesses inside information about the forthcoming takeover of the company. VA then asks a friend VB to buy shares on his behalf for concealment purposes. VB purchases the shares using the inside information for himself and for VA. VB contacts his broker, VC, to help him to buy more shares. VC then uses the information to place shares on behalf of himself and VB, and further passes information along to VD.
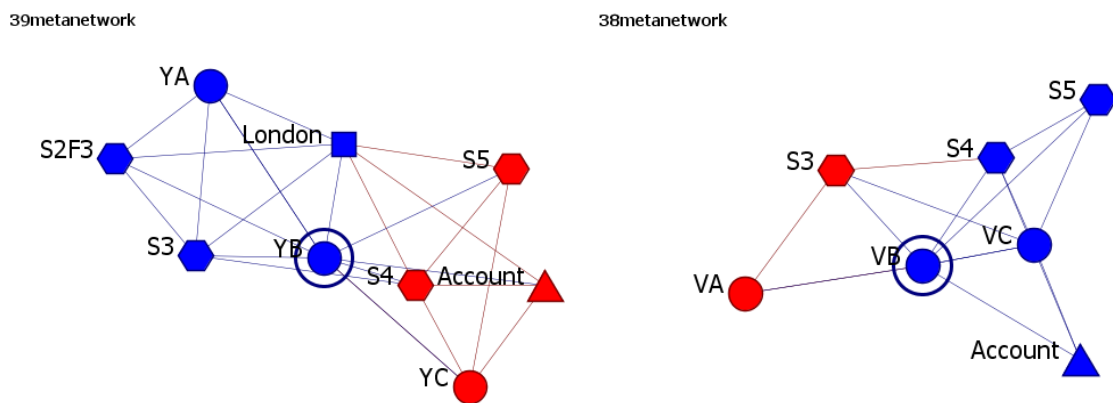
Figure 6.5 *Sphere of influence of YB in MN39 (left) and VB in MN38 (right)*

However, central actors in the social network may be equally important as the non-central actors based on the meta-network measures. This can be indicated by MN40 (Box 6.8). Whereas WB and WC both assume central positions in the social network, in the associated MN40 (visualised in Figure 6.4 above), all four actors score the same in task exclusivity. Such equal scoring in task resource exclusivity as in MN35 is not due to the absence of division of labour as in MN35. Rather, it highlights the overall network resilience by having dual actors in each of the two task groups representing scene 1 'entering

inside' and 4 'transaction', unlike partial resilience in the scene 'transaction' as in MN36, 37, 38 and 39 where the task of accessing inside information is uniquely executed by a sole actor. The analysis further shows that actors appear to be peripheral (low in centralities) in the social network may appear to be key in the meta-network. In MN38 (Box 6.7), it is indicated that the key player position of VB and VC in the social network is taken over by VA because of VA's higher ranking in resource and task exclusivities related to the inside information. These findings further show how a better understanding on the key actor property can be best achieved through using multi-mode network analysis, rather than only relying on social network analysis.

Box 6.8 *MN40*

WA is a hedge fund manager who has accesses inside information before executing a large transaction order that moves share price (S1F3 – exogenous entry). WC is an execution dealer at another hedge fund who similarly accesses inside information. WA passes information to WB to also receive information from WC. WC passes the inside information to not only WB but also to WD. WB and WD both deal using derivatives to leverage substantial returns. WB and WC receive higher illegal profits because they receive two dividends.


In MN41 (Box 6.9; Figure 6.6), the social network analysis indicates SA and SC's strategic broker positions, and SD and SE's rich connections that may indicate greater influence in the network. By looking at the meta-network, I can further understand their roles in maintaining the insider dealing script, which cannot be captured by solely using social network analysis. Firstly, I am now able to identify the importance of SD over SE. SD scores the highest in resource exclusivity with specialty in financial knowledge that helps to decode the documents containing inside information passed from SC. This sheds lights on SD's central position in the social network, which appears to enable the efficient communication of the decoded inside information to all other actors in executing activities under scene 4 'transaction' (left, Figure 6.6). This also indicates others' high dependency on SD, which also makes sense of the second highest cognitive demand score in reflecting how busy SD is in tipping lots of other people. Moreover, although SG is not central in the social network, SG appears to uniquely hold occupation as the CFD[24] broker, which makes him vital in executing the scene 4 'transaction' by helping other dealers in organising and booking the CFD transactions, through collusion without invoking suspicions of the financial institution.

Box 6.9 *MN41*

This case involves brokers SA and SB who work at two different investment banks but have access to inside information by working at the printing room. SB passes inside information SA. SA then passes the information to SC. SC is connected with a group of actors who are friends and/or family. SC would share the inside information through email for the group to deal using derivative products.

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[24] CFD is a product in financial derivates trading in which the difference in settlement between the opening and closing trade price is cash-settled.

Secondly, I am also able to identify different roles by SA and SC through a meta-network analysis. Although SA and SC both occupy broker positions in the social network, the meta-network further indicates the importance of SA with the highest ranking in task exclusivity. An examination of SA's connection pattern indicates that SA is vital to the meta-network in being not only one of the two actors in possessing the access to the inside information, but also in initiating and building the illegal network. Interestingly, SA does not stand out in the degree centrality measure. This may indicate his intention in reducing exposure by not having many connections with other co-offenders in the network, which is also the case of YA in MN39 discussed earlier. Further, SC's role can be distinguished from SA's role by SC's highest score in cognitive demand. The meta-network makes sense of this by highlighting SC's importance in brokering between the two task groups and being involved in different tasks including not only tipping but also dealing and sending proceeds (Figure 6.6, right). SC appears to be structurally and functionally similar to YB in MN39, since both are connected to multiple actors, tasks and resources but do not own the original access to the inside information. Hence, SC can be seen as the 'emergent leader' of the group, who is very busy in maintaining the operation but not the formal leader. This finding is corroborated by the actual case dynamics revealed in the criminal trial. SA has been suggested to be orchestrating and coordinating the insider dealing ring, where SC takes order from SA mediates between SA to the group of dealers. This confirms SC's role as emergent leader. Such findings are important. This shows merits of meta-network analysis in identifying exclusive actors and emergent leaders who are vital in maintaining the insider dealing script, which the social network analysis fails the capture.

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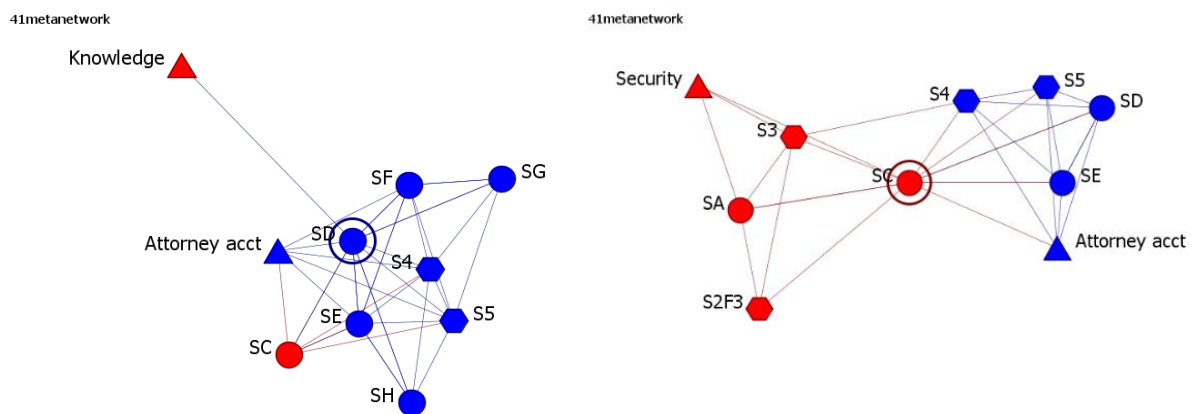
Figure 6.6 Sphere of influence of SD (left) and SC (right) in MN41

In MN42 (Box 6.2), XC emerges to score highest in cognitive demand and resource exclusivity. This finding appears to make sense of the central position of XC indicated in the social network. The analysis on the meta-network indicates that XC has resource exclusivity in coordination skills and security tools but scores lowest in task exclusivity by diversly engaging in a wide range of tasks. These further make sense of XC's high cognitive demand that indicates the most mental effort used to connect co-offenders

and manage different tasks and resources required in the script (Carley and Ren, 2001). This finding on XC further confirms his role in brokering the three task groups in the meta-network as discussed previously, i.e., in maintaining the operation of the crime script. Hence, it may indicate the qualification of emergent leader of XC. However, the qualitative evidence from the criminal trial suggests that XC is not an emergent leader but the formal leader of the network who coordinates the whole insider dealing scheme. This is interesting because it contradicts earlier findings where the formal leader scores lower than the emergent leader in cognitive demand. However, this case shows that formal leader can also score high in cognitive demand. It also shows that formal leader can be extensively involved in the insider dealing script.

Further, it is interesting to find that XF, not being central in the social network, scores highest in task exclusivity by being solely responsible for laundering illegal proceeds. However, XF scores the lowest in cognitive demand, which may indicate that XF may not be fully aware of the operation of the network. I am reserved about this finding because the official data does not show evidence that support this. In MN43 (Box 6.3), ZC, the central actor in the social network, stands out in task exclusivity. ZC, together with ZA and ZG, is uniquely responsible for initiating and coordinating the illegal network and anchoring the organisational tipping in the brokerage firm that few other co-offenders engage in. ZC further stands out in cognitive demand and occupies the central position in sustaining the connection of the meta-network, which indicate ZC's critical role in coordinating the network operation (see Figure 6.8). Further, ZB, who appears to be peripheral in the social network, assumes a key actor position in the meta-network through the sole possession of the necessary resource – inside information. By comparing MN42 and MN43, I find the important of a multi-mode network analysis that can better reflect the actor with exclusive resources. I can conclude that, although SN42 and SN43 are previously shown to display similar social network characteristics, MN43 is a lot less resilient in executing the scene 1 'entering inside' and scene 3 'tipping'. Whereas MN42 strikes a good balance between network resilience and functional differentiation in completing the insider dealing script.
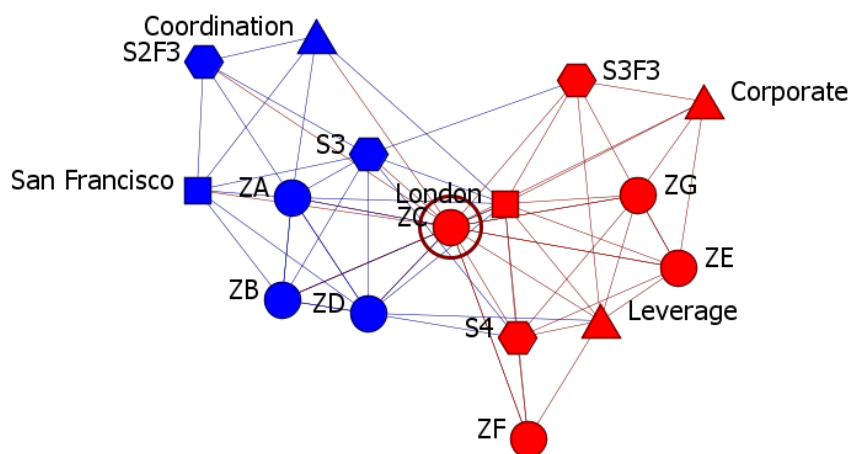
Figure 6.7 *ZC's sphere of influence in MN43*

In MN27 (Box 6.10), the measures indicate SA is the sole owner of unique information, who appears not have redundant connections with co-offenders. The main operation appears to be sustained by central actor RB and RF have high exclusivity scores by uniquely circulating sales scripts containing inside information and permitting its use in the brokerage firm to carry out organisational transactions in the transaction task group. This finding is accurately reflecting the organisational dimension of the case. In MN35 (Box 6.1), the meta-network confirms the findings of equal power in the social network analysis. All co-offenders score the same in the two exclusivity measures and in cognitive demand. This finding is not surprising given the absence of subgroup structure detected in the meta-network as mentioned earlier. It accords with the 'peers' type of co-offending where there is mutual association and participation, but no differential roles played by actors that would indicate one is more important than the other (Best and Luckenbill, 1994).

Box 6.10 *MN27*

All actors (RA, RB, RC, RD, RE and RF) work at the same financial institution. RF is the director, who closely engage in the day-to-day management of the company. RB is the sales manager who leads a team that includes RC, RD and RE. In order to boost the sales records, RB asks co-worker RA at the sell-side for tips, which RA gives to RB. RB then drafts sales scripts that include the inside information and asks the team members to use it to pitch sales orders to clients. RF permits the scheme.

6.3.2.3 Summary and discussion

Overall, the analysis find that nine out of the ten studied meta-networks display meaningful subgroup structure using the Newman algorithm. It is found that actor, resource, task, and location nodes are assigned to either two or three subgroups. One of them surrounds actor(s) contributing to the access of inside information that makes the illegal operation possible. The other subgroup surrounds actors contributing to the actual doing of insider dealing transaction. Where there are three subgroups, the additional one represents either the actor carrying out money laundering or an alternative route in executing the transaction. The analysis finds that these subgroups correspond with the procedural requirement under scenes/facets in the insider dealing script. Functional differentiation represents how actors are structured in executing different scenes in the script; flexibility is shown by having different actors executing two different facets under the same scene; and resilience is reflected in duplicate actors in the same scene/facet. This contributes to existing literature. Existing literature has used brokerage scores and visualisations to analyse meta-network that merges crime script and network analyses (Bellotti et al., 2020). The findings here show how can I use grouping algorithm to identify how nodes are grouped in the corresponding scenes/facets in the insider dealing script.

Moreover, the findings here show that multi-mode network analysis is able to capture key actors who are not identified through the use of social network analysis alone. In general, it enables a better understanding on the key actors who are vital to maintaining the insider dealing script. Firstly, multi-

mode network analysis can identify emergent leaders who spend very high cognitive efforts to coordinate the operation of the meta-network by not only connecting to many resources, tasks, and actors, but also connecting different task groups and facilitating their flow in the meta-network (Carley and Ren, 2001). They are not the formal leader of the network but extensively involved in the insider dealing script. They often occupy either a central or broker position in the social network. This characteristic accords with Malm and Bichler (2011) who find that some actors who are involved in multiple tasks usually also display high degree centrality in the network. Emergent leaders further appear to be consistent with the role of certain actors in maintaining the flexibility of crime script in Morselli and Roy's (2008) analysis.

Key actors may also be defined by resource and/or task exclusivity (which also indicates vulnerability in specific scenes/facets). I find that key actors include those who hold exclusive access to inside information, without whom the network is likely to be disrupted. They are found to either occupy central, broker, or peripheral position in the social network. However, high exclusivity is rarely exhibited by actors in the transaction task group, where there is always redundancy (resilience) in actors using their financial resources to place the insider dealing transaction (scene 4). Key actors also include those with exclusivity in resources and tasks that facilitate the primary illegal activity of insider dealing transaction, such as the legitimate financial intermediary in executing dealer's order or money launderers, while occupying a peripheral position in the social network. This supports Malm and Bichler's (2013) findings on the peripheral position of a professional money launderer (defined as not participating in the primary illegal activities) in illegal networks.

Lastly, with regards to methodological issues, the analysis indicates that multi-mode network analysis is valuable in providing a better understanding on the organisation of insider dealing by showing how a given co-offender network embeds insider dealing. Whereas the social network analysis is useful in studying how co-offender networks balance the need for efficiency with security, the multi-mode network data enable an understanding into how they build up different dimensions of network efficiency to complete the insider dealing script. Furthermore, the identification of key actors is shown to produce different results between analysis on pure social relations and on multi-mode network data. Multi-mode network data appear to generate important insights on actors who are unimportant in the social network because of their peripheral positions but are important in meta-network because of exclusivities in such as resources and tasks. The measure of cognitive demand further enables the identification of emergent leaders who appear to be important in keeping the insider dealing commission process intact but not the formal leader of the group. However, the formal leader may also score high in cognitive demand. This highlights the importance to use both structural network measures and qualitative evidence to fully grasp the mechanisms.

6.4 Multi-link network structures

6.4.1 Analytical concepts and measures

In the previous social network analysis, relational data are aggregated into a single binary network. However, multiplexity – the phenomenon of actors nested within multiple types of social relationships (Hanneman and Riddle, 2005) – has been suggested to be key to the organisation of illegal activities in the illicit network literature (Krebs, 2002; Malm et al., 2010; Lauchs et al., 2011; Smith and Papachristos, 2016). It is the aim of this section to analyse the multiplexity in social networks that are embedded in insider dealing, to further understand *how networks of different relationships facilitate insider dealing*. Insider dealing social networks may display similar multi-link structures identified in the illegal network research. Co-offending networks in insider dealing may be facilitated by dense networks of legal affective relationships that develop trust in fostering and stabilising co-offending which is otherwise filled with risks and uncertainties (Erickson, 1981; Bruinsma and Bernasco, 2004; Malm et al., 2010). Insider dealing may also be built on purely illegal networks of instrumental relationships secured on the basis of resource exchange for insider dealing, where a pre-existing relationship is lacking (Tremblay, 1993; Krebs, 2002; Weerman, 2004; Bright et al., 2015b).

6.4.1.1 Constructing multi-link networks

Multi-link networks are constructed in three cases, including ML27, ML42 and ML43 where there are sufficient data on multiple types of relationships between co-offenders. To examine multiplexity in insider dealing, the analysis draws on existing literature on illegal networks to include four types of relationships (Everton, 2012; Bright et al., 2015b). They include two types of illegal relationships of resource transfers: the transfer of inside information and the transfer of finance; and two types of legal relationships for trust: kinship/friendship (as in personal) and business relationship. Each type of relationship constructs an undirected binary a sperate 'network layer' (Bright et al., 2015b), where stacking these layers constitutes the valued multi-link (or multi-plex) social networks (the previous social network analysis is on binary social networks aggregating all these relationships). Firstly, there is a personal network layer, a tie is defined as kinship or friendship observed between a pair of actors. The tie is coded as '1' in the personal network layer when there is a presence of such personal relationship, and '0' means absence of kinship or friendship between a pair of actors. Second, in the business network layer, a tie is defined as an observed co-working relationship, co-directorship, and/or co-investment partnership between a pair of actors. The tie is coded as '1' in the business network layer if any business relationship is observed between actors and is coded '0' if it is absent among a pair of actors. Thirdly, in illegal information transfer network layer, a tie between a pair of actors is coded as '1' if I observe the passing of inside information, whereas if it is coded '0' if it is missing. Lastly, in the illegal finance layer, a tie between a pair of actors is coded as '1' if I observe transfer of illegal proceeds, where it is coded '0' if it is missing. After coding in each observed separate network layer, I then stack/merge them together into a single valued multi-link network by adding the link values in each

network. Hence, the new single valued multi-link value has a link value range between 0-4. '0' means an absence of any relationships, '1' means the presence of one type of relationship (e.g., it can be personal or illegal information transfer). '2' means the presence of two type of relationships and so on.

6.4.1.2 Analytical measures

The analysis explores how network layers interlink by comparing standard descriptive statistics (density and centrality measures) and visualisation in network layers within and across multi-link networks. It also uses (Multiple Regression) Quadratic Assignment Procedure ((MR)QAP) to produce correlation and regression results. QAP is designed as a bivariate test to correlate two matrices. Hence, QAP is applied in ML27 where only two network layers are identified. The results produced give a QAP correlation index ranges 0 to 1. The ties in the two network layers are more related if the correlation value is higher. The p-value is used to interpret whether the correlation results are statistically significant. The analysis also computes QAP regression in order to estimate the values of a dyadic tie as the dependent variable (here I estimate the illegal information transfer) using another independent variable. The analysis looks at the R-square value to determine the model fit to see whether the independent variable is the factor in estimating illegal information transfer. P-value is used to determine whether the result is statistically significant. The analysis further uses MRQAP in two multi-link networks ML42 and ML43 consisted of more than two network layers to produce computes correlation and regression. This is because MRQAP is designed for multivariate cases. The interpretation of results is the same as the procedure in QAP's results. But in the MRQAP regression I further look at standardised co-efficient to compare which network layer is more strongly associated with the dependent variable (illegal transfer of information). All procedures here are conducted in ORA software (Altman et al., 2019). The analysis is carried out in ML27, ML42 and ML43 of sufficient multi-link data. The analysis further considers of insights from multi-mode networks to contextualises the results.

6.4.2 Results

6.4.2.1 Overall multi-link networks

To analyse how network layers interlink, Table 6.7 displays descriptive statistics for each undirected network layer and for the undirected multi-link networks analysed previously. Sociograms for each network layer and merged networks are presented in Figure 6.9 for ML42, Figure 6.10 for ML28 and Figure 6.11 for ML43. Nodes are sized based on betweenness centrality and coloured based on the grouping results in the meta-mode networks. Link widths are sized based on link value. In ML42, there are four network layers, including illegal information transfer, illegal transfer of proceeds, personal relationships (kinships and friendships) and business relationships. Across these four network layers, density scores range from 0.07 for friendship (no kinship) to 0.53 for transfer of illegal finances, where degree centrality scores range from 0 for business relationship to 0.7 for both transfer of finance and information. In ML27, the analysis identifies two network layers, including illegal information transfer and business relationships. The density scores are 0.27 for illegal transfer of information and 0.8 for

business relationships, whereas the centrality scores are 0.8 and 0.3, respectively. In ML43, there are three network layers, including illegal information transfer, business relationships and personal relationships. The density scores range from 0.24 for business relationship to 0.43 for the illegal transfer of inside information and, the centrality scores range from 0.47 for kinships and friendships and 0.8 for transfer of information.

	Nodes	Edges	Density	Degree centrality
ML42: business	6	3	0.20	0.00
ML42: finance	6	8	0.53	0.70
ML42: friendship	6	1	0.07	0.20
ML42: infotransfer	6	5	0.33	0.70
ML42: merged	6	9	0.60	0.60
ML27: business	6	12	0.80	0.30
ML27: infotransfer	6	4	0.27	0.80
ML27: merged	6	16	0.53	0.30
ML43: kinfriendship	7	7	0.33	0.47
ML43: business	7	5	0.24	0.60
ML43: infotransfer	7	9	0.43	0.80
ML43: merged	7	10	0.48	0.73

Table 6.7 *Descriptive statistics of network layers and merged networks*
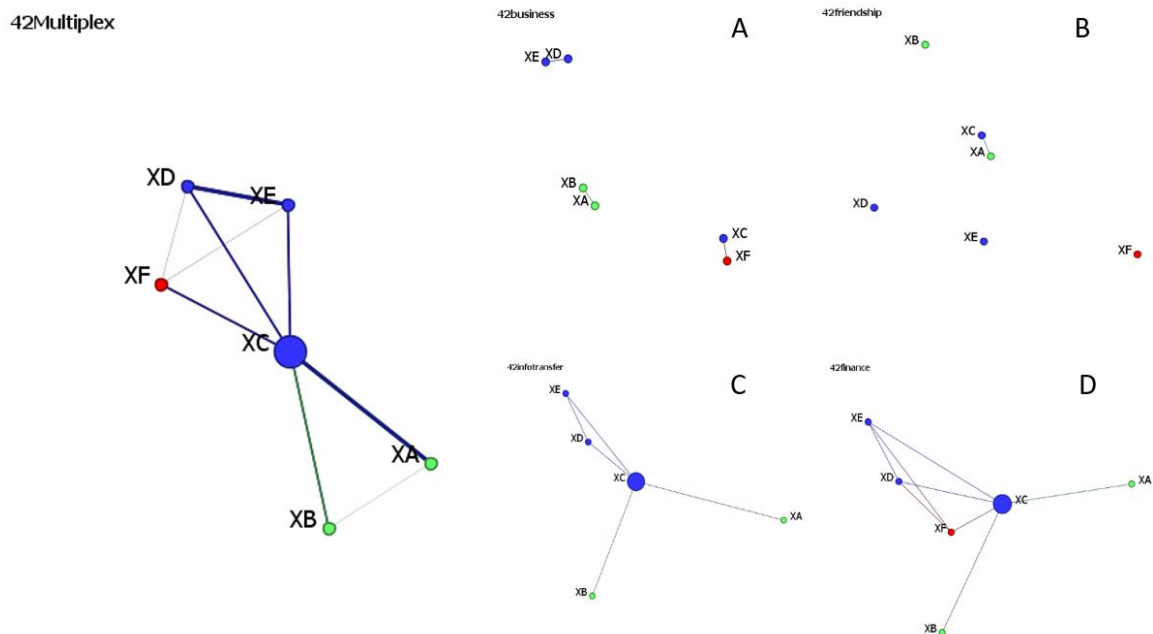
Figure 6.8 *ML42 and layers (A: business; B: friendship; C: information transfer; D: finance transfer)*

Across the three studied multi-link networks, the descriptive data in Table 6.7 show dissimilar patterns in how network layers vary. In ML42, a substantial increase in both density and centralisation is shown from illegal network layers in the transfer of information and finance transfer, to layers of legal

friendships and business. Figure 6.8 provides the sociograms of each layer in ML42. They illustrate this substantial difference between the layer where disconnected pairs of actors are sparsely connected through legal relationships, and the layer where they become better connected and centralised through illegal relationships in the transfer of information and finance. To measure how layers interlink, Tables 6.8 reports the QAP correlation matrix for ML27 and Tables 6.9 and 6.10 report the MRQAP correlation matrixes for ML42 and ML43, respectively. These tables show that the only statistically significant effect is the positive influence between the illegal layers of transfer of inside information and finance in cases ML42 and ML43. Whereas the business network layer is moderately related to the transfer of inside information, it is not statistically significant. The results so far appear to indicate the primary role of *instrumental* relationships – exchanging resources of inside information for finance – in maintaining the insider dealing. While legal layers do provide some bases for illegal layers, their effects are modest and secondary.

ML27	Y	X1
Y Information transfer	1	0.302
X1 Business relationship		1

***p-value < 0.001; **p-value<0.01; *p-value<0.05

Table 6.8 *Correlation matrix for network layers for ML27 (QAP correlation)*

ML42	Y	X1	X2	X3
Y Information transfer	1	0.661*	0	0.378
X1 Finance transfer		1	0.134	0.25
X2 Business relationship			1	-0.134
X3 Friendship				1

***p-value < 0.001; **p-value<0.01; *p-value<0.05

Table 6.9 *Correlation matrix for network layers for ML42 (MRQAP correlation)*

ML43	Y	X1	X2
Y Information transfer	1	0.816**	0.42
X1 Kinship and friendship		1	0.079
X2 Business relationship			1

***p-value < 0.001; **p-value<0.01; *p-value<0.05

Table 6.10 *Correlation matrix for network layers for ML43 (MRQAP correlation)*

To gain a deeper understanding in how multiplexity facilitates insider dealing, the analysis further considers the multi-mode grouping results (actors belonged to same subgroup are indicated by the same colour) in the meta-network analysis. Looking at the business network layer, I find that actors who are connected belong to the same subgroup who contributes to the same scenes/facets in the insider dealing script. However, in the merged multi-link network, most single and double links (indicated by link width) are attributed to illegal layers of actors who contribute to different task group (different node colour). These imply that pre-existing network layers may restrict diversifying resources and

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opportunities, hence the likely requirement for instrumental relationships to bridge actors across task groups in supporting functional differentiation to complete the insider dealing script (Tremblay, 1993). An exception is XA and XB who are connected in the legal business layer but not in any other illegal layer, despite the overall increase in link counts from legal to illegal layers (see Table 6.7). However, the merged multi-link network observes closure among XA, XB, and XC, which means that XB connects with XC through XB for insider dealing. This reflects the pulling effect of social environment and the need for communication efficiency in the transfer of inside information through instrumental relationships in the illegal operation (Kleemans and van de Bunt, 1999; Morselli and Petit, 2007). Such depiction observed from the multi-link network result accurately reflects the case dynamics revealed in the official data. Whereas the multi-mode results have previously shown how this network is structured in boosting functional differentiation and resilience, the multi-link results give an even more complete picture in understanding how the functional differentiation and resilience are supported by multiplexity.

Compared to ML42, the density scores across network layers show an inverse association in ML27 of *organisational* tipping and transaction on behalf of the brokerage firm. The legal layer of business relationships is 0.8, which substantially decreases to 0.27 in the illegal layer in transfer of inside information. However, the information transfer layers show a similar increase in centralisation. The correlation coefficients in Tables 6.8, 6.9 and 6.10 show that the business layer has a modestly positive effect on the information transfer layer, but it is not statistically significant. This is not surprising given the structural differences in the two layers. The sociograms in Figure 6.9 reflect this. The illegal layer for information transfer is built upon the layer of dense legal business relationships, where simplex connections give away an otherwise dense illegal layer for a centralised structure. Combined with the subgroup structure detected in the multi-mode network analysis, the multi-link structure indicates that the centralisation among the merged multi-link (indicated by link width) network functions to keep the path lengths short between the two task groups (distinguished by colour) to efficiently coordinate in insider dealing. Most importantly, I can observe actor RF is not illegally transferring inside information, but RF is positioned in a way that enables RF to 'observe' RC, RD, RE and RB in executing the scene 'transaction' (represented by node S4F3 in MN27 in Figure 6.4 above). These findings accurately reflect the case details where RF is the director of the company in permitting other actors to engage in the use of inside information to retain clients to fulfil the company's interests. Therefore, I can conclude that, whereas previous multi-mode analysis has shown how MN27 is structured to support resilience and functional differentiation to carry out the insider dealing script, the multi-link network analysis conducted on ML27 gives a nuanced understanding. That is, multi-link network analysis can illustrate how social cohesiveness based on formal organisational relationships create a secured closed environment that supports the functional differentiation and resilience to carry out the insider dealing scripts.
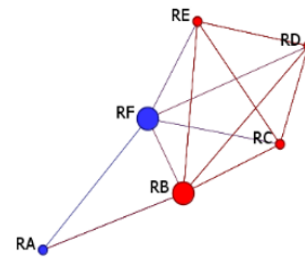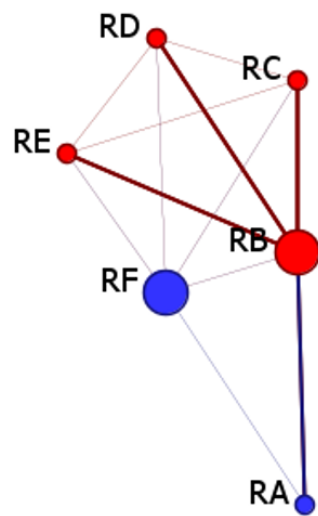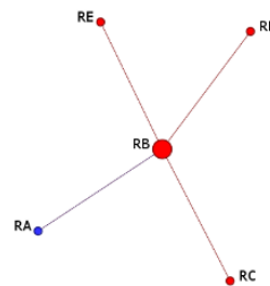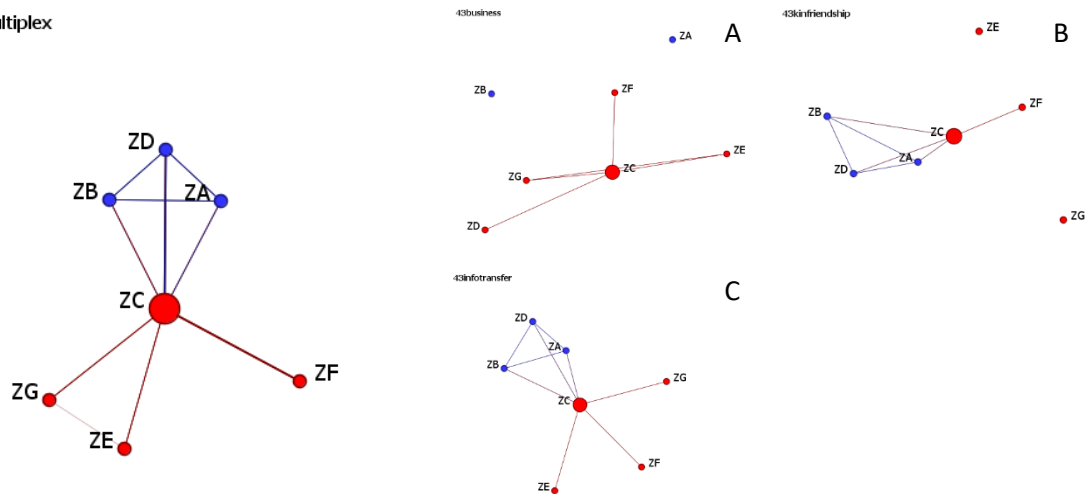
Figure 6.9 *ML27 and layers (A: business; B: information transfer)*

While ML42 and ML27 show a wider spread in density across network layers, ML43's density scores across layers show more uniformity with narrower spread within a 0.33 to 0.43 range. Centralisation moderately increases from legal to illegal layers. The correlation coefficient shows that kinship and friendship layers are highly correlated with the transfer of inside information, and it is statistically significant. Although not statistically significant, the business layer is found to moderately correlate with occurrences of information transfer. Such correlations are reflected in Figure 6.10. The merged multi-link network shows that six out of seven connections are multi-links, which indicates the presence of both legal and illegal relationships. This reflects the substantial reliance on kinship and friendship and business layers, which marks a difference from ML42 primarily built on instrumental relationships. Combined with results of subgroup structure in the multi-mode network, the multi-link structure indicates different interlink patterns that underpin the two task groups. Bringing together kinship and friendship layer with the information transfer layer underpins the tasks under scene 1 'entering inside' (group of actors coloured red), whereas the business layer overlapping with information transfer layer indicates the execution of activities under scene 4 'transaction' (blue coloured nodes). This finding indicates that pre-existing network layers facilitate resilience by assigning duplicate actors to same scenes in the insider dealing script. Whereas previous multi-mode analysis has made sense of how the local closures among ZA, ZB and ZD and among ZE, ZF, and ZG enhance resilience to commit insider dealing, multi-link network analysis further reflects how this local resilience is supported by pre-existing relationships in two different social circles of ZC. This has important implication for law enforcement activity, which will be discussed in Chapter 7.

Figure 6.10 ML43 and layers (A: business; B: kindship and friendship; C: information transfer)

Lastly, the statistical significance correlations indicated above is further confirmed by the MRQAP analyses in explaining the transfer of information as the dependent variable in ML43 and ML42. The results from the MRQAP model using kinship/friendship and business relationship in estimating the illegal transfer of information for ML43 is reported in Table 6.11. In ML43, the MRQAP model estimating illegal relationship in information shows good index of goodness of fit ($R^2 = 0.79$), which indicates a good explanatory capacity of 80% of the variation in the dependent variable. The model enables us to establish correlation between kinship and friendship and the illegal information transfer between actors (p-value < 0.01).

Variable	Std. Coef	Std. Errors	Sig. Y-Perm	Sig. Dekker
(Intercept)	0	0.07	1	
Kinship/friendship	0.788	0.113	0.009	0
Business	0.357	0.125	0.193	0.06

$R^2 = 0.794$, Std. Error = 0.243

Table 6.11 MRQAP model of information transfer in ML43

The results from the MRQAP model using illegal transfer of finance, business relationship and friendship in estimating the illegal transfer of information for ML42 are reported in Table 6.12. In ML42, the model estimating information transfer also show a good goodness of fit ($R^2 = 0.49$), which indicates explanatory capacity of 49% of the variation in the dependent variable. It enables the estimating of illegal information transfer by illegal finance transfer (p-value < 0.05).

Variable	Coef	Std. Coef	Std. Errors	Sig. Y-Perm	Sig. Dekker
(Intercept)	0.009	0	0.153	0.987	
Finance	0.58	0.614	0.214	0.045	0.07
Business	-0.062	-0.053	0.26	0.584	0.622
Friendship	0.411	0.217	0.427	0.341	0.266

R^2 =0.794, Std. Error = 0.243

Table 6.12 *MRQAP model of information transfer in ML42*

The results from the QAP model using business relationship in estimating illegal transfer of information are reported in Table 6.13. In ML27, the bivariate QAP model shows that the business relationship layer as the independent variable only explains 9.1% of the variance in the illegal information transfer layer. Thus, it is likely that there are other types of relationships outside the model may account for the other 90.9% of the variance. However, it is important to note that using R^2 to predict the goodness of fit has been criticised due to being affected by other factors, notably variance of the independent variable and the variance in residuals.

Variable	Std. Coef	Std. Errors	Sig. Y-Perm
(Intercept)	0	0.261	1
Business	0.302	0.292	0.447

R^2 =0.091, Std. Error = 0.453

Table 6.13 *QAP model of information transfer in ML27*

6.4.3 Summary

Overall, the multi-link network analysis uncovers dissimilarities in how network layers vary and interlink that variously facilitate insider dealing across the three studied insider dealing social networks. Firstly, it is observed that legal network layers can be denser than illegal network layers or, that legal and illegal layers might be similar in density. Such layer structures indicate multiplexity grounded in pre-existing kinship, friendship and business networks, which reflects the mechanism of trust generated from the pre-existing social relationships that foster and maintain insider dealing. Most importantly, multiplexity facilitates actors participating in the same tasks to improve network efficiency and resilience; and enhances security and reinforces deviant organisational value among corporate employees. This aligns with existing literature on the role of pre-existing social cohesiveness in binding co-offender networks (Bruinsma and Bernasco, 2004; Malm et al., 2010; Smith and Papachristos, 2016). Secondly, in situations where trust assumes secondary importance, insider dealing appears to be reinforced by multiplexity in illegal activities that implies resource transfer in illegal finances and inside information. This further reflects the finding by Smith and Papachristos (2016) on the diversity of co-participation in a variety of illegal activities as a reinforcement of illegal network.

6.5 Multi-time network structures

6.5.1 Analytical measures

This section presents findings from the multi-time network to explore how insider dealing networks evolve over time. Multi-time network is also called dynamic network as it evolves and changes over time as actors enter, leave, and move around (Everton, 2012). This is important as illegal networks have been suggested to be fluid and dynamic (Milward and Raab, 2006). Insider dealing networks may similarly go through stages of emerging, maturing and disintegrating as identified by Xu et al. (2009). They may also display structural changes in adapting to changing illegal focuses in the crime commission process as identified by Bright and Delaney (2013) in their study on a drug trafficking network. To explore the dynamics, the analysis employs multi-time multi-mode network data. It follows the previous analytical procedures on the overall multi-mode network in using descriptive statistics and visualisations. It further maps structural and functional changes over time to gain insights on how changes reflect network efficiency and security. The case analysed is MN42 where there is sufficient longitudinal data. It constructs meta-networks for five one-year time periods: 2006 (Time1; T1), 2007 (Time2; T2), 2008 (Time 3; T3), 2009 (Time 4; T4), and 2010 (Time 5; T5).

6.5.2 Results: Overall multi-time network

Table 6.14 reports descriptive data on the whole meta-network in each of the five time periods, and Table 6.15 reports the count of links that are newly formed or exit the meta-network over time. Table 6.16 reports descriptive data on the social network. The sociograms of the multi-link network with meta-networks at each time period are illustrated by Figure 6.11. Node colours illustrate the subgroup structure detected by the Newman algorithm, where modularity scores are all above 0.3 and structures are meaningful in indicating task groups across insider dealing commission process. The circled actor nodes highlight actors that newly enter the meta-network, which enables direct examination of their sphere of influence. This helps to gain insights on how network dynamics facilitate the insider dealing commission process. Overall, density is at its lowest in time 1. Between time 2 and 5, it increases and hovers around 0.25 and 0.29. This increase is attributed to the substantial link growth in time period 2 and the growth at a lesser degree at time period 3, whereas the slightly drop in density at time 4 is attributed to the negative net growth in link counts. This finding appears to reconcile with the stages of *emerging and maturing* (Xu et al., 2009).

	Nodes	Links	Density
Time1	21	31	0.15
Time2	21	54	0.25
Time3	21	60	0.29
Time4	21	57	0.27
Time5	21	57	0.27

***Table 6.14** MN42's descriptive data by time*

	T1-T2	T2-T3	T3-T4	T4-T5
Link forming	25	8	0	0
Link exiting	2	2	3	0
Net growth	23	6	-3	0

Table 6.15 *MN42's descriptive data by link changes*

	Density	Degree centralisation
Time 1	0.13	0.40
Time 2	0.40	0.30
Time 3	0.60	0.60
Time 4	0.60	0.60
Time 5	0.60	0.60

Table 6.16 *SN 42's descriptive data by time*
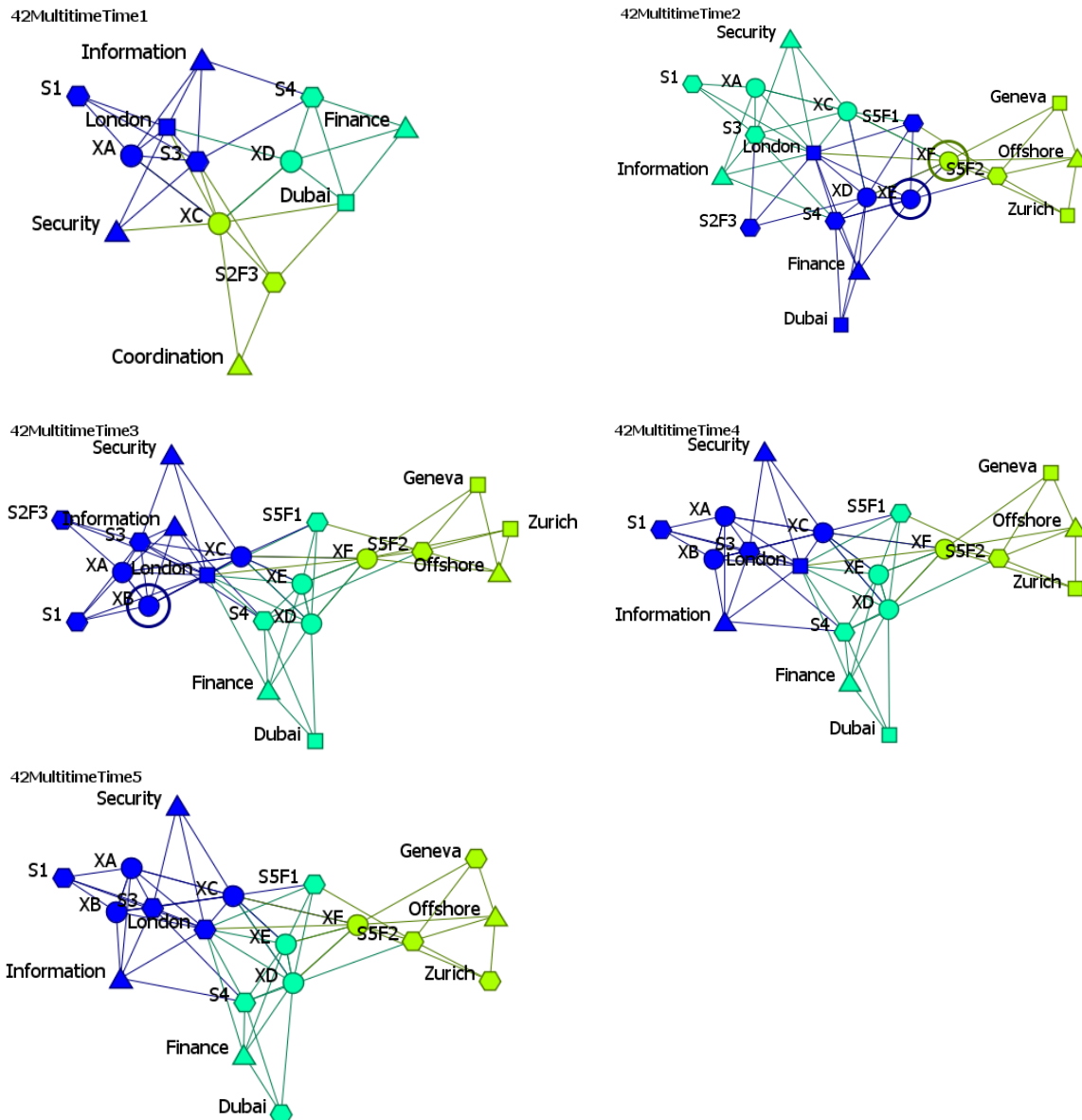
Figure 6.11 *MN42's sociograms over time (New actors: indicated by circles)*

To better understand how these stages occur and facilitate insider dealing, the analysis examines the sociograms. Originally at time 1, the meta-network splits into three main task groups, where actor XC contributes mainly to establish the co-offending network by reaching out to XD to access substantial financial capital by travelling to Dubai from London. This indicates the emergence and establishment of the social relations to build up functional differentiation, by recruiting XD to execute scene 4 'transaction' and XA to execute scene 1 'entering inside' and 2 'tipping' in the crime script. Shortly after, the network emerges where the group of three begins to cooperate. XC acts as a broker in connecting them by passing the inside information sourced from XA to XD who then deals on it.

At time 2, the meta-network grows in size and density. Time 2 sociograms indicate that this is due to the addition of actors XE and XF. XF is recruited (node S2F3) by XC who forms a new task group by solely responsible for money laundering to enhance network security by concealing the illegal proceeds and avoiding direct money transfer between the information access and transaction task groups. On the one hand, this reflects multiplexity in illegal network layers in transfer of inside information and finances as discovered earlier. On the other hand, this reflects the enhancement in functional differentiation by adding the new scenes 5 facet 2 'concealing proceeds'. Furthermore, the new links are also related to XD who participates in the S2F3 'establishing co-offending relationship' and recruits XE from into the network to further expand trading power to source finances from XE, who resided in London, in order to increase illegal profits. This indicates the enhancement in network resilience in carrying out the scene 4 'transaction' in time 2.

From time 2 to 3, the two links exiting are related to actor XC and XD who are no longer recruiting people, whereas the new links are related to XA, who begins to participate in recruitment activities under S2F3 'establishing co-offending relationships' by bringing a new actor, XB, to execute the same scenes including 'entering inside' and 'tipping'. As a result, in time 3, network resilience is further increased in the capacity in executing these two scenes, where the network can capitalise on a wider range of inside information. While XB directly transfers the information to XC, a new link also emerges between XC and XE to create a short cut between the original route from XC to XD. This forming of triadic closure observed previous in the SN42 appears to reflect the priority for efficiency in executing scene 3 'tipping' the inside information. This reflects that the security created XD as the buffer is now subsumed. Towards time 4, the meta-network appears prone to stabilise with a mild link change reflected in the three links exiting the multi-time network. This is related to the exiting of task node recruitment in stabilising the network size at time 5, indicating that the network matures (i.e., it does not expand again).

Taken together, I can conclude that multi-time further gives a more complete understanding of the network evolution. Whereas SN42 shows that the social network structure prioritises efficiency over security, I observe that it encompasses a process of evolution where the social network 'matures' to grow in size and density. Whereas the multi-mode network analysis indicates how such the actors are

structured to support functional differentiation and resilience to carry out insider dealing, the multi-time network analysis further shows how such functional differentiation and resilience grow over time.

6.7 Conclusion

The findings highlight a contribution to the criminological understanding of insider dealing from a multi-mode multi-link multi-time network approach. The findings advance the literature on insider dealing by providing an understanding of the interplay between networks of both legal and illegal relationships and the crime commission process over time. Compared to the existing social network analysis on insider dealing by Ahern (2017), the current analysis incorporates the criminological understanding of illegal networks to identify key actors and the efficiency/security trade-off. It is found that the social networks of insider dealing display dissimilar structures in the balance of efficiency and security. It goes beyond the existing analytical focus on the family relations or friendships underpinning tipping (Szockyj and Geis, 2002) by considering the complex system surrounding insider dealing through using multi-mode network data in including the related resources, illegal tasks, locations and connections between them.

The innovation of this chapter is the merging of crime script and social network analysis by using the multi-mode network approach. This merging is built on the seminar work by Morselli and Roy (2008). It goes beyond existing application of the merging that use attribute data (Bright et al., 2015a) or multi-link data (Bright et al., 2015b). Rather, it adopts a similar approach as in Bellotti et al. (2020) in imputing the procedural requirements (actors, activities, resources and locations) as nodes in a meta-network. The findings show how such a novel approach provides a robust understanding on the organisation of insider dealing and contributes to the existing literature by (1) enabling direct observation on how the crime script is embedded in the social network through visualisation (2) using Newman subgroup detection algorithm to automatically detect subgroup structures that correspond with scenes/facets in the insider dealing script.

This chapter further contributes to the existing illicit network literature by showing how a multi-mode network approach can provide a rigorous understanding on network efficiency. That is, it shows how network efficiency in illegal network can be better understood through analysing the functional differentiation (actors assigned to different scenes/facets), flexibility (actors assigned to different facets under the same scenes) and resilience (duplicate actors assigned to the same scenes/facets) in completing the crime script.

Most importantly, the multi-mode analysis conducted on the meta-network enables us to accurately identify key actors based on their exclusivity in resources/tasks required for the insider dealing script and emergent actors who are vital to maintain the operation of the insider dealing script. It is argued that multi-link network analysis provides a more robust approach to identify key actors than social network analysis that cannot, for example, identify these two types of key actors. In general, I find

multi-mode network analysis can provides a more complete and nuanced understanding on the properties of actors based on their involvement in the crime script, which cannot be acquired directly through a social network analysis.

Combining with the multi-link network analysis, this chapter further contributes to the existing literature by showing how multiplexity functions to support network efficiency to carry out the insider dealing script. The findings identify the (1) mechanism of trust in fostering and stabilising functional differentiation and resilience in the insider dealing script and (2) how functional differentiation and resilience can be held together by multiple illegal relationships for resource exchange when pre-exiting relationships are lacking. The last contribution is the use of dynamic multi-mode network analysis in showing how different dimensions of efficiency in completing the insider dealing script grow over time.

Chapter 7 Implications for disrupting the organisation of insider dealing

7.1 Introduction

The central aim of this chapter is to consider the actual situational crime prevention strategies for insider dealing in the UK and discuss potential additional strategies to disrupt the organisation of insider dealing. Based on the findings of the previous two chapters, the following pages will discuss ways to enhance the insider dealing prevention through intervening on the organisation of its structure of activities and relationships. Central to this intervention logic are the assumptions that (a) insider dealing is the outcome of rational choice processes and (b) making the insider dealing commission process more difficult, more risky, less rewarding and less excusable will therefore alter such outcome (Corish and Clarke, 1986; Clarke, 1995). This chapter pinpoints the potential intervention/disruption/control points by foregrounding the proximal conditions across the whole insider dealing commission process, and argues that such understanding can be best gained from combining the findings from both crime script and social network analyses. Relying on findings from the crime script analysis, this chapter first discusses how to disrupt the facilitative conditions that support the insider dealing commission process. Secondly, it relies on the findings about the key actors identified in the multi-mode multi-link multi-time network analysis to further identify areas to disrupt the functional differentiation, resilience and flexibility of insider dealing networks and their growth. Within these implications for prevention and disruption, this chapter invites efforts by both public and private organisations to further enhance the insider dealing prevention. Table 7.1 summarises the main situational crime prevention recommendations of this chapter, each of which is explained in detail in the following pages.

7.2 Implications of findings from the crime script analysis

The theoretical foundations of situational crime prevention were discussed in more depth under the section on environmental criminology in Chapter 3. To recap, situational crime prevention strategy is based on the assumption that illegal activities are influenced and stimulated by the immediate situation, offenders choose to commit crime and opportunity is an important cause of crime (Clarke, 2009). The underlying logic is to prevent illegal activities by increasing the effort, increasing the risks, reducing the rewards, reducing provocations, or removing excuses. However, I also recognise that it aims to provide pragmatic solutions in changing only the proximal factors but not distal antecedents.

	Scene 1 – Entering inside	Scene 2 – Procuring resources	Scene 3 – Tipping	Scene 4 – Transaction	Scene 5 – Retaining proceeds
Increase the effort to carry out the crime	a) Restrict entry to those who need it[a,b,c] b) Physically separate buy- and sell-sides[b] c) Building/electronic entry controls (card access, passwords, encryption)[a,b,c,d] d) Desk partition in shared offices[a,b]	a) Improve regulation for loan applications[a] b) Strengthen CDD to open trading accounts[a,b] c) Strengthen ongoing CDD[a,b] d) SMCR extended beyond financial institutions[a,b]	a) Reduce access to communication[a,b] b) Prohibition personal phones[a,b] c) Ban encrypted comm software[a,b,c] d) Record/monitor communications[a,b,c] e) Control USB devices[a,b,c] f) Entrance security checks[a,b]	a) Control advanced trading products[b] b) Regulation asset management companies[c] c) Supervise implementation SMCR[c]	a) Real estate agencies subject to MLR[a,b] b) Register of beneficial owners[a,b] c) Travel agencies and luxury watch subject to MLR[a,b]
Increase the risks	a) Entry controls (CCTV in office spaces)[a,b,c,d] b) Compliance training[a,b,c,d] c) Prosecutions made public[a,b,c,d] d) Whistleblowing policy[a,b,c,d] e) Keeping insider list[a,b,c] f) Protocols for unexpected leaks[a,b,c,d] g) FCA monitoring insider lists[a,b,c] h) Print room controls[d]	a) Record customers' other accounts[a,b] b) Register of beneficial owners[a,b,c] c) Companies House verify the register[a,b,c] d) Improve private sector compliance[a,b] e) Regulators inspections[a,b] f) International cooperation[a,b] g) Prosecutions made public[a,b,c] h) Verification procedures PAD[a,b] i) SMCR beyond financial org[a,b] j) Mobile services registered[b] k) Improve FCA capacity to investigate[a,b,c]	a) Internal compliance systems[a,b] b) Supervision by regulators[a,b,c] c) Compliance training[a,b,c] d) Prohibition using mobile phones[a,b] e) FCA supervision[a,b,c] f) Record/monitor communications[a,b,c] g) Print room controls[a] h) CCTV around building[a,b] i) FCA intrusive surveillance[a,b,c] j) Whistleblowing policies[a,b,c] k) Awareness investors[a,b,c]	a) Internal compliance systems[a,b,c] b) Whistleblowing policies[a,b,c] c) FCA supervision[a,b,c] d) Regulation asset management companies[c] e) International cooperation[a,b,c] f) Improve surveillance systems[a,b,c] g) FCA capacity to investigate[a,b,c] h) FCA cooperate private sector[a,b,c]	a) Real estate agencies subject to MLR[a,b] b) FIU investigation capacity[a,b] c) NCA investigation capacity[a,b] d) Register of beneficial owners[a,b] e) Companies House verify register owners[a,b] f) Travel agencies and luxury watch subject to MLR[a,b]
	a) Using multi-mode networks (all scenes and facets) b) Using multi-link networks (all scenes and facets) c) Using multi-time networks (all scenes and facets)				
Reduce the rewards	a) Protocols unexpected leaks[a,b,c,d] b) Electronic entry controls (passwords, encryption)[a,b,c,d]	a) Register of beneficial owners[a,b]	a) Record/monitor communications[a,b,c] b) CCTV around building[a,b] c) FCA intrusive surveillance[a,b,c]	a) International cooperation[a,b,c] b) Improve surveillance systems[a,b,c]	a) Real estate agencies subject to MLR[a,b] b) Travel agencies and luxurty watch subject to MLR[a,b]
Remove excuses to 'rationalise' the crime	a) Compliance training[a,b,c,d] b) Employees aware of insider dealing sanctions[a,b,c] c) Recipients comfortable receiving information[b] d) Prosecutions made public[a,b,c,d] e) Protocols unexpected leaks[a,b,c,d]	a) Register of beneficial owners of corporations[a,b,c] b) International cooperation[a,b] c) International prosecutions made public[a,b,c] d) PAD extended beyond financial institutions[a,b] c) Awareness campaigns[c]	a) Compliance training[a,b] b) Prohibition personal phones[a,b] c) Signs awareness in office[a,b] d) Whistleblowing policies[a,b,c] e) Awareness investors[a,b,c]	a) Internal compliance systems[a,b,c] b) Whistleblowing policies[a,b,c] c) Control advanced trading products[b] d) Regulation asset management companies[c]	a) Real estate agencies subject to MLR[a,b] b) Travel agencies and luxurty watch subject to MLR[a,b]
Reduce provocations that tempt offenders	a) Recipients comfortable receiving information[b] b) Physically separating buy- and sell-sides[b] c) Desk partition in shared offices[a,b,c,d] d) Electronic entry controls (passwords, encryption)[a,b,c,d]	a) Pay-as-you-go phones and SIMs registered in addresses[a]	a) Prohibition personal phones[a,b]	a) Control advanced trading products[b]	a) Real estate agencies subject to MLR[a,b] b) Register of beneficial owners[a,b,]
	[a]facet 1, [b]facet 2, [c]facet 3, [d]facet4	[a]facet 1, [b]facet 2, [c]facet 3	[a]facet 1, [b]facet 2, [c]facet 3	[a]facet 1, [b]facet 2, [c]facet 3	[a]facet 1, [b]facet 2

Table 7.1 *Situational crime prevention of insider dealing*

7.2.1 Disrupting scene 1 of entering inside

As mentioned in Chapter 5, scene 1 is a 'set-up phase' that offers a plausible intervention point where its disruption would disrupt the whole script (Chiu et al., 2011). It represents the initial opportunity, rooted in the legitimate operation of financial markets, which makes the execution of the script possible in the first place. Hence, relevant preventive measures would involve the manipulation of the legitimate *corporate and financial processes* underpinning the financial markets that generate insider dealing opportunities. The current regulatory framework of the financial services industry reflects this preventive logic through its requirements for relevant private sector organisations in the financial markets to control the entry to inside information. Relying on interviews and document analysis, this section focuses on summarising the current preventive measures in controlling scene 1 and, based on findings from the script analysis, it pinpoints specific vulnerable areas for potential improvements. The existing requirements reflect the discussion on the ownership of crime reduction by Levi and Maguire (2004: 416), who describe it featuring 'the gradual erosion of distinction between the 'public' and the 'private'. The existing vulnerabilities highlight the need for further efforts devoted by both private and public organisations for crime prevention.

7.2.1.1 Existing preventive measures

To begin with, as identified in Chapter 5, the insider dealing opportunity structure featured in scene 1 is shaped by settings surrounding various legitimate occupational and organisational procedures related to a range of corporate and financial events. Therefore, the prevention logic would involve setting up parameters of legitimate access to opportunities within organisational settings (Benson and Simpson, 2019). This logic is reflected in the current regulatory requirements imposed by the European Commission and the FCA to both issuers and financial institutions in restricting the entry to the inside. The relevant requirements are reflected in Disclosure and Transparency Rules (DTR) 2.6 on Control of inside information in the FCA Handbook. It is set out that entry should be denied to persons other than those who require it to fulfil their professional duties within the issuer and those acting on behalf of the issuer, such as accounting firms. This addresses facets 1 (primary entry) and 2 (temporary entry) in scene 1. In further addressing the entry among financial institutions through facet 2, the Senior Management Arrangements, Systems and Controls (SYSC) 10 in the FCA Handbook require financial institutions to maintain the internal arrangement of the 'Chinese Wall' by physically separating buy-sides and sell-sides in order to control the flow of inside information within the institution due to the conflicts of interests between both the two sides.

Interviewee 4 further highlights the range of internal physical and electronic barriers in controlling the flow of information within financial institutions. These include card-controlled entry into office buildings and departments, CCTV installed in monitoring office spaces, locked cabinets for documents, separate computer systems for different departments, password-protected computer systems and encrypting removable storage devices. The logic of entry control is further reflected in the Senior

Managers and Certification Regime (SMCR) mentioned by interviewees, who highlight the potential step changes it may bring in controlling facets 2 (temporary entry), 3 (exogenous entry) and 4 (improper entry) involving financial institutions: 'people who work in the [financial services] industry now have to be approved by the banks, given a certificate that lasts for one year… we have to take the two exams… have a clear record… the more you are able to demonstrate a track record the more people trust your culture [to handle inside information]' (Interviewee 3). Interviewee 4 states that '[with SMCR] they are actually removing people, a zero-tolerance policy'. What is clear is that although the SMCR does not prevent those with access to the inside information from abusing it, it does make it difficult for those demonstrating higher risks to get the entry in the first place.

Aside from these measures that restrict the legitimate entry, there are other preventive strategies that reflect the logic of stimulating awareness of high consequential costs (reducing rewards) associated with abusing the legitimate entry (Clarke, 1995). The SMCR, together with the compulsory compliance training, require explaining the penalties for abusing such entry to employees, regardless of whether they have legitimate entry through issuers, financial institutions or other institutions. This therefore addresses all four facets. There is also a rule specifically addressed to employees who gain legitimate access through facets 1, 2 and 3, where they are required to acknowledge the legal and regulatory duties entailed and be aware of the sanctions attached to insider dealing (DTR 2.8 FCA Handbook). Furthermore, during pre-marketing activities, issuers and those acting on behalf of the issuers are required to confirm with the recipients that they are comfortable receiving the inside information and ensure that they are aware of the resulting obligations under the EU MAD (FCA, 2020). This is relevant in preventing abuse of the entry among retail and organisational investors who obtain access to inside information during pre-marketing activities in facet 2.

Law enforcement activities of public regulators seek to increase the perceptions of high consequential costs, as signposted in Chapter 3. Since the global financial crisis, criminal prosecutions of insider dealing were made possible and viable, and convictions of professionals in the City are made visible to the public. This is aimed at deterring employees from abusing their legitimate entry to a certain extent: '[while confiscation proceedings] take the money away, it takes a lot more than just the profits… it's about sending message that respectful people can be put in prison' (Interviewee, 2). Other measures further reflect efforts in increasing detection risks (Clarke, 1995). This includes the required whistleblowing policy to enhance the detection of insider dealing, which is included in the compliance training for staff (SYSC 18 FCA Handbook). This is applied not only to issuers and financial institutions, but also organisations in different sectors under the Public Interests Disclosure Act 1998. Further, as signposted in Chapter 5, financial institutions and issuers are required to maintain and keep transparent records on who has legitimate entry and why they have it (the insider list), increasing detection risks. This addresses facets 1, 2, 3 and 4.

7.2.1.2 Areas for improvements

The findings presented in Chapter 5, however, reveal vulnerabilities in these preventive measures, which are discussed here in order to highlight the areas for potential improvement. The first problem is related to the inconsistent implementation of the entry control systems across different organisations. It is found that some employees who are not directly working on the matters are granted with legitimate entry, such as the compliance officer in case 21. In a number of cases, incompliant practices in restricting entry are identified, such as accounting staff who are made aware of the inside information but are not required to commit to the corresponding legal obligations. This is also recognised by the FCA (2019b), who reviews the systems and controls in financial and legal institutions and consultancies, concluding that inside information is made available to many employees conducting supporting tasks who are not actually working on the related matter. Specifically, there is a class of 'permanent insiders' with routine access to all inside information without obvious reasons (FCA, 2019b). Therefore, the first area for improvement refers to tightening the existing measures by strictly restricting the 'restricted' entry only among those who actually need it to fulfil their professional duties in the organisation.

Moreover, improvements shall be enacted specifically in the areas of less effective oversight highlighted in Chapter 5. This includes, for example, employees peeking on computer screens of colleagues and listening to office conversations in financial institutions, and IT staff with entry facilitated by access to computer system for maintenance. Hence, a suggestion is to adopt physical partition not only between sell-sides and buy-sides in financial institutions, but also desk partition within the same office, and allowing support staff to access only encrypted and coded documents. These measures are recommended to be consistently employed in all relevant organisations in the financial markets, including issuers, financial institutions and other professional services providers. Aside from physical manipulations, this also highlights the need to uphold organisational policies to prevent leaks of inside information, which can be achieved through compliance training. Individual responsibility shall be emphasised in safeguarding inside information in office spaces by, for example, locking computers when leaving the office desk and not discussing the inside information in open plan office spaces, where senior management shall tighten supervision in entry controls. These recommendations aim to transform these areas into a 'defensive space' (Newman, 1972) in safeguarding the entry.

Another area for potential improvement includes developing protocols for unexpected situations. It is found that entry is made available to employees due to some level of unintentional negligence. Although employees in case 12 are informed about their obligations in not abusing the entry, the offender still goes ahead to carry out insider dealing. In case 4, there was negligence in not storing the documents with inside information in a safe place in personal homes, which facilitated the entry by personal friends visiting the house. Such unintentional entries suggest the need for organisations to develop contingency plans in adequately addressing the risks associated with the entry in unexpected circumstances. Furthermore, although phone calls made as part of the pre-marketing activities are required to be

recorded, Chapter 5 illustrates instances of financial brokers breaching compliance requirements by disclosing inside information without the recipient's agreement, and not reporting the breaches nor adopting procedures to ensure that the recipient accepts the no-trading obligation. This indicates the need for proper training in pre-marketing activity procedures, in addition to strengthening compliance functions in monitoring these calls, and having sufficient publicity of the monitoring to increase the risk detection perception.

Further, the findings indicate an incompliant maintenance of insider lists by not including employees who enter the inside and delays in recording the entries, which causes investigative obstacles. The FCA (2019b) also states that while some financial and legal institutions and consultancies monitor and review the entry rights, others do not keep any records. This demonstrates organisational vulnerabilities and poor practices related to the handling of inside information and in the general compliance function. The above inconsistent compliance performances reflect the weakness of the public regulator's formal oversight in controlling the entry to inside information. For instance, it is unclear how the FCA monitors whether these organisations are making any improvement (FCA, 2019b). Moreover, potential limitations in regulating the entry include insufficient resources and staff to periodically review and follow the compliance performance, as signposted in Chapter 5. There is also a problem of inadequate sanctioning power and inadequate enforcement activities (Benson and Simpson, 2019). While private sector institutions are required to maintain systems for control and oversight, the FCA is recommended to further improve supervision on entry control and implementation of the SMCR by periodically monitoring and casting improvements.

7.2.2 Disrupting scene 2 of resource procurement

7.2.2.1 Controlling the procurement of trading capacity

The other set-up phase lies in scene 2 where resources are procured from the legitimate economy to facilitate insider dealing. This includes acquiring the trading capacity of financial resources and trading accounts. With regards to the former as a core resource, most offenders rely on legitimate finances from savings, investments and organisational funds. However, it is found that some offenders provide false information to apply for extra credit at banks. This highlights the need for improved regulation in loan applications by verifying the information provided by customers. With regards to the trading accounts as the other core resource, the 'facilitator' is the legitimate financial institution where the necessary personal and organisational trading accounts are acquired. Further, the ease in acquiring online trading accounts also facilitates its abuse and poses investigative difficulties, as highlighted in Chapter 5. These indicate prevention recommendations in strengthening the compliance with the Customer Due Diligence (CDD) requirement as part of the existing anti-money launder regulation (MLR). Moreover, it is recommended that financial institutions collect information on other trading accounts held by customers and record IP addresses to increase detection risks. Another suggestion may be to integrate the assessment of insider dealing risks associated with one's employment into the CDD procedures.

The logic behind this is that insider dealing is often associated with money laundering, albeit it is not often the main focus in the prosecution:

> [T]echnically when an insider receives the profits of insider dealing and then transfers it somewhere else, technically that's money laundering… But generally, if the allegation is insider dealing and you've got the insiders and the dealers or whatever in the dock, you'll usually focus your indictment on that rather than taking on money laundering. Because in order to prove money laundering you have to prove that there was underlying criminality, so you might as well just focus on the insider dealing. (Interviewee 1, Lawyer)

7.2.2.2 Controlling the procurement of security measures

The analysis in Chapter 5 also highlights the procurement of contingent trading accounts with legitimate concealable features – using nominees, legal professional privilege (LPP), corporate vehicles and offshore arrangements – which reduces detection risks. The first prevention recommendation includes improving the transparency on the beneficial owners of onshore/offshore corporations to dismantle such concealment (rewards). In fact, this is a current focus in the UK and global anti-money laundering regulation (FATF, 2020). According to the Global Witness (2020), following the EU MLD in 2015, EU Member States have all set up central registers of the beneficial owners of companies and trusts incorporated within their territories. However, the transparency is hindered by the fact that 18 out of the 27 member states have not yet made them publicly available as required by the EU MLD 2019. Furthermore, major issues in relation to the accuracy of the information in the registers have been identified (BEIS, 2019). Therefore, it is recommended that the Companies House[25] should be equipped with sufficient resources to verify and periodically review information on the register, and other countries shall share their registers and ensure that these are accurate and up to date (BEIS, 2019, 2020).

Second, the other intervention point is the 'professional enablers'[26] who unwittingly or knowingly facilitate the creation of concealable trading accounts, including legal and financial professionals and trust or company service providers (TCSPs). The private sector shall improve its compliance with the anti-money laundering regulation by consistently applying CDD procedures and documenting all the information on the beneficial owners of financial transactions and corporate vehicles to improve transparency. The compliance of the private sector with the MLR is closely associated with the need for supervision and monitoring from public regulators. The existing regulators in the UK, such as FCA and the HMRC, shall adopt the strategy of combining routine, systemic, random and surprise inspections to improve compliance (FATF, 2021). Thirdly, the analysis recognises a successful international cooperation among regulators, and also with financial institutions in overseas jurisdictions,

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[25] The Companies House is the UK's registry of companies.
[26] The characteristics of 'professional enablers' are summarised by the OECD (2021) as including professional qualifications or training, expertise in legal or financial processes, experience in setting up structure with cross-border elements and opaque structures to avoid investigative scrutiny into clients' economic activities.

in convicting the offenders' adoption of offshore arrangements that pose enforcement difficulties (e.g., cases 36, 42 and 43). What may be improved is ensuring that the prosecution of these cases which involve multiple jurisdictions have sufficient publicity to make sure that other likely offenders understand the detection risks even using concealable offshore arrangement associated with trading accounts.

Moreover, the findings in Chapter 5 indicate instances where offenders deceive the organisations to reduce detection risks by providing false information or simply hiding the truth. For example, the corporate consultant in case 3 submits false information regarding existing shareholding and fails to seek approval for financial transactions as required by the internal compliance system. This highlights a vulnerability of the internal compliance systems in controlling personal account dealing (PAD) (COBS 11, FCA Handbook). Such vulnerability indicates that compliance systems should not rely only on information of PAD that is self-declared by employees, but they should also verify that information. While there may be a problem of resourcing, compliance departments are recommended to apply verification procedures to random samples of PAD reports in order to increase the risk of detection. Secondly, it further highlights the most fundamental limitation associated with the non-punitive and persuasive controls of organisational compliance systems (Benson and Simpsons, 2019). The stigmatic effect of the SMCR, as mentioned earlier, may be valuable to increase the perceived consequential costs associated with deceptions by employees through PAD reports. Hence, it is recommended that the SMCR shall be extended beyond financial institutions to all relevant organisations where entry to inside information is enabled.

Aother potential intervention point is in the telecommunication services providers who provide legitimate unregistered mobile phones and services that facilitate the illegal tipping of inside information. The preventive measure would involve a legislation to require all mobile phones to be registered with billing addresses in order to remove the anonymity provided by pay-as-you-go phone and SIMs used to facilitate the illegal tipping of inside information. As mentioned in Chapter 5, unregistered mobiles and SIMs, in addition to the concealable trading account mentioned earlier, are used by offenders to neutralise the risks of detection. Such pursuit of concealment is a shared feature in a wide range of illegal activities (Hancock and Laycock, 2011). For instance, a recent report by the Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services (HMICFRS, 2020) shows that both the police and the NCA also suggest that requiring all mobile phones to be registered with billing addresses would also restrict illegal drug dealing activities. Hence, the regulation on telecommunication services providers in requiring a mandatory registration system may, therefore, be valuable in disrupting a range of illegal activities not limited to insider dealing. However, such a system may have privacy implications and impact ordinary citizens who use unregistered mobiles for legitimate reasons, such as the lack of financial credits (Gow, 2006).

7.2.2.3 Controlling the recruitment of co-offending relationships

The other contingent resource 'procured' by offenders is co-offenders. The situational prevention strategies would involve intervening with the settings and conditions that facilitate the establishment of co-offending relationships. These conditions also include pre-existing relationships, as identified in Chapter 5. Specifically, some co-offending relationships are built on the reasoning of helping friends and family, which reflects the moral justification through appealing to higher loyalties and denial of responsibilities (Sykes and Matza, 1957). Further, Chapter 3 highlights that insider dealing encompasses moral ambiguities. While there is insufficient data to pinpoint the exact settings where co-offending relationships are established in all cases, some of these include privately owned dwellings, business settings in the financial services sector, workplaces and internet forums related to financial investments. These settings feature various levels of supervision (Felson, 2006). Places like homes and small businesses accessed by a few costumers pose difficulties for outsiders to intervene. Hence, it is recommended that interventions shall target the general public, the financial services sector and relevant internet forums. These interventions can take the form of removing such excuses by raising awareness of insider dealing as a crime and alert awareness by displaying consequences. For instance, internet forums may post such messages to alert investors.

Moreover, the logic of co-offending in insider dealing involves reducing detection risks, where insider dealing transactions by the dealer who is not associated with scene 1 is often more difficult to investigate and prosecute. Interviewee 1, who prosecutes a substantial amount of insider dealing cases, suggests: '[I]t's really difficult to track that all the way through from the insider to the dealers… you have to show that the dealer was an insider, so you've got to have your insider and then prove that the dealer was dealing on the inside information'. Therefore, relevant intervention strategies involve dismantling such perceptions of co-offenders when agreeing to co-offend. This can take forms of increasing perceived detection risks through, for example, publicising cases of co-offenders testifying against each other in exchange for leniency (e.g., cases 34 and 40) and cases resulting in fines and/or jail terms for third-party dealers. Nonetheless, the more substantial problem relates to the lack of enforcement and legislative capabilities to flip suspects to informants in obtaining witness statements against co-offenders[27]. Hence, potential solutions to this may involve passing changes to the legislation to increase maximum jail terms and equiping the FCA with the capability to investigate and prosecute co-offenders:

> [W]hy is it that the USA are much more effective… to get witnesses to give evidence against their collaborators… we can't flip people in the same way because over there they get the FBI to turn up at the doorstep at seven o'clock in the morning with guns and say, right, you've got an hour to decide whether you're going to talk to us and if you don't… we'll recommend a 30-

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[27] In the UK, the Serious Organised Crime and Police Act (SOCPA) agreements allow flipping suspects to informants to obtain witness statements against co-offenders, but these powers are rarely used in the context of financial crime (CPS, 2016).

year jail sentence. We can't do that. And people here know that the worst that anyone's ever got for insider dealing is four and a half years after a trial (Interviewee 1, Lawyer)

7.2.3 Disrupting scene 3 of tipping

Another potential intervention point is the instrumental initiation of the illegal activity of the script – the tipping of inside information. In general, intervention in this scene is important to prevent the inside information from reaching the pool of external individuals that are not equipped with legitimate entry via occupational roles at the relevant organisations in scene 1. Controlling this scene is particularly valuable in disrupting facet 2 (repetitive tipping) of greater illegal intention, where tipping is repetitive and relatively long-lasting. Relevant interventions are already in place in financial institutions through the internal compliance system and the supervision by external regulators, such as the FCA. The internal compliance system includes endeavours in restricting access to communication channels for tipping and increasing detection risks associated with tipping. One of these requirements is the 'no personal mobile phone policy' (COBS 11, FCA Handbook). However, interviewee 4 suggests that there are inconsistencies in its implementation and supervision across institutions, and some institutions would go further by, for example, banning encrypted communication software, such as *WhatsApp*. This highlights the need for financial institutions to constantly implement such policies and for the FCA to better supervise their implementations and promote best practices.

The other existing intervention which appears to vary substantially in its implementation is related to the requirement of monitoring communications between employees in financial institutions, and between employees and external people in an organisational setting. Financial institutions are required to record telephone conversations and electronic communications (COBS 11, FCA Handbook), which increases the risk of detecting tipping. Interviewee 3 indicates that the monitoring of electronic communications includes a wide range channels such as emails, text messages on institution-provided mobile phones and Bloomberg chat consoles. However, on the one hand, as indicated in Chapter 5, the automated monitoring is subject to technological challenges in accurately detecting tipping. On the other hand, under the current policy guidance (FCA, 2017), there is substantial discretion in how financial institutions monitor these communication channels. While some financial institutions use automated algorithms and proportionate manual monitoring to detect tipping, others only record communications for record-keeping purposes. Therefore, one potential strategy to enhance the monitoring of communications is to mobilise the technological development of automated solutions to equip compliance officers with the capacity to detect tipping more accurately. Nonetheless, research will be needed to ensure that the communication is not 'displaced' to other, less supervised, channels (Cornish and Clarke, 1987; Eck, 1993). The financial services industry should also promote the practices of actively monitoring communications.

Such requirements in recording and monitoring communications require a great number of resources, which is addressed only to financial institutions with a higher risk of insider dealing (FCA, 2017). There

are other preventive measures that require less resources and hence would be appropriate to implement in all relevant organisations. A potential intervention point is the facilities that enable the physical (e.g., printers to print confidential documents) or electronic storage (e.g., downloading the information into USB flash drives) of inside information for tipping. Relevant organisations are recommended to control the use of USB devices or other portable storage drives. Such control should involve the ban of usage of personal devices in office spaces, providing encrypted devices to employees and recording who accesses such devices for monitoring. Further, interviewee 3 indicates that some banks have enhanced print room controls by restricting and recording a list of print room staff and requiring specific personnel to collect and sign all printed documents. Such controls shall be extended to all relevant organisations. Other potential strategies include controlling who can print confidential documents (restricting the personnel who can print confidential information to those who need hard copies for professional duties).

Furthermore, organisations can also manipulate the offices' design to increase the consciousness and awareness about the consequential costs associated with tipping of confidential information, and promote a culture of professional integrity. For instance, this can be achieved through installing signs and notices in the exit/entrance of the office space. Nonetheless, the difficult intervention situations involve attempts by employees to circumvent organisational controls. In Chapter 5, it is indicated that the least sophisticated concealment strategies involve employees choosing unsupervised settings for tipping. For instance, some employees prefer transition settings, such as areas outside the office or building that are less monitored, for tipping: 'if you walk down the stairwell you will see a load of people making their personal calls because they have to make personal calls off the trading floor' (Interviewee 3, Compliance officer). A potential strategy to address this is installing CCTV not only inside the offices but also in areas surrounding the building to increase detection risks. The most sophisticated concealment practices include bringing mobile phones that are the same model as the work mobile phone to circumvent internal controls. To frustrate such attempts, organisations shall consider enhancing security checks at the entrance, which may be achieved through installing metal detectors. This shall be applied proportionally only in departments or offices that keep inside information.

Another proposed strategy is to reinforce the fundamental cultural norm that illegal tipping is a highlight unacceptable practice, thus removing excuses. To achieve this, compliance training and certifications, such as the SMCR mentioned earlier, are vital. Previously, this chapter has highlighted such schemes in maintaining organisational rules and increasing perceived consequential costs. The fundamental purposes of training and certification schemes are to maintain ethical standards and promote pro-social behaviours (Braithwaite, 2008). It is recommended that these schemes shall be enhanced and extended to all relevant organisations beyond financial institutions. Interviewees 2 and 3 have highlighted such role of social controls in the financial services sectors:

I mean people who go around at parties saying: oh, you'll never guess the deal that I'm working on, they're not corporate financiers… I won't say any of them [corporate financiers][28] is conclusive, but all of them tend towards damping down the transmission of inside information… I think the norm, and the cultural norm is to keep everything very, very secret, they know, more than anybody, know that that information is their privileged client information, they protect that, right? Not least because if some other investment banks were to hear about it, they might muscle in and say we could do the same job cheaper with a wider distribution network or whatever, this is their private information. (Interviewee 3, Compliance officer)

There's the SMCR… meaning and purpose behind people's work is no longer just financial, because they're seeing up and down, they're seeing people making money and losing money. So there's a greater sense of meaning and purpose in what you do. And meaning and purpose doesn't just come from money, it comes from value. And that value is often intrinsic. And if you're not valued or you're hated by the public, which bankers often feel like they are, because they've become demonised… I think they're seeking reparation for the public's perception of them [from the aftermath of the financial crisis]. (Interviewee 2, Lawyer)

The above include strategies to intervene within the organisations. However, the script analysis has further identified that, in some cases, offenders shift the 'tipping' to areas with minimal supervision, such as personal homes, cars, emails, pubs and restaurants. It would be useful to address the legal gap and enhance the investigatory capability of the FCA related to the use of intrusive surveillance. Chapter 5 has identified those 'gaps' that frustrate prosecutions due to the burden of proof in demonstrating tipping. Addressing these gaps may increase the perception of consequential costs and detection risks. Addressing this would, nonetheless, require legislative changes to the Regulation of Investigatory Powers Act (RIPA) 2016, which may take longer time and more effort to achieve. Lastly, facet 3 (organisational tipping) highlights the tipping of deceptive nature by financial institutions to their clients. In such situation of organisational tipping where internal compliance controls obviously fail, proposed strategies shall target the conducive conditions in the silence maintained by both employees and clients. The FCA is recommended to enhance the supervision on the implementation of whistleblowing policies, raise awareness among retail investors on signs of organisational tipping, and encourage investors to notice the FCA when suspicions arise by reinforcing the culture of integrity in financial markets.

7.2.4 Disrupting scene 4 of transaction

The actual doing of insider dealing is in scene 4. The underlying setting in this scene surrounds the *transaction processes* in financial markets and the financial brokers who mediate these transactions.

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[28] 'Corporate financiers' are those who provide investment advisory or underwriting services for issuers in financial institutions.

Chapter 5 has already illustrated several vulnerabilities associated with the existing oversight over this setting. This section proposes measures to address these vulnerabilities accordingly. First, there are situations of organisational employees escaping internal compliance controls on PAD, by either directing the transaction to alternative brokers or delegating the transaction to third-party dealers. Secondly, financial brokers are found to collude with offenders in helping them to place the transaction. This indicates the malfunctioning of the Suspicious Transaction and Order Reports Regime (STOR) where brokers, positioned as the 'gatekeepers' of the financial markets, fail to report suspicious activity as required (EU MAD 2016; FCA, 2018). These two vulnerabilities highlight the need to further improve the general compliance system in all relevant organisations. The proposed measures mentioned earlier have covered this need, in especially scenes 1 and 3. They include controls such as vetting employees, certification and training, whistleblowing policies, and increasing supervision and disciplinary processes. What is vital is to enact all these controls consistently across all relevant organisations to ensure that employees refrain from executing or/and enabling illegal transactions.

Thirdly, scene 4 is found to be carried out by using advanced financial instruments and strategies mostly by 'repetitive offenders' operating both on- and off- exchange[29] (facet 2, short selling and derivatives). These include short selling and different derivative products, which are found to be particularly attractive for insider dealing as compared to using ordinary shares. This attractiveness is related to their capacity to leverage greater returns in not only the rise but also the fall in share prices. The regulation has tightened control over these advanced trading strategies and products (MAR 2016, EU Short Selling Regulation (SSR), European Market infrastructure Regulation (EMIR)), especially since the 2008 financial crisis. There are now Trade Repositories that improve transparency of derivatives' transactions, and the FCA has now the power to restrict short selling. Nonetheless, it has been suggested that the effectiveness of such regulation in reducing insider dealing (based on derivatives) may be undermined by the broadening scope of the compliance requirements to very diverse markets and instruments (Alexander and Maly, 2015). Hence, it is important to ensure that financial institutions are equipped with sufficient compliance resources to be able to fulfil their requirements to increasing detection risks of insider dealing through advanced trading products and strategies.

Fourth, facet 3 (organisational trading) indicates that asset management companies are, in some cases, conducive for insider dealing, notably hedge funds. Hedge funds have been subject to criticisms because of their aggressive and risky trading strategies that sometimes lead to the use of insider dealing in both shares and derivatives instruments to leverage profits (Alexander, 2013). It is suggested that their market knowledge and power (access to substantial financial capital) enable them not only to better conceal the insider dealing transaction in the off-exchange markets but also leverage significant returns (Alexander, 2013). This illustrates the importance of tightened regulations over asset management

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[29] Derivatives are often traded in the London over the counter (OTC) market off-exchange. OTC market has a different market structure where two parties directly enter a transaction without a central exchange or broker.

companies in order to increase perceived consequent costs, detection risks and reinforce social values and integrity. Nonetheless, it is important to note that this might result in displacement: for instance, insider dealing may be committed through offshore hedge funds in jurisdictions with less tight regulatory frameworks. As an example, after the hedge fund manager is sanctioned in case 19, he moves to Geneva to find a more favourable regulatory environment to set up a new hedge fund to invest in securities traded in offshore stock exchanges (e.g., CNBC's (2014) news interview with Jabre). This highlights the importance of strengthening international cooperation and compliance procedures on offshore asset management companies to tackle the potential displacement of insider dealing.

Fifth, another problem is related to concerns over the detection of insider dealing that mainly rely on the STORs and trade surveillance systems. The filing of STORs to the FCA depends mainly on two factors: brokers' judgement on clients' behaviour and the automated system which detects 'unusual' price movements. Yet, Chapter 5 has pointed out that the trade surveillance system only indicates instances in which insider dealing 'may' occur, but it does not show which particular transactions are related to insider dealing, and there are different sources of 'noise' (aside from insider dealing) that make the system raise alerts. Moreover, the automated trade surveillance systems are the main source of data to produce the so-called 'market cleanliness studies' published by the FCA, which estimate the occurrence of insider dealing to guide the development and evaluation of enforcement strategies. This may mean that there is a *scarcity of robust data to accurately evaluate the effectiveness of enforcement activities* in reducing insider dealing. In other words, we are not certain of the actual extent of insider dealing illegal activities (Middleton and Levi, 2015). Furthermore, Chapter 5 indicates concerns over the lack of resources of FCA to carefully scrutinise all STORs and to follow through the great number of investigations opened. In turn, the insufficient enforcement actions may enable the growth in insider dealing schemes.

On the positive side, the aftermath of the global financial crisis has seen a more aggressive 'credible deterrence' prosecution strategy by the FCA/FSA[30], where investigations and prosecutions of insider dealing have soared in number. To date, the FCA's tenure has secured 14 convictions in relation to insider dealing in the last seven years (2013-2020), which is a substantially smaller number of convictions (2 per year) than the 22 convictions in the five-year period (i.e., 4.4 convictions per year) of the FSA's credible deterrence strategy (late 2008-2013). Two convictions per year, however, is a very small number compared to the 51 to 71 investigations opened each year (FCA, 2020) or the thousands of STORs received every year (FCA, 2021). In hindsight, the FCA is recommended to

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[30] 'Credible deterrence' is the strategy pursued by FCA/FSA to deter organisations and individuals from operating in ways that harm the market and costumers, which consists of '(a) taking decisive action where firms fail to manage risks effectively or observe proper standards of market conduct; (b) removing firms or individuals that fail to meet our standards from the industry; (c) pursuing firms or individuals who abuse UK markets by using our criminal and civil powers (d) taking action where firms fail to treat customers fairly, penalising those who are responsible and ensuring they deliver effective redress quickly; and (e) taking action against unauthorised firms and individuals who undertake regulated activities in contravention of the general prohibition' (FCA, 2015: 27).

improve its resources and enforcement activity to achieve a more evident deterrence effect. To improve the detection mechanism, the FCA may consider applying financial incentives for whistleblower as in the USA (Dodd-Frank Act[31]). This can help to increase detection risks. It is equally important for the FCA to work closely with the private sector organisations to exchange qualitative and quantitative data to conduct research. This may enable a better understanding on the nature and extent of insider dealing activity and to better develop regulatory and enforcement strategies. This may also help to improve the automated trade surveillance system to detect insider dealing transactions more accurately.

7.2.5 Disrupting scene 5 of retaining proceeds

Scene 5 involves the activities undertaken to retain the illegal proceeds from insider dealing. The intervention of this scene is covered under the current anti-money laundering regulation, which is partly mentioned previously in scene 2. Whereas the strategies proposed above have substantially covered financial institutions, this section highlights vulnerabilities associated with the property markets and cash intensive businesses. Chapter 5 finds that illegal proceeds from insider dealing have been invested in properties for concealment. Currently, real estate agencies are subject to the anti-money regulation. Aside from requirements in due diligence and record keeping, they are required under the Proceeds of Crime Act (POCA) 2002 to file suspicious activity reports (SARs) when they suspect money laundering[32]. However, the literature has highlighted several issues. This includes 'defensive reporting' where a large volume of poor-quality reports are filed simply to mitigate the risk of criminal liability for failing to report (Levi and Reuter, 2006; Amicelle and Iafolla, 2017). Moreover, interviewee 4 points out that SARs are not necessarily investigated by Europol's Financial Intelligence Unit (FIU), where 'they [FIU staff] would only dig in the ELMER [SARs database] if something [operation] comes up'. Further, Her Majesty's Inspectorate of Constabulary (HMIC, 2015) has reported a series of concerns over the technological capabilities and human resource challenges of NCA related to the SARs. These issues are also reflected in FATF's (2018) evaluation of the UK's anti-money laundering system. It is therefore essential for the government to address these challenges, ensuring SARs can achieve its intended effectiveness in increasing detection risks to disrupt this scene.

In addition to improvements in the SARs system, it is also important for the UK government to accelerate the process of improving the transparency of the beneficial owners' registry set by the FATF (2018). That is, to launch the public asset register of properties and lands owned by both UK and overseas entities. The UK government committed to do so by 2021 and the Companies House will be put in charge (BEIS, 2018). However, the effectiveness of this register in improving transparency may be undermined by the resourcing issue of the Companies House. This entity has already been criticised

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[31] The US Dodd-Frank Act enables offering financial awards and protection for whistle-blowers who provide information about securities violations committed by companies (US Securities and Exchange Commission, 2011).
[32] This is also required for financial institutions and professional services providers, including legal, accounting, tax professionals and TCSPs.

for the lack of accuracy of its corporate vehicles register mentioned earlier. Further extending the reach of the Companies House may intensify this problem. It is therefore essential for the government to ensure that the Companies House is equipped with sufficient resources, so that it can systematically review and validate the registers. Lastly, Chapter 5 also identifies that illegal proceeds are concealed using travel agencies or luxury watch businesses (which is owned by offenders in case 42). These two businesses are not currently regulated under the MLR 2019, where the relevant controls rely on financial institutions carrying out CDD themselves. Hence, inclusion of these organisations in the anti-money regulation may help to frustrate this scene.

7.3 Implications of findings from the network analysis

Having considered the findings from the crime script analysis, the above section has made several suggestions on how to improve existing preventive measures or the potential new strategies to disrupt each scene. This section considers how to dismantle insider dealing networks of three or more actors, based on the findings from the multi-mode multi-link multi-time network analysis. The network analysis has integrated findings from the crime script analysis. That is, it uses multiple node types to take into account the track elements, including tasks, resources and locations, of the insider dealing script. The findings offer further insights on the structure of actors and relations that draw together these track elements in maintaining the flow of the insider dealing script. It also offers insights on the key actors and relations who are essential in maintaining network efficiency and enabling its development over time. Hence, whereas the strategies proposed above provide insights on how to disrupt every single scene through situational prevention strategies, this section offers strategies for *law enforcement activities in who to target* specifically to maximise the disruption impact on the operation of a given insider dealing network. It is also important to mention that the strategies described above (those based on the crime script analysis) and the strategies driven by the results of the network analysis shall be seen as complementary and mutually supportive. Moreover, while the previous section is mainly based on the script analysis' findings and this section is driven mostly by the network analysis' results, both these sections build upon the composite and blended body of evidence obtained from the combination of the script and network approaches.

7.3.1 Disrupting network efficiency and secrecy

Based on findings from Chapter 6, it is suggested that law enforcement strategies should be based not only on data about social relationships but also on the tasks and resources shared by suspects, and the relations between these elements to construct multi-mode networks. Multi-mode network analysis can help the law enforcement authority to acquire a better understanding of the nature, efficiency and secrecy of the given insider dealing networks. Findings suggest that it is important to assess individual network in each case, rather than having presumption of, for example, strict division of labour or hierarchical structure. This includes assessments on the extent to which the multi-mode insider dealing networks display functional differentiation (labour division of actors allocated to different task groups

that represent the scenes in the insider dealing script), flexibility (labour division of actors allocated to different task groups that represent facets in the insider dealing script) and resilience (multiple actors allocated to the same task groups in executing the same scenes and/or facets). Such assessment is important as it pinpoints plausible intervention points. That is, it identifies not only vulnerabilities in key actors who are in central or strategic positions in the social network, but also key actors who support these different dimensions of the network efficiency.

Further, it is suggested that law enforcement authorities should collect data on different types of relationships connecting suspects in multi-link social networks. This is important in informing a more complete understanding on the underlying mechanisms that support the network efficiency. Individual assessment of each network is important. It could be misleading if there is a presumption that all insider dealing networks are built upon pre-existing relationships. Multi-link social networks reveal how insider dealing operations are variously supported by the specific types of pre-existing relationships for trust and, instrumental relationships for resource exchange. This is because a network may involve multiple links types, which support different segments of the operation. Findings in Chapter 7 have shown how co-offenders can be recruited from two different and separate immediate social circles of a suspect, where actors from the same social circle are participating in the same scenes/facets to support network resilience. Also, there are evidence of how co-offenders are recruited from contacts of the co-offenders, that is, friends of friends. Hence, one implication for law enforcement activities is that research on the dissimilar social circles of all known suspects may help to uncover other task groups and actors in the network.

To elaborate on the strategies in targeting key actors, multi-mode meta-networks is useful to identify actors who are hiding in the back, but *exclusively* possess certain resources or are assigned to specific tasks that are vital to the operation of the network. The importance of this is that these actors are found to prioritise security by occupying peripheral positions in the social network and can only be identified using multi-mode networks. Resource exclusivity also indicates a network vulnerability (lack of back up actors) where law enforcement activities should target. In addition, findings show that key actors often involve exclusively in scene 2 (procuring resource) that supports the whole operation. This suggests that the suppression on scene 2 mentioned earlier would be useful in generally disrupting the operation to some extents. Further, multi-mode meta-networks can also reveal emergent leaders of the insider dealing network. Findings have shown that they cannot be revealed by simply looking at social connection patterns. Emergent leaders are actors who are involved in multiple tasks and coordinating other actors, ensuring that resources flow to the right actors to fulfil their allocated tasks. They are not necessarily the formal leader of the network but are important to support the network to accomplish the script. The removal of emergent leaders can therefore tear down the network efficiency.

7.3.2 Disrupting the network growth

The multi-time dynamic network further shows that insider dealing networks take time to emerge and mature. The existing understanding about insider dealing networks, as described in the NCA (2019) public report, is mostly static. My findings however show a dynamic process of how actors enter the insider dealing meta-network to support the growth of functional differentiation, flexibility and resilience over time. The findings further indicate that key actors' properties may vary in different time periods. The implication of this finding for law enforcement activities is two-fold. On the one hand, law enforcement should respond to insider dealing speedily in preventing more actors becoming affiliated with the network. This should involve enforcement actions in disrupting recruitment activities. Chapter 5 has shown that recruitment is often embedded in the legitimate and routine social settings that are accessible for the public or private dwellings. Hence, some of the mentioned strategies in section 7.2.2, including increasing the investigative capacity on intrusive surveillance and registering mobile services, are valuable in disrupting the network growth. On the other hand, law enforcement activities need to be flexible in their investigation in responding to the dynamic nature of insider dealing networks. When meta-networks are used as an investigative tool, they shall recognise that the tasks of actors may vary in supporting the growth of the network's efficiency and adjust accordingly.

7.4 Conclusions

To my knowledge, this chapter represents the first study in proposing strategies to intervene with the organisation of insider dealing through the combination of crime script and network analyses. Whereas the crime script analysis enacted on all known cases that have resulted in sanctions since 2000 in the UK, the proposed strategies address the most complete possible intervention points across the insider dealing commission process and in the causal mechanisms that generate and facilitate insider dealing. Hence, these strategies cover not only financial institutions, where most existing preventive measures have been implemented, but they also cover all relevant organisations identified as the facilitator in different scenes in the insider dealing commission process. This chapter also recognises that the some of the measures proposed, such as regulation on the pay-as-you-go phones and services and on the corporate vehicle formations and professional enablers, can curb a wider range of illegal activities not limited to insider dealing (e.g., Edwards, 2016). Most importantly, the strategies suggested in this chapter address vulnerable areas identified in the crime script analysis by highlighting the need to improve the existing measures in controlling each scene. It identifies the need for the existing controls to be consistently applied in relevant organisations and the need for the public regulators to improve supervision and monitoring.

Moreover, the multi-mode multi-link network analysis further informs an understanding on the actors and relations vital in maintaining the operation of insider dealing networks with three or more actors. This means that the proposed strategies are able to inform the law enforcement authorities with regards to the specific points of vulnerability that are most appropriate for disrupting a given insider dealing

network that is under investigation. This is significant for the FCA and other regulators for efficient investigations, given that insider dealing investigations are known to be expensive and time consuming, where some larger cases may last over years (FCA, 2016). Moreover, the proposed strategies also consider the findings of the dynamic network analysis, which therefore offers valuable insights on how to suppress the growth of the network in the functional differentiation, flexibility and resilience. This is valuable in offering pragmatic responses towards the NCA (2019) depiction of 'threat' in the most complicated organisations of insider dealing networks, as mentioned in the opening paragraphs in Chapter 2. Combining findings from both crime script and network analyses therefore offers a substantially complete view about how to disrupt the organisation of insider dealing and its complex dynamics.

A limitation of this chapter is the insufficient proposed prevention measures targeting scene 2 in relation to the establishment of co-offending relationships. The script analysis in Chapter 5 does not reveal a full understanding of the associated offender settings (Felson, 20006) for preventive measures. This indicates potential avenues for future research. Moreover, offenders adapt. The proposed strategies in curbing the growth of the insider dealing network are based on the longitudinal study of one single case, and the temporal units of analysis are years. This means that these strategies are tentative and may need adjustment in future studies. The other limitation is associated with the nature of the situational crime prevention framework. Targeting the intervention on the immediate situations brings limitations in not being able to reach the fundamental roots causing insider dealing (Young, 2002; Hayward, 2007). These are the foundation of the legitimate structures of the financial markets, such as the corporate form of joint-stock company and the legitimacy in the existence of corporate inside information in the first place, and the significance of financial services sectors in the British economy, as shown in Chapter 2. They have been, and continue to be, the mechanisms that generate opportunities for insider dealing. Addressing these root cases would need systematic change which would be part of a long-term strategic shift.

Chapter 8 Conclusions

8.1 Introduction

This thesis aims to address the main research question of 'how is insider dealing organised?'. To answer this question, the main substantive contributions of this research can be summarised under the following four headings:

1. understanding insider dealing as a dynamic structure of activities;
2. understanding insider dealing as a market-based crime;
3. understanding the social relations among co-offenders structured to support insider dealing activities; and
4. recommending specific actions for public and private sector organisations to disrupt the organisation of insider dealing.

The following Sections 8.2 to 8.5 will address each of them. Section 8.6 details the limitations of this thesis and presents general thoughts on how future research can expand the topics in this thesis to new contexts and further strengthen the understanding of the organisation of insider dealing.

8.2 Insider dealing as a dynamic structure of activities

Previous criminological research, mostly conducted in the United States, has been preoccupied with attributing characteristics of white-collar, occupational and organisational crimes to insider dealing (Shapiro, 1984; Szockyj, 1993; Partnoy, 2002; Szockyj and Geis, 2002; Friedrichs, 2009; Hansen, 2014; Reamer and Downing, 2016). The findings of this thesis show that applying the conceptual lens of 'white-collar crime' to insider dealing largely restricts our understanding of the nature of insider dealing within the framing of individual trust violations, which obscures the diversity of ways in which insider dealing can be committed. One of the key findings of this thesis includes the need to shift the research and policy focus towards understanding the organisation of insider dealing as a dynamic structure of activities – focusing on *how* it is committed rather than *who* commits it. That is, analytical focus shall be placed on the procedural aspects of the commissioning of insider dealing, including the specific *modi operandi* of this offence (RQ1). This implies that insider dealing necessitates a specific sequence of 'scenes', or actions, through which it is accomplished – the 'script' (Cornish and Clarke, 1986; Cornish, 1994). The study of the characteristics of offenders, including their occupations, organisational positions or greed, only has analytical valuable in helping to explain some activities in this script (Szockyj and Geis, 2002; Edwards, 2016) but is inadequate to fully comprehend the crime commission process as a concatenation of core and contingent activities.

This research, as evidenced primarily in Chapters 5 and 6, suggests that the occupational and organisational characteristics of offenders are only partly relevant in explaining some dimensions of the opportunity structure (Benson and Simpson, 2019) that features the first scene 'entering inside' of the insider dealing script. Aside from the various legitimate entries to the price-sensitive inside information when fulfilling professional duties, findings show a spectrum of illegitimacy in this scene among offenders who are employees in the relevant organisations but do not have a legitimate entry and also non-employees (RQ2). These offenders take some illegitimate actions or take advantage of some exceptional situations to gain the entry to the price-sensitive information, which would not be fully captured under a focus on the occupational access (Szockyj and Geis, 2002). In fact, the lack of legitimate entry *de facto* puts them on the bottom of the watch list, where regulatory oversight is weak. Individuals without legitimate access to the information may gain entry simply when encountering facilitative settings, such as confidential documents unattended by colleagues. Alternatively, entry may also be enabled by the open plan office design, where offenders simply peek at colleagues' screens or overhear their conversations (RQ3). Therefore, it appears that there is a mix of different factors aside from occupational duties that give rise to insider dealing opportunities.

The insider dealing script presented in Chapter 5 demonstrates a richer understanding of events beyond simply the 'tipping', 'dealing' and 'recidivism/repetition' events depicted in the literature (Szockyj and Geis, 2002). Such depictions of behaviour underpinning insider dealing are closely associated with the legal definitions, whereby one would be convicted of insider dealing when he/she is proved to be tipping and/or dealing on the inside information (CJA 1993). Such depictions mean that only those behaviours that are considered as 'illegal' under a given regulatory framework are analysed in research, whereby in reality committing insider dealing entails a longer and much more dynamic script (Cornish, 1994). Chapter 5 presented this script that consists of five key scenes. The two legal scenes include 'entering inside' and 'procuring resources', and the three illegal scenes include 'tipping', 'transaction' and 'retaining proceeds'. This script contributes to extant literature by filling the knowledge gap regarding the legal procedural requirements (activities, actors, resources and settings) to establish and maintain the illegal behaviour of insider dealing (RQ2). In other words, it shows that the organisation of insider dealing involves blurring boundaries between legal and illegal activities (Beckert and Dewey, 2017). There are two aspects of this 'blurring'.

The first 'blurring' aspect regards the interrelation between legal and illegal scenes. This 'blurring' indicates another important finding of this research – the causal and dynamic qualities of the insider dealing script. Such dynamic dimension of insider dealing contributes to the traditional criminological discussion that creates a static image of insider dealing as driven by the institutionalised greed of the financial services industry (Partnoy, 2002; Hansen and Movahedi, 2010). The dynamic quality of the script is essentially reflected in the 'facets' of each scene. Facets represent the different ways in which a scene can be carried out (Cornish, 1994). The various legitimate and illegitimate entries to the inside

information in scene 1, mentioned earlier, is one such example where the entry can be distinguished in facets to highlight the dissimilar procedural requirements. The causal quality means that these scenes and facets earlier in the script influence later scenes and facets. For example, offenders who enter the inside information illegitimately in scene 1 may not be able to understand the confidential documents, so they may need to bring the entire documents and proceed to scene 3 'tipping' where they hand these documents to co-offenders for decoding. However, those offenders who understand the documents can simply jump to scene 4 to execute the illegal 'transaction' themselves.

The second 'blurring' aspect is about how this script is facilitated or constrained by the legitimate procedural aspects. When I talk about the causal quality of the script, it is about how scenes and facets come together in leading to the outcome of insider dealing. The facilitator here refers to the context-specific factors that may be immediate or distal (Edwards, 2016). To exemplify this, establishing co-offending relationships is a necessary condition for the tipping scene, but this is found to be contingent on the existing social environments and routine social interactions. Carrying out the dealing is also a 'must' to actualise illegal profits; however, whether it succeeds and whether proceeds are retained depends on how stringent the regulatory oversight is in different legal segments of the *global economy*. These include, but are not limited to, both the onshore and offshore banking/financial systems and corporate services providers. In essence, the findings highlight the complex mechanisms embedded in the legal spheres of the economy and routine lifestyles and activities that continuously shape the organisation of the insider dealing script (RQ3). This includes the legitimate structure of the financial markets that is summarised in the next Section 8.3. These findings contribute to the existing research where the facilitators of insider dealing remain empirically underexplored (Reichman, 1993; Hansen, 2014).

The other contribution of the insider dealing script lies in illustrating the adaptation and innovation over time. The significance of this is that offenders change their modus operandi in adapting to the changing enforcement landscape (Cornish, 1994). However, the existing literature has not considered such potentials (Szockyj and Geis, 2002). A substantial part of the Chapter 5 reflects the different ways in which offenders conceal their activities. Overall, the findings show a modest requirement for concealment, where it is often provided naturally through the convergence with legal spheres (RQ2; Jordanoska and Lord, 2020). However, some situations are particular to certain cases and time periods, which may create obstacles that require adaptations, hence changing the structure of activities. For instance, in case 39, the insider dealing activities became routinised and stable for five years; however, the organisation changed in the fifth year following detection by the authority, and a new co-offender was recruited to replace the dealer who had been exposed (RQ7). Therefore, although the findings indicate that only a small number of cases involve attempts to achieve anonymity, elaborate strategies might become increasingly used by offenders in the future (Tremblay et al., 2001). This is especially

relevant under the increasingly stringent regulatory climate since the 2008 global financial crisis (Wilson and Wilson, 2014).

8.3 Insider dealing and financial markets

Previous research has documented the characteristics of the financial sector that may be conducive to insider dealing by financial professionals. These can be summarised as followed: the pressures from the highly competitive environment in the banking industry (Hansen and Movahedi, 2010; Reurink, 2018), the culture of gearing towards wealth and success (Reurink, 2018), deviant subcultures that tolerate and promote deviance (Reichman, 1989), closely knitted networks among bankers with conflicts of interests (Reichman, 1993; Hansen, 2014) and the difficulties to regulate the financial sector to effectively detect insider dealing and the questionable effectiveness of self-regulation (Reichman, 1993; Hansen and Movahedi, 2010). Previous research has mostly depicted insider dealing as committed by financial professionals who are influenced by these organisational factors. The findings in this thesis show support for the organisational factors, including commission-based salaries and the pressures from the profit downturn, in influencing insider dealing by financial professionals (RQ3, RQ4). Moreover, the main contribution of this thesis to previous literature includes establishing that offenders who are not necessarily working in the financial sectors can still commit insider dealing, even though they are not influenced by these organisational factors in the financial sectors. From the data analysed in this research, besides from nine cases in which all offenders are financial professionals (including cases with sole offenders), 34 cases include at least one offender who is not a financial professional. This has important implications for crime prevention and law enforcement, and insider dealing prevention strategies should consider both internal and external threats.

A key argument of this thesis is that conceptualising insider dealing as a 'market-based crime' is needed to better understand the nature of insider dealing regardless of offenders' occupational/organisational characteristics (Beckert and Wehinger, 2013). Instead of exclusively focusing on the characteristics of the financial sector that influence insider dealing committed by financial professionals, this study has shifted towards understanding the financial market characteristics (RQ1). This helps to understand insider dealing by a wider range of offenders who may simply be ordinary users of the markets. Chapter 5 provides a discussion on how the legitimate architecture of financial markets facilitates each of the scenes required for insider dealing to occur. Findings show that insider dealing opportunities are deeply rooted not only in financial but also in non-financial institutions that participate in financial markets. Inside information is generated within issuers (non-financial institution) through corporate and financial processes (e.g., corporate restructuring). Issuers are permitted to preserve this inside information based on business interests under the market regulation. This inside information is then legitimately transferred to other financial and non-financial institutions (e.g., banks, consultancy) as part of the operation of the financial markets (e.g., pre-marking activities). Together, these legitimate processes inherent in the financial markets generate inside information solely owned by these professional

institutions, reflecting their intrinsic informational advantage over other retail/individual/small investors in the markets (RQ4; Easterbrook, 1981).

Findings further show a more in-depth understanding of the illegal behaviour of tipping and insider dealing transactions. Chapter 5 suggests that scene 3 'tipping' reflects the same rationale that underpins the legitimate market behaviour, which seeks to obtain the most up-to-date information to inform investment decisions. For instance, some financial institutions offer services including investment advice using their superior market knowledge for a fee. It is argued that illegal tipping is an attempt by individual investors to mitigate the legitimate information asymmetry which gives them little competitive advantage over institutional market participants (Yadov, 2018). Further, the illegal insider dealing transaction is enabled by legitimate financial market transaction processes. Offenders who carry out the transactions are found to have no previous criminal records, and in most cases are simply ordinary users of the financial markets. It is shown, however, that previous legitimate financial investment habits facilitate the illegal transactions, by equipping offenders with ready-made trading accounts and a legitimate appearance as disguises and financial knowledge. The technological and legal development of financial markets have variously facilitated insider dealing transactions by enabling the use of more advanced transaction strategies/products to leverage greater return in expanding financial markets (RQ3, RQ4). Taken together, insider dealing can be better understood as a *market behaviour that illegally takes advantage of the legitimate information asymmetry rooted in the financial markets, which is acquired legitimately (scene 1 entering inside) or illegally (scene 3 tipping), to gain competitive advantage and profits through using the legitimate transaction processes of the developing financial markets*.

8.3 The role of social relations in insider dealing

The other dimension of the question of 'how insider dealing is organised' addressed in this thesis is the structure of associations among co-offenders, tasks, locations and resources. The analysis in Chapters 5 and 6 looked at two dimensions of this structure: (1) social connections among co-offenders and (2) associations between co-offenders' social networks and the crime commission process. With regards to the former (i.e., the social connections among co-offenders), the findings contribute to the existing literature which overlooks the dimension of illegal collaboration in insider dealing or describes it as a phenomenon among financial professionals only (Reichman, 1993). Previous research fails to go beyond the framing of occupational/organisational crimes when analysing insider dealing, which leaves us none the wiser about the mechanisms involving multiple actors who are not financial professionals but cooperate for illegal profits through insider dealing (e.g., Tabernula; FCA, 2016). As findings in Chapter 5 suggest, social connections are important in understanding insider dealing. On the one hand, even considering the substantial difficulties in detecting tipping (Langevoort, 2013; Hansen, 2014) through using official data (i.e., this research included cases that led to legal sanctions), I still observe

co-offending relations in 28 out of the 43 cases. On the other hand, among these 28 cases, only 10 cases involve co-offenders connected through working relationships in the financial services sector (RQ5).

This thesis further contributes to the literature by understanding the social connections among co-offenders in insider dealing as a social network and offering empirical insights on the roles of this social network. Chapter 6 constructed and analysed multiple social networks of co-offenders cooperating to commit insider dealing. Findings contribute to the recurrent debates in the study of illegal networks regarding the trade-off between *efficiency* and *security* (de Bie et al., 2017). One assumption from the literature is that profit-driven networks display network structures that maximise communication efficiency because they have shorter timeframes to achieve quick illegal profits (Morselli et al., 2007). Based on this, I expected that the structure of insider dealing networks would reflect efficiency over security, since it is a profit-driven crime. This was reinforced by findings in Chapter 5, where co-offenders were found to seek constant communication channels to enable the illegal transactions. Nonetheless, Chapter 5 also showed that offenders seek security through concealment. The findings in Chapter 6 show that the social networks of co-offenders display different tendencies towards efficiency and security: some networks appear to emphasise security with sparse chain-like structures, and others seem to prioritise efficiency where co-offenders are structurally well-connected and centralised with a bowtie-like structure (RQ5).

Another contribution of this thesis relates to the empirical insights on the association between the social networks of co-offenders and the crime commission process (i.e., the script). The illicit network literature has seen a shift towards studying the role of social networks in contributing to the crime script in the late 2010s, where it is suggested that the crime script is embedded in social networks (e.g., Morselli and Roy, 2008; Bellotti et al., 2020). The findings in Chapter 6 support this perspective by showing how the meta-networks display subgroup structures corresponds with the insider dealing script. Moreover, through this perspective, the findings further enable a more nuanced and multi-dimensional understanding of efficiency and security in insider dealing, beyond the characteristics of the social communication system. The findings of this thesis suggest that the efficiency of the network can be sufficiently understood by looking at three different dimensions: functional differentiation (co-offenders are assigned to different scenes), flexibility (co-offenders executing different facets of the same scene) and resilience (multiple co-offenders assigned to the same scenes/tasks) in completing the insider dealing script (RQ6). Most importantly, complementing the dynamic properties identified in the insider dealing script, Chapter 6 provides evidence about how social networks grow over time to enhance functional differentiation and resilience in executing the insider dealing script (RQ7).

In previous studies, researchers have tried to identify key actors based on their structural position in the social network, where key actors (1) connect to many other co-offenders or (2) are strategically positioned brokers who maintain control over the network while avoiding connecting to many other co-offenders (Morselli, 2010). By integrating the social network and script frameworks, studies begin to

shift towards understanding the key actors' position by considering (1) the possession of vital resources for the crime commission process (Bright et al., 2015a) and (2) their capacity to maintain the crime commission process (Morselli and Roy, 2008; Bellotti et al., 2020). The findings of this thesis show the significance of this approach in identifying key actor properties that cannot be captured by simply looking at one's social connections at a given moment in time (Carley, 2006). As shown in Chapter 6, there are 'emergent leaders' who occupy central positions in social networks and are important in maintaining the insider dealing commission process by being involved in multiple scenes and coordinating actors and resources; however, while they are important for the operation of the script, they are not the formal leaders (RQ6). Findings further show that looking solely at social connections does not permit identifying exclusive actors (in scenes/resources) vital to the scripts, where they often step aside to peripheral positions in the social network for secrecy.

In addition, this thesis further shows how looking at the association between social networks and the crime scripts can give a more complete understanding of the key actors' properties. Firstly, research has suggested that one way for key actors to assume security is to take strategic broker positions by minimising direct contacts with co-offenders (Morselli, 2009). However, as Chapter 6 shows, key actors in insider dealing networks may or may not take strategic broker positions, but they are found to prioritise security by minimising their involvement in the insider dealing commission process, while holding the exclusive resource of inside information. Secondly, this thesis empirically analyses if the 'brokerage qualification' of key actors (Morselli and Roy, 2008) also exists in insider dealing scripts. The findings support it. It was found that key actors are associated with multiple scenes/facets and connect co-offenders executing different scenes/facets, and they are often involved in the legal 'preparation' scene to recruit co-offenders to support other illegal scenes/facets and to prepare security measures (e.g., pay-as-you-go phones) to reduce detection risks for the whole group (RQ6). Lastly, this thesis also illuminates how the phenomenon of 'multiplexity' of illegal relations applies to insider dealing (Bright et al., 2015b). Whereas Chapter 5 shows the importance of pre-existing relationships, the findings in Chapter 6 further suggest that the script can also be held together by instrumental resource exchange between co-offenders.

8.4 Strategies for disrupting the organisation of insider dealing

There is a lack of previous work that proposes prevention measures to control insider dealing. One central argument of this research is that an understanding of the crime commission process can assist the development of pragmatic strategies to prevent crime from occurring. Findings in Chapter 7 show how the crime scripts can inform situational preventive measures by altering the immediate and specific settings that facilitate insider dealing. Based on the insider dealing script, a series of pragmatic measures were proposed to target each scene and facet in the insider dealing script. These measures are based on the situational prevention logic of changing offenders' calculations of the costs and benefits anticipated from crime. They seek to make offenders perceive that the accomplishment of the insider dealing script

is difficult, risky and not rewarding nor excusable (Clarke, 1995). While situational crime prevention measures may not address some of the underlaying social complexities of criminal behaviours (I return to this point in Section 8.6), they allow short-term interventions to address the situational opportunities for crime.

Most importantly, these measures are based on a careful review of the existing policies to identify vulnerabilities within these policies. Based on such considerations, the proposed measures seek to inform areas for improvement, such as the need to tighten control over access to inside information. This thesis has also presented new suggestions that are pragmatic and inexpensive to adopt, such as changing the offices' layout. Some recommendations can potentially address a range of crimes involving the same procedural requirements (Edwards, 2016). This includes, for instance, the mandatory registration of mobile phone services in order to improve transparency. Recommendations are addressed to both public and private organisations. Although the current regulatory framework of the financial markets heavily relies on self-regulation by the private sector, effective prevention would require supervision from public regulators and accurate data about the extent/nature of insider dealing to systematically assess the effectiveness of existing policies to develop evidence-based strategies.

Moreover, Chapter 7 further suggests that a blended body of evidence obtained from the combination of the insider dealing script and associated social networks is highly useful in informing crime prevention and disruption strategies. Relying only on measures based on the insider dealing script may overlook the social connections that are vital in supporting the script. One such example is the proposed strategy for disrupting the growth of a network. The script findings have informed strategies including improving intrusive surveillance capabilities to disrupt co-offender recruitment and the tipping. The findings of the social network analysis further reinforce the significance of this strategy in suppressing the growth of the network, where it is shown that actors involved in recruitment are often vital to the whole operation.

Overall, this thesis offers strategies for law enforcement authorities to consider how to maximally disrupt the efficiency, secrecy and growth of a given insider dealing network under investigation. A rule of thumb is to create individual assessments for each network under investigation (i.e., understanding the particularities of each case). This is based on the findings in Chapter 6, where social networks are shown to be structurally different in variously supporting network efficiency to accomplish the insider dealing script. These strategies are significant for the FCA and other regulators to achieve efficient investigations, given that insider dealing investigations are known to be expensive and time consuming and some larger cases may last over years (FCA, 2016). The proposed strategies are also valuable in offering pragmatic responses towards the NCA's (2019) depiction of 'threat' associated with insider dealing networks: targeting key actors with vital positions and roles in the insider dealing operation will likely disrupt the crime commission process.

8.5 Methodological reflections

This thesis applied and combined two analytical methods – crime script analysis and social network analysis. Built on the existing applications of the crime script analysis in different illegal activities (e.g., Cornish, 1994; Tompson and Chainey, 2011), I extended the application of this analytical framework to insider dealing. This research finds that the crime script analysis offers a valuable and innovative way to understand the organisation of insider dealing as a structure of activities. It offers a useful methodological framework and toolkit to organise and present the operational proceedings in insider dealing cases. The findings of this research further demonstrate the potential of its application beyond a single case study (Chiu et al., 2011), where it is proved to be suitable to synthetise a large body of 43 cases and to identify differences in the *modus operandi* across cases. The main advantage of the crime script analysis is that it illuminates the dynamics of the insider dealing commission process and the settings that variously facilitate insider dealing. Traditionally, the crime script analysis is used to identify the more immediate situational settings that facilitate crime (Brayley et al., 2011). In this research, the crime script analysis has also enabled identifying the distal socio-legal factors (Edwards, 2016; Lord and Levi, 2017), such as the regulatory framework, that shape the organisation of insider dealing. From here, it further directed me to consider how offenders may innovate the script in adjusting to the changing environment in the future.

The main advantage of the social network analysis is that it can visualise the relational data to enable a direct observation on the organisation of insider dealing as a social network of co-offenders. The use of quantitative measures also enabled me to compare the qualitative relational data in a systematic way to observe how social organisation may differ across cases. The most fruitful analytical procedure was the integration of both the social network analysis and the crime script analysis in Chapter 6. This blending of approaches was recommended by previous research (Morselli and Roy, 2008). My thesis shows that solely using social relational data may overlook some important dimensions of the insider dealing organisation. That is, some illegal network assumptions, such as the efficiency/security trade-off, are sometimes inadequate to capture the complete picture of the network. My thesis has shown how the integration of the data and findings from the script analysis (the script elements, including not only actors, but also activities, resources and locations) into the network analysis, as proposed by scholars (Bright et al., 2015a; Bellotti et al., 2020), is key in identifying complex relational structures among actors, resources, locations and tasks that are vital or enable the insider dealing commission process. Adding on these existing applications, my thesis contributed by exploring the use of grouping algorithms and two/multi-mode measures as suggested by Carley (2006). The findings show that these measures help to better represent the data regarding (1) how the structure of social relations is organised to support the crime commission process and (2) the properties of key actors (RQ1).

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8.6 Limitations and future research

While this thesis has made a number of significant findings and conclusions regarding the organisation of insider dealing, it is important to recognise the limitations associated with the methodology. I have elaborated on these limitations, and their impact on validity and reliability of the data, in detail in Chapter 4. The first limitation is associated with the use of official crime data and its potential lack of validity: not all insider dealing activities are detected by the law enforcement authority, not all detected insider dealing activities are investigated, and not all investigated insider dealing result in civil or criminal sanctions. Moreover, some cases have less available information than others. Hence, future studies should consider collecting data from alternative sources, such as law enforcement investigation reports on cases that did not lead to legal sanctions. The main reason for this is that offenders who adopt more extensive concealment strategies may operate differently from those who are caught, prosecuted or sanctioned. Moreover, information may be missing regarding (1) the longitudinal dimension of how offenders' relations and tasks evolve in both the scripts and networks, (2) pre-existing relationships and how relationships are first established (i.e., only 3 cases were used in the multiplexity analysis), and (3) details on how exactly some activities are carried out. The third point is countered by using 43 insider dealing cases to generate a crime script that seeks to obtain as much as information possible. However, law enforcement investigatory reports would add additional information useful for understanding the crime commission process. The official data analysed here (i.e., legal documents filed to the court and press releases) only includes events surrounding the activities that the regulator seek action against.

The second limitation of this research is associated with relying mainly on the use of the environmental criminology approaches, in particularly Chapter 7, to develop policy recommendations. That is, the suggestions mostly address the immediate situational settings that facilitate crime, but may fail to capture some of the structural causes of insider dealing. However, this research, primarily with discussions in Chapters 2 and 5, has countered this by pointing out some of the wider socio-economic factors related to insider dealing. Future research should adopt a structural analysis alongside the integrated script-network analysis of insider dealing implemented in this thesis, to develop fuller explanatory accounts of insider dealing and in turn inform long-term policy changes to address the more fundamental factors conducive to insider dealing. Lastly, insider dealing is a problem concerning financial regulators over all financial markets around the world. Previous research has mostly looked at the USA contexts. My thesis looked into the UK context. Future comparative research in other countries is needed to investigate variations in the organisation of insider dealing and to compare whether/how it differs in different contexts and analyse the conditions that alter the organisation across time and place.

Appendix

Interview Schedule

1. How can we better understand the organisation of insider dealing?

- From your experience, how do you think insider dealing is being carried out?
- Why do you think these actors commit insider dealing or pass on such information? What type of benefits do this offer to them?
- What type of trading strategies insider dealing would use?
- Are some types of trading strategies more attractive to some individuals given their skills, knowledge or goals?
- How do actors conceal insider dealing activities?
- How extensive is the use of money laundering to conceal insider dealing?
- Are you aware of the policy transformations that change the way how actors conduct insider dealing?

2. How are networks of co-offenders established and maintained in committing insider dealing?

- How are the relationships between actors established and maintained?
- Is there an issue with the 'professional enablers' who facilitate insider dealing?
- Are you aware whether insider dealing offenders develop a 'criminal lifestyle'?

3. What are the conditions that are conducive or facilitative of such illicit trading?

- How do think the financial markets' structure facilitates insider dealing?
- What do you think are the particular conditions or factors that facilitate insider dealing?
- Do you think there is an issue with internal control measures within the organisation that facilitates insider dealing?
- Are you aware of the policies that tolerate insider dealing activities?

4. What are the existing strategies in preventing insider dealing? What are their vulnerabilities?

- What are the existing strategies in preventing insider dealing?
- What are the factors that hamper the effect of these strategies in reducing insider dealing?
- What do you think can be improved in better preventing insider dealing?
- What do you think the difficulties are in enforcement over insider dealing activities?

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